CITY WATER, LIGHT AND POWER
CITY OF SPRINGFIELD, ILLINOIS
MISTY BUSCHER, MAYOR
DOUG BROWN, CHIEF UTILITY ENGINEER

VIA E-MAIL: dierich.andrea@epa.gov

September 23, 2025

Andrea Dierich
EPA Project Officer
US EPA, Region 5
77 W Jackson Blvd
Chicago, IL 60604

RE: CCR Surface Impoundments
Updated Assessment of Corrective Measures

Dear Ms. Dierich:

Provided herein is the updated Assessment of Corrective Measures for the CCR Surface Impoundments in accordance with paragraph 270 of the Consent Agreement and Final Order (CAFO) effective January 14, 2025 and comments received from EPA on August 21, 2025.

CWLP agreed to provide to EPA an Assessment of Corrective Measures for the Appendix IV constituents exhibiting Statistically Significant Levels identified in the February 13, 2025 Groundwater Protection Standards Report. An Assessment of Corrective Measures was submitted to EPA on June 13, 2025. This updated Assessment of Corrective Measures incorporates the June 13, 2025 Assessment of Corrective Measures by reference and provides supplemental information to address comments from EPA received on August 21, 2025.

Should you have any questions or require additional information, please contact me at 217-757-8610 ext. 1110.

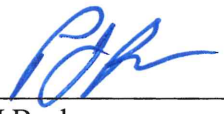
Sincerely,

PJ Becker
Environmental Health and Safety Manager

**Certification of City Water, Light and Power**

City of Springfield, Office of Public Utilities, d/b/a City Water, Light and Power provides the following certification as required by paragraph 300 of the Consent Agreement and Final Order effective January 14, 2025.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 
Name: PJ Becker
Title: Environmental Health and Safety Manager
Date: 9/23/25

Dallman and Lakeside Ash Ponds

# Assessment of Corrective Measures

City Water, Light and Power
Springfield, Sangamon County, Illinois

September 23, 2025

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# 1. Introduction

## *1.1 Regulatory Requirements*

This document serves as CWLP's Assessment of Corrective Measures (ACM) as agreed in the January 2025 Consent Agreement and Final Order. This ACM addresses the surface impoundments statistically significant levels (SSL) identified in the February 13, 2025 Groundwater Protection Standards Report for arsenic at RW-3, AP-7, AP-8 and AW1 along with cobalt at AP-2 and AP-3.

§ 257.95(g)(3)

- This regulation sets forth the requirements if any of the constituents listed in Appendix IV have been detected at a statistically significant level exceeding the groundwater protection standards.

§ 257.96

- This regulation sets forth the requirements of an assessment of corrective measures.

Consent Agreement and Final Order Attachment 1

- Additional requirements were provided to be considered in the assessment of corrective measures.

# 2. Site Background

## *2.1 Lakeside and Dallman Ash Ponds [Attachment 1, Item 1]*

The CWLP ash ponds are in Section 12 R.5W, T.15N of the Third Principal Meridian in Springfield, Sangamon County, Illinois. The Site is in the Springfield Plain of the Central Lowland Province Physiographic Division of Illinois (Leighton et al., 1948).

The older of the two (2) impoundments is Lakeside Ash Pond (LAP). LAP has a footprint of approximately 36 acres and contains approximately 1,565,000 cubic yards (cu. yds.) of CCR along with water treatment plant sludge. The floor of LAP is approximately elevation 530 ft. and slopes upward in the southeast corner following the natural topography. This places the impoundment floor anywhere from 16.77 ft. (minimum) to over 69 ft. (maximum) above the Basal Sand Unit. The mean separation is 34.34 ft., and the median separation is 29.67 ft. (see Figure 1).

Dallman Ash Pond (DAP) has a footprint of approximately 36 acres and contains approximately 1,217,000 cu. yds. of CCR. The floor of DAP slopes from the south to the northeast corner (from elevation 525 ft. to about 523 ft. Note that the bottom of DAP at boring D4 is over elevation 530 ft. The DAP floor is anywhere from 10.27 ft. (minimum) to 19.86 ft. (maximum) above the top of the Basal Sand Unit. There is a mean separation of 15.21 ft. and a median separation of 15.42 ft. (see Figure 1).

General Site geology consists of five (5) units. Maps showing the structural contours and isopaches for each unit are in Appendix A:

### *2.1.1 Upper Cohesive Unit*

The Upper Cohesive Unit (UCU) consists of gray to brown silty clay, clayey silt, and clay with plastic, soft to stiff consistency. Its similarity to the Lower Cohesive Unit makes it difficult to differentiate between the Upper and Lower Cohesive Units where the Shallow Sand Unit is not present. Hanson believes that the Shallow Sand Unit has been removed within the footprints of the Dallman and Lakeside Ash Ponds.

### *2.1.2 Shallow Sand Unit*

Sitting above the Lower Cohesive Unit, the Shallow Sand Unit (SSU) consists of gray, silty to clayey fine-grained sand. It is also associated with lenses of silty clay and clayey silt. The Shallow Sand Unit can be found in isolated locations (i.e., portions of the floor of Unit 2 and along the north side of Dallman Ash Pond from the middle north side to the eastern edge). Due to the elevation differences between the two (2) shallow sand areas, Hanson interprets that these are two (2) different sand units. The Unit 2 sand ranges from 0.0 to 6.0 ft. in thickness and the north Dallman sand also ranges from 0.0 to 6.0 ft. in thickness. Slug tests were performed on several wells located in the Unit 2 footprint. The geometric mean of the measurements is $5.92 \times 10^{-4}$ cm/sec with a median hydraulic conductivity of $9.8 \times 10^{-4}$ cm/sec.

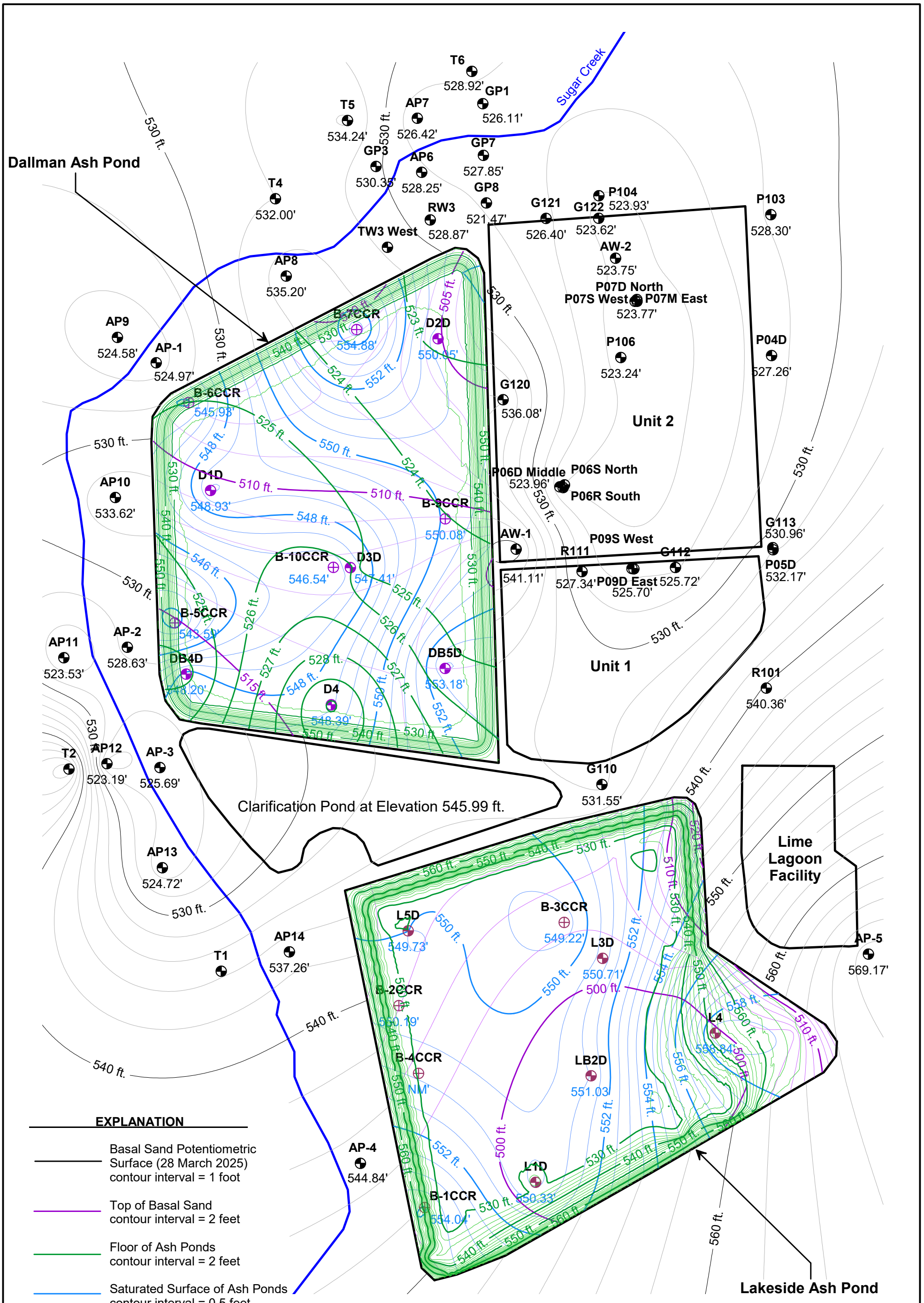
### *2.1.3 Lower Cohesive Unit*

The Lower Cohesive Unit (LCU) generally consists of brown to gray, silty clay, clayey silt, and clay with a plastic, soft to stiff consistency. Throughout most of the Site, the LCU is overlain by the Upper Cohesive Unit. Recent investigations were conducted in both impoundments to evaluate the CCR and the LCU below. Shelby tube samples were collected from the LCU immediately below the CCR in both ash ponds. The maximum hydraulic conductivity is $6.8 \times 10^{-6}$ cm/sec, and the minimum hydraulic conductivity is $1.7 \times 10^{-8}$ cm/sec. The geometric mean is $3.42 \times 10^{-7}$ cm/sec, and the median hydraulic conductivity is $3.65 \times 10^{-7}$ cm/sec.

### *2.1.4 Basal Sand Unit*

The Basal Sand Unit (BSU) typically sits directly on the Pennsylvanian age shales or weathered shales. The sand consists of gray, poorly sorted, silty to clayey fine- to medium-grained sand and may also have poorly sorted sand with traces of gravel. Within the floodplain area (where the impoundments and landfills are located), the elevation of the top of the BSU ranges from a maximum of 554.9 ft. to a minimum of 495.8 ft. Note that in the upland area where the Lime Lagoons are located, the elevation of the top of the sand that sits directly on the shale bedrock is at approximately 560 ft. and slopes downward to the east. Thickness ranges from less than 1.0 ft. to a maximum of 18.45 ft. Geometric mean thickness is 6.65 ft., and the median thickness is 7.93 ft.

Recently, the BSU monitoring wells were slug tested by Hanson to determine hydraulic conductivity values for the unit. Hydraulic conductivity results from the slug tests showed a maximum value of $8.84 \times 10^{-2}$ cm/sec and a minimum value of $4.57 \times 10^{-5}$ cm/sec. The geometric mean of the Basal Sand Unit hydraulic conductivities is $1.78 \times 10^{-3}$ cm/sec, and the median value is $1.64 \times 10^{-3}$ cm/sec.




Lake Springfield at elevation 559.63 ft.

## EXPLANATION

- Basal Sand Potentiometric Surface (28 March 2025) contour interval = 1 foot
- Top of Basal Sand contour interval = 2 feet
- Floor of Ash Ponds contour interval = 2 feet
- Saturated Surface of Ash Ponds contour interval = 0.5 feet

**SCALE: 1 inch equals 300 feet**

0 ft. 300 ft. 600 ft. 900 ft.

Monitoring well/piezometer water levels measured on 28 March 2025.

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Potentiometric Surface Map with Ash Pond Layers

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. 1

### *2.1.5 Bedrock Unit*

The Bedrock Unit (BU) consists primarily of Pennsylvanian age gray shales with some coal seams. Bedrock elevations range from 560 ft. on the west side of the Lime Lagoon area east of Lakeside Ash Pond to the mid-490 ft. range in Unit 2. There is also a bedrock knob (elevation 525 ft. plus) located on either side of Sugar Creek near the northeast corner of Dallman Ash Pond. Previous investigations indicated that the shale hydraulic conductivities are in the low-$10^{-7}$ cm/sec to low-$10^{-6}$ cm/sec with deeper packer testing results are less than 1 x $10^{-9}$ cm/sec (AEI, 2024).

## 3. Initiate Assessment of Corrective Measures [40 C.F.R. §§ 257.95(g)(3)(i) and 40 C.F.R. §§ 257.96(a)]

On March 6, 2025, CWLP provided notice of initiation of assessment of corrective measures. This notice fulfills the obligation of 40 C.F.R. §§ 257.95(g)(3) and 40 C.F.R. §§ 257.96(a).

## 4. Groundwater Monitoring [40 C.F.R. §§ 257.96(b)]

CWLP continues to monitor groundwater as specified in 40 C.F.R. §§ 257.95.

## 5. Nature and Extent of Releases [Attachment 1, Item 2]

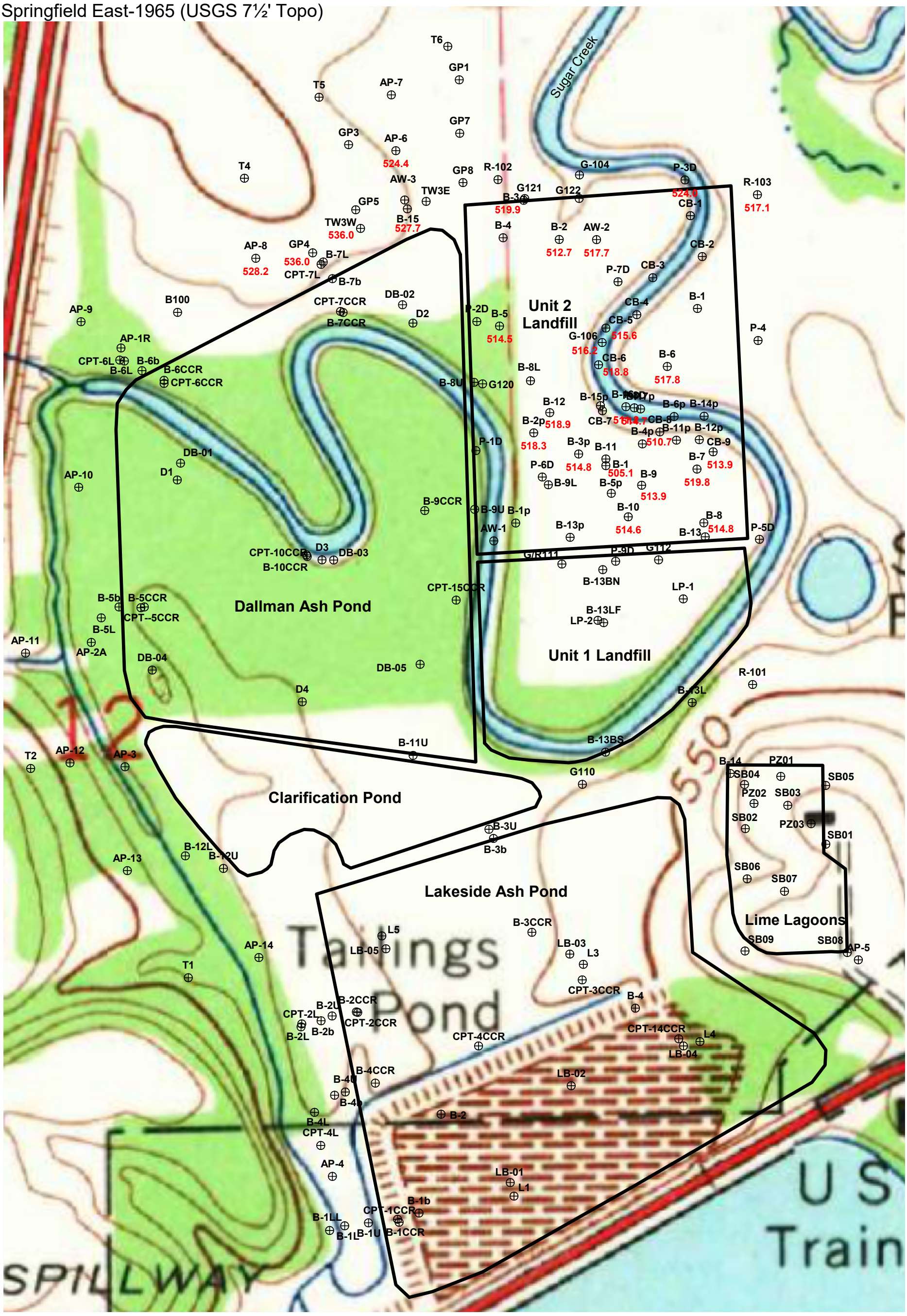
A Nature and Extent Report has been completed for the Appendix IV parameters that exceeded the Statistically Significant Levels (SSLs) for Arsenic and Cobalt. Arsenic exceedances were observed above the SSL at AW-1, RW-3, AP-7, and AP-8. Cobalt exceedances were observed above the SSL at AP2A and AP-3. Additional exceedances were observed for the two (2) Appendix IV constituents west of Sugar Creek, implying that there could be natural spatial variability. However, CWLP is continuing to treat the SSLs as impacts from the DAP and is continuing assessment monitoring which is not anticipated to affect the proposed closure of the two (2) surface impoundments. The complete Nature and Extent Report which includes a Flow Path Report as Appendix J is located in Appendix B of this document.

## 6. Evaluation of Abandoned Creek [Attachment 1, Item 3]

A portion of the abandoned Sugar Creek exists north of Landfill Unit 2. The creek bed has an elevation of approximately 523 ft. Borings in Unit 2 have pre-construction sand elevations between 520 to 515 ft. The floor of Dallman Ash Pond generally ranges from approximately 525 to 522 ft., which is below the elevation of the sand seam adjacent to the north side of Dallman. Also, none of the borings drilled adjacent to DAP in Unit 2 had any indications of the presence of the Shallow Sand Unit. Hanson concludes that the abandoned creek bed has been removed or mixed with other on-site materials which precludes it from being a potential pathway. See Figure 2 for borings and Shallow Sand elevations relative to the pre-relocated Sugar Creek.

Figure 2 also shows the preconstruction elevations within the DAP footprint (USGS, 1965). Note that the 530 ft. contour hugs the shoreline of Sugar Creek. With the post-construction elevation of the DAP floor being 5 to 7 ft. below the pre-construction topography, Hanson believes that the abandoned sections of Sugar Creek within the DAP footprint were removed during construction. This is supported by the borings in DAP (D1, D2, D3, D4, DB01, DB02, DB03, DB04, and DB05 along with AW-1 that shows fill materials above elevation 527.64 ft. and Lower Cohesive Unit clayey silts below.

Springfield East-1965 (USGS 7½' Topo)

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**SCALE: 1 inch equals 300 feet**

0 ft. 300 ft. 600 ft. 900 ft.

Red elevations indicates the top of the Shallow Sand Unit at that boring location.

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Shallow Sand Unit relative to Sugar Creek

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. 2

## 7. Groundwater Elevation Data [Attachment 1, Item 4]

Figure 1 shows the relationship between the potentiometric surface of the Basal Sand Unit (for 28 March 2025), the top elevation of the Basal Sand Unit, the floor of the impoundments, and the water surfaces inside each impoundment. From this figure it can be determined that:

1. There is separation between the top of the Basal Sand Unit (which is also the water level within the Basal Sand Unit) and the floor of each impoundment (greater than 5 feet).
2. The Basal Sand Unit is a confined aquifer (measured water level consists of the thickness of the aquifer plus a pressure component of head).
3. Groundwater flows from the upland area where the Lime Lagoons are located and discharges toward Sugar Creek to the west and northwest.
4. The water level in the Dallman Ash Pond is higher than in the Clarification Pond, which indicates that there is limited connection between the two (2) water bodies.
5. Removal of the free water in the Dallman Ash Pond should reduce the likelihood of seepage out of the impoundment and could potentially provide an inward gradient (groundwater moving into the impoundment).

## 8. Contaminant Transport Control [Attachment 1, Item 5]

CCR is not anticipated to be in contact with groundwater, now or after closure. The Basal Sand Unit is a confined aquifer, and the Lower Cohesive Unit separates the CCR from the Basal Sand Unit.

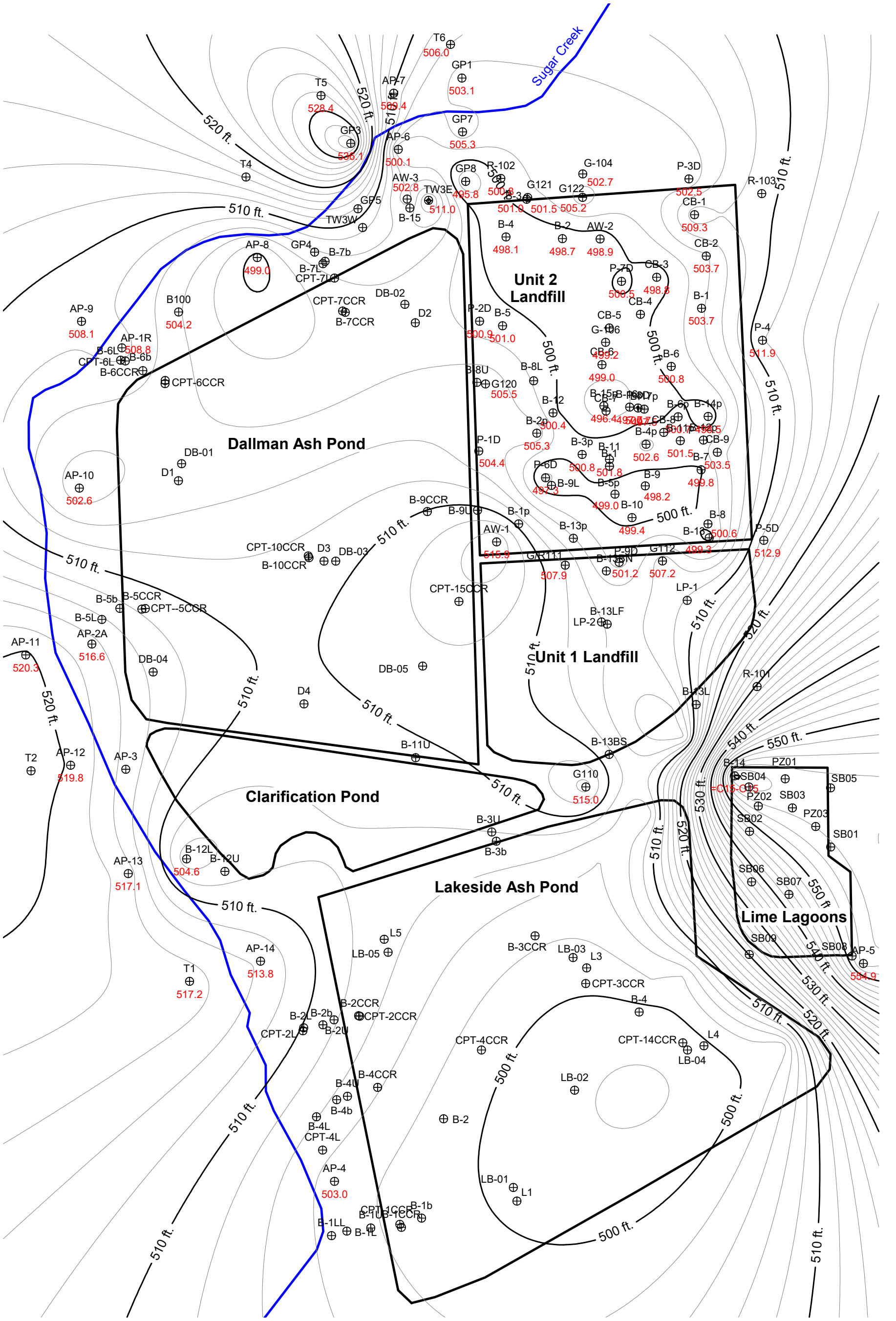
The potentiometric surface water levels should not be confused with those of a phreatic water surface or water table. The phreatic water surface shows the elevation where the groundwater is at one atmosphere pressure. Conversely, the pressure component of the potentiometric surface can be multiple time the one atmosphere pressure observed in a phreatic surface. That is why the water level observed in a well that penetrates a confined aquifer is always above the top of the aquifer or is in an artesian condition.

The Flow Path Report (AEI, 2025), notes there is no indication that the Shallow Sand Unit is a contaminant pathway.

Due to the confined nature of the Basal Sand Unit, Hanson does not believe there will be any impacts for groundwater flow at the facility due to dewatering of the CCR or use of any of the ancillary alternatives.

## 9. Remedy Feasibility [40 C.F.R. §§ 257.96(c), Attachment 1, Item 6]

Several remedies are presented below that outline the feasibility and practicality of the various closure options. These include discussions of performance, implementation, implementation time, and potential impacts and exposures for each remedy. Note that permitting requirements and timing to receive permits are not included in the time proposed for each closure remedy. Illinois Environmental Protection Agency (IEPA) must review and approve any Construction Permit application pursuant to 35 IAC 845.220 and review and update CWLP's NPDES permit to allow the discharge of contact waters from DAP and LAP. The dewatering wells will remain in place after placement of the final cover system.

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red thickness indicates the Unit was identified at the indicated thickness at that boring location.

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# Groundwater Surface of the Basal Sand Unit

## DALLMAN AND LAKESIDE ASH PONDS
## CITY WATER, LIGHT AND POWER
## SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. 3

Dewatering will need to be completed for almost all the remedies listed. This is needed to meet regulatory requirements and to identify settlement as the CCR dewaters. This will allow adjustments to maintain positive drainage on the final cover slopes. Hanson has estimated the times to dewater each ash pond, with DAP needing approximately 140 days and LAP needing approximately 360 days to dewater.

Dewaters will be sent to the Clarification Pond where it will be treated to lower the pH and then discharged at Outfall 004. An NPDES permit modification is currently under review with Illinois EPA. The dewatering wells will remain in place after placement of the final cover system and will be utilized after closure if necessary.

Hanson is surprised by how much water remains within the LAP CCR, based on lab testing performed on samples from DAP and LAP. Table 1 lists the sample boring and depth followed by the tested parameters and results for the various CCR samples. The water treatment plant sludge samples are included for reference.

**Table 1. Physical Properties of CWLP CCR**

| Sample Boring/Depth | Bulk Density (gm/cc) | Bulk Density (lb/cu ft) | Particle Density (gm/cc) | Porosity (%) | Field Capacity (%) | Wilting Point (%) |
|---|---|---|---|---|---|---|
| *Water Treatment Plant* | | | | | | |
| Water Treatment Sludge | 0.533 | 33.29 | | 78.27 | 79.2 | 40.27 |
| Lime Lagoon Sludge | 0.723 | 45.15 | 2.03 | 73.33 | 64.2 | 25.27 |
| *Dallman Ash Pond* | | | | | | |
| DB01 9.5-11.0 | 1.04 | 64.92 | 2.20 | 52.6 | 37.3 | 6.5 |
| DB02 17.0-18.5 | 0.93 | 58.05 | 2.11 | 55.9 | 41.9 | 6.9 |
| DB03 22.0-23.5 | 0.97 | 60.55 | 2.21 | 55.9 | 39.1 | 6.0 |
| DB04 2.0- 3.5 | 1.40 | 87.39 | 2.50 | 44.0 | 18.2 | 3.9 |
| DB05 14.5-16.0 | 1.02 | 63.67 | 2.15 | 52.7 | 40.0 | 6.9 |
| *Lakeside Ash Pond* | | | | | | |
| LB01 24.5-26.0 | 0.72 | 44.94 | 2.46 | 70.6 | 60.0 | 19.9 |
| LB02 12.0-13.5 | 1.35 | 84.27 | 2.54 | 46.8 | 11.1 | 4.2 |
| LB03 19.5-21.0 | 0.79 | 49.31 | 2.16 | 63.2 | 53.0 | 9.9 |
| LB04 12.0-13.5 | 0.84 | 52.43 | 2.25 | 62.8 | 49.9 | 9.0 |
| LB05 19.5-21.0 | 0.73 | 45.57 | 2.24 | 67.5 | 60.6 | 11.0 |

Source: Agvice Laboratories, Northwood, ND

The important properties listed in Table 1 are Porosity and Field Capacity. Porosity identifies how much water the CCR can hold (as a percentage). Field Capacity is defined as "the amount of water held in soil after the gravitational water has drained away." (Foth & Turk, 1972). There is a noticeable difference between the DAP CCR versus the LAP CCR. DAP porosities generally range from the low- to mid-50%, whereas the LAP porosities generally range from the low-60% to low-70%. That ability to contain water is also seen in the Field Capacities (FC). DAP FCs range from the mid-30% to low-40% and LAP FCs range from the low-50% to the low-60%. The FC percentages are an indication of the volume of water that is retained within the CCR after it has been dewatered. Therefore, the volume of water removed is only the portion of the total water within the CCR that can be removed by gravity drainage.

## *9.1 Closure Alternatives*

The closure alternative remedies discuss the final disposition of the CCR in the DAP and LAP. These alternatives look at whether the CCR remains or if it is removed. The various remedies below address the need for dewatering the CCR, the time the closure activities will take, any implementation issues, and health/safety concerns.

### *9.1.1 Closure-In-Place*

Closure-in-Place will require placing final cover on both the DAP and LAP. This can be done with a conventional final cover system consisting of 40 mil HDPE or LLDPE covered with 3-feet of soil [per 35 IAC 845.750(c)] or an acceptable substitute, such as ClosureTurf®. ClosureTurf® is a patented, three component system comprised of a structured geomembrane, an engineered turf, and a specified aggregate infill. The Hutsonville Power Station Ash Ponds were closed using a conventional final cover system as defined in 35 IAC 840.126. One of the Meredosia Power Station Ash Ponds was closed using the ClosureTurf® system.

Conventional final cover will require grading of the CCR surface to promote positive drainage, placement of 40-mil HDPE or LLDPE geomembrane along with welding the geomembrane panels together and bringing sufficient soil on-site to cover both ash ponds (approximately 350,000 cu. yds.). It will also require equipment to handle and place the cover soil over the geomembrane. Using the ClosureTurf® system would not require placement of 3-feet of protective soil, and therefore reduces the time needed to place final cover.

#### *9.1.1.1 Timeframe*

Dewatering, grading, and placement of a conventional final cover system on both ash ponds should require approximately 2 to 2.5 years to complete for a conventional cover system. The ClosureTurf® system should only need the time to dewater, grade the CCR for positive drainage, placement and welding of the geomembrane, placement of the engineered turf, and addition of the aggregate infill material. This should reduce the time to 1.25 to 1.75 years.

Note that these timeframes do not take into consideration the amount of time the Illinois EPA, Bureau of Water will need to issue the pending modification to CWLP's NPDES permit or to complete review of the construction permit application and issue a final permit.

#### *9.1.1.2 Implementation*

Closure-in-Place should be straight forward. Grading of the CCR for positive drainage is traditional earthwork and installation of the dewatering wells and associated pipe and electrical work is also non-complex. The major difference in the two (2) final cover systems is the volume of protective soil needed for the conventional final cover, hence the need for the additional 0.75 years to place this material.

#### *9.1.1.3 Performance*

Closure-in-Place will have several performance-based solutions to retard/restrict migration of contaminants to the environment. These solutions include dewatering systems to reduce free water in the impoundments during and after closure, contouring the CCR to provide positive drainage, and installation of a final cover system compliant with 40 CFR 257.102(d).

#### *9.1.1.4 Safety and Health Impacts*

The greatest potential safety and health issue is fugitive dust. Running equipment over the CCR could dry the material and allow it to become airborne. Keeping the CCR moist would reduce the ability of the CCR to be transported by wind. Tracking CCR offsite should not be an issue for the Closure-in-Place scenario as truck traffic is going to be limited to bringing in soil from off site, and trucks will typically not be running over the CCR surface.

#### *9.1.1.5 Best Management Practices*

Best management practices (BMPs) will be used to mitigate potential safety and health risks. These include items like watering roadways, keeping the working CCR areas moist, and avoiding tracking CCR on interior and public roads.

#### *9.1.1.6 Feasibility*

Closing both ash ponds in place is feasible, but there are disadvantages over some of the other closure alternatives. Grading, dewatering, and final cover construction for both DAP and LAP will be more time-consuming than other alternatives. Fugitive dust from both units would also add additional health and safety risks.

### *9.1.2 Removal of CCR for Beneficial Use*

Utilizing CCR for projects in Illinois presents both potential advantages and significant risks. Economically, using CCR as a fill material *can* be significantly cheaper than transporting conventional materials, particularly if sourced to a nearby location. This practice would also reduce or eliminate the expenses associated with closing and maintaining dedicated CCR landfills and/or impoundments.

The Illinois Environmental Protection Act provides the following definition for beneficial use of Coal Combustion By-products (CCB) in Section 3.135:

> *415 Ill. Comp. Stat. 5/3.135 (2023)*
> *Sec. 3.135. Coal combustion by-product; CCB.*
> *(a) "Coal combustion by-product" (CCB) means coal combustion waste when used beneficially in any of the following ways:*
> *(1) The extraction or recovery of material compounds contained within CCB.*
> *(2) The use of CCB as a raw ingredient or mineral filler in the manufacture of the following commercial products: cement; concrete and concrete mortars; cementious products including block, pipe and precast/prestressed components; asphalt or cementious roofing products; plastic products including pipes and fittings; paints and metal alloys; kiln fired products including bricks, blocks, and tiles; abrasive media; gypsum wallboard; asphaltic concrete, or asphalt based paving material.*
> *(3) CCB used (A) in accordance with the Illinois Department of Transportation ("IDOT") standard specifications and subsection (a-5) of this Section or (B) under the approval of the Department of Transportation for IDOT projects.*
> *(4) Bottom ash used as antiskid material, athletic tracks, or foot paths.*

*(5) Use in the stabilization or modification of soils providing the CCB meets the IDOT specifications for soil modifiers.*
*(6) CCB used as a functionally equivalent substitute for agricultural lime as a soil conditioner.*
*(6.5) CCB that is a synthetic gypsum that:*
*(A) has a calcium sulfate dihydrate content greater than 90%, by dry weight, and is generated by the lime or limestone forced oxidation process;*
*(B) is registered with the Illinois Department of Agriculture as a fertilizer or soil amendment and is used as a fertilizer or soil amendment;*
*(C) is a functionally equivalent substitute for mined gypsum (calcium sulfate dihydrate) used as a fertilizer or soil amendment;*
*(D) is used in accordance with, and applied at a rate consistent with, documented recommendations of a qualified agricultural professional or institution, including, but not limited to any of the following: certified crop adviser, agronomist, university researcher, federal Natural Resources Conservation Service Conservation Practice Standard regarding the amendment of soil properties with gypsum, or State-approved nutrient management plan; but in no case is applied at a rate greater than 5 dry tons per acre per year; and*
*(E) has not been mixed with any waste.*
*(7) Bottom ash used in non-IDOT pavement sub-base or base, pipe bedding, or foundation backfill.*
*(8) Structural fill, designed and constructed according to ASTM standard E2277-03 or Illinois Department of Transportation specifications[†], when used in an engineered application or combined with cement, sand, or water to produce a controlled strength fill material and covered with 12 inches of soil unless infiltration is prevented by the material itself or other cover material.*
*(9) Mine subsidence, mine fire control, mine sealing, and mine reclamation.*

The greatest issue with beneficial use is the opportunity to have a destination in need of a great volume of CCR at any given time. CWLP is continuing to investigate opportunities for beneficial reuse of CCR.

#### *9.1.2.1 Timeframe*

With approximately 2,782,000 cu. yd. of CCR and other materials in DAP and LAP, using the CCR for beneficial use in finite volumes would require multiple years for all the CCR to be removed. A review of all current and planned major transportation related projects over the span of the next 10 years would not require the amount of material available. Items 8 and 9 in the CCB Beneficial Use definition are the two most likely ways to use most, if not all, the CCR at CWLP.

[†] The combination of all known transportation projects in the area require less than CWLP's volume of CCR available beneficial use.

#### *9.1.2.2 Implementation*

Removing the CWLP CCR would require finding either a large Illinois Department of Transportation construction project or getting a permit from Illinois Department of Natural Resources, Mines and Minerals for use at mine sites.

#### *9.1.2.3 Performance*

Removal of CCR eliminates the likelihood of any further CCR contamination impacting groundwater.

#### *9.1.2.4 Safety and Health Impacts*

Fugitive dust would be an issue as equipment and trucks move over the CCR. Keeping the CCR moist could reduce the ability of the CCR to be transported by wind.

Tracking CCR offsite becomes an issue for any beneficial use scenario. Limiting truck traffic on the CCR may not be practical for loading and moving the CCR off site. Additionally, tracking the CCR onto public roads becomes a BMP issue.

Traffic accidents and driver errors could also cause CCR spills on the way to the beneficial use location.

#### *9.1.2.5 Best Management Practices*

Best management practices (BMPs) will be used to mitigate potential safety and health risks. These include items like watering roadways, keeping the working CCR areas moist, and using tire wash stations to prevent tracking CCR on interior and public roads.

#### *9.1.2.6 Feasibility*

Beneficial use of the CCR is likely the least feasible of the closure alternatives. The limited IDOT or mine reclamation projects are the limiting factor. Additional health and safety issues, including tracking CCR on public roads and the potential for trucking accidents, add to limiting the feasibility of this option.

### *9.1.3 Closure-By-Removal to Another Disposal Unit*

Closure-by-Removal to another disposal unit would remove any CCR and other impacted materials from both the DAP and LAP. Removal could not take place until both ash ponds were dewatered. As noted in Section 9, dewatering LAP will take almost one (1) year and Table 1 indicates that LAP CCR will still retain a significant volume of water even after dewatering. Additionally, the ash ponds would remain in an open condition and continue to receive precipitation that would need to be managed during removal.

#### *9.1.3.1 Timeframe*

Hanson estimates that both ash ponds contain approximately 2,782,000 cu. yd. of CCR and other materials. This would require approximately 111,000 truckloads (at 25 cu. yd. per truck). Running 12 hours a day Monday through Friday, assuming 100 to 200 trucks per day entering and exiting the facility, DAP and LAP could have all the CCR removed in approximately 2.25 to 4.5 years.

Note that this time estimate does not include time that may be needed to permit and construct a new disposal facility through Illinois EPA, Bureau of Land. In the past, this process has taken anywhere from 2.5 to 4 years. The Environmental Protection Act allows the Bureau of Land to take up to 180 days to review a new landfill permit application. Several rounds of review and comments add to the time before a permit can be issued.

Once the landfill permit is issued, construction of the disposal facility can begin. This construction could take up to one year. Total time for this option can range from 5.25 to 7.25 years. Note that the requirements of 25 IAC 845.700 could impact the timeframe of the ash ponds closure.

#### *9.1.3.2 Implementation*

Although Section 0 discusses the time needed to permit and construct a new disposal facility, it is also possible to transport the CCR to an existing municipal solid waste landfill. Appendix C contains the 2023 landfill capacity information for the two central Illinois regions (Region 4 – East Central Illinois and Region 5 – West Central Illinois) that would be closest to the CWLP ash ponds. Although several landfills have capacity to take all the CWLP CCR, it will consume a large percentage of available air space or consume all available air space. It is unlikely that the landfills or their siting authorities will allow for all the available air space (or even a significant portion) to be consumed if siting agreements have expectation of how long the landfill needs to have available capacity.

#### *9.1.3.3 Performance*

Removal of CCR also eliminates the likelihood of any further CCR contamination impacting groundwater. However, removal to another disposal unit requires available air space and/or time to permit and construct another location.

#### *9.1.3.4 Safety and Health Impacts*

Fugitive dust would be an issue as equipment and trucks move over the CCR. Keeping the CCR moist could reduce the ability of the CCR to be transported by wind.

Tracking CCR offsite becomes an issue for any Closure-by-Removal scenario. Limiting truck traffic on the CCR may not be practical for loading and moving the CCR off site. Additionally, tracking the CCR onto public roads becomes a BMP issue.

Traffic accidents and driver errors could also cause CCR spills on the way to the disposal facility.

#### *9.1.3.5 Best Management Practices*

Best management practices (BMPs) will be used to mitigate potential safety and health risks. These include items like watering roadways, keeping the working CCR areas moist, and using tire wash stations to prevent tracking CCR on interior and public roads.

#### *9.1.3.6 Feasibility*

Moving the CCR to a new disposal site also has limited feasibility. The limited amount of current landfill airspace or the time needed to permit a new disposal site through Illinois EPA limits the desirability of this option. This also has the same health and safety concerns that the beneficial use option has.

### *9.1.4 Waste Consolidation*

Consolidation of the waste material at LAP and DAP into one (1) facility offers several potential benefits.

1. A properly engineered facility can ensure a controlled environment for the long-term management of CCR waste material.
2. The consolidation effort will allow for improved containment and a dewatering system to limit the potential for groundwater contamination.
3. The design can better control issues such as berm failures and erosion by planning for and managing stormwater impacts at the site.
4. Consolidating LAP will expose the downstream side of Spalding Dam and allow for better evaluation of potential hazards during dam inspections.
5. Consolidation of the waste would simplify the long-term monitoring of groundwater, unwaters/dewaters, and ongoing maintenance due to a reduced footprint.

Challenges associated with the waste consolidation will not be inconsequential. Care will need to be taken to move a large amount of material in a safe and environmentally responsible manner. The LAP CCR would not be dewatered before being moved. The wetter nature of the CCR will facilitate moving it to DAP more efficiently and allow it to dewater in geotextile tubes. This long-term management would include continued operation of the dewatering system to reduce the potential for contaminant migration from the DAP.

Once the LAP CCR is consolidated at DAP, a final cover system will be placed to prevent infiltration and accumulation of contact waters within the DAP footprint. The closure options are the same as described in Section 9.1.1. Concept drawings consolidating LAP to DAP are shown in Appendix F.

#### *9.1.4.1 Timeframe*

Consolidation would begin by dewatering DAP, which should take about 150 days. Once DAP is dewatered and settlement begins, material at LAP can begin to be sluiced and stored in geotextile bags. The sluiced and bagged CCR would then be dewatered at DAP. Sluicing the LAP CCR and bagging the material will take 1 year (10-hour workdays, 5 days/week with 2 pumps at 3,000 gpm). Dewatering and settlement will take another 3-6 months. Additional earthwork to prepare for final cover and final cover placement will be another 6 months. Total time to consolidate LAP to DAP will take a total of 2 to 2.5 years.

#### *9.1.4.2 Implementation*

Grading of the DAP CCR to be able to place the geotextile bags and installation of the dewatering wells and associated pipe and electrical work is not a complex construction process. Filling the geotextile bags will require some coordination at DAP to make the process efficient. Care will need to be taken in backfilling over the geotextile bags to create a smooth surface for the final cover system without damaging the geotextile bags.

#### *9.1.4.3 Performance*

Consolidation will have similar performance goals as the Close-in-Place alternative for DAP and closure by removal for LAP. Consolidation will also retard/restrict migration of contaminants to the environment. These solutions include dewatering systems to reduce free water in the impoundments during and after closure, contouring the CCR to provide positive drainage, reducing the footprint of the impoundments, and installation of a final cover system compliant with 40 CFR 257.102(d).

#### *9.1.4.4 Safety and Health Impacts*

Fugitive dust will likely only be an issue during the DAP grading process. A combination of hauling the dryer CCR materials and sluicing the wet state CCR will be used to move the LAP CCR to the DAP. There should not be any offsite tracking of CCR in this Consolidation scenario.

#### *9.1.4.5 Best Management Practices*

Best management practices (BMPs) will be used to mitigate potential safety and health risks. These include items like watering roadways, keeping the working CCR areas moist, and avoiding tracking CCR on interior and public roads. Additional care will need to be provided while CCR is being sluiced to avoid discharges of the sluiced CCR and sluice lines becoming disconnected from the geotextile bags.

#### *9.1.4.6 Feasibility*

Waste consolidation is likely the most feasible alternative available. Benefits include, reducing the waste footprint, all work is performed on site, and sluicing the LAP CCR helps reduce the fugitive dust issue. The amount of time to complete closure is no worse than any of the other alternatives.

### *9.2 Ancillary Alternatives*

This ancillary alternative section discusses additional mitigation/remediation alternatives that could be used in conjunction with a final cover system or CCR removal.

#### *9.2.1 Cut-off Wall*

An alternative that could be utilized with many of the listed (non-removal) remedies is a cut-off wall surrounding either or both CWLP ash ponds. The slurry wall would be constructed along the inside edge of the ash pond berm using traditional excavation equipment. The excavation would be flooded with bentonite slurry, creating a barrier with low permeability, and the trench would be excavated and keyed into the shale bedrock beneath the Basal Sand Unit. The trench would surround the ash pond(s) and restrict the ability of contaminants to impact groundwater. The addition of dewatering wells would prevent the buildup of precipitation within the footprint of the ash pond until a final cover system can be placed over the CCR.

#### *9.2.1.1 Performance*

The Cutoff Wall is used to restrict migration of contaminant from a CCR impoundment to groundwater. The low permeability of the bentonite slurry combined with dewatering of the CCR reduces the flow of contaminants from inside the impoundment to the aquifer on the other side of the cutoff wall. Placement

of a final cover system compliant with 40 CFR 257.102(d) will restrict further infiltration of precipitation and preventing any further potential contaminant migration from the CCR unit.

#### *9.2.1.2 Timeframe*

Once dewatering of the CCR is completed, Hanson estimates that the cut-off wall could be constructed at each ash pond in less than 6 months excavating 30 to 50 linear feet of trench per day.

#### *9.2.1.3 Implementation*

The cut-off wall could be constructed any time before the placement of the final cover system.

#### *9.2.1.4 Safety and Health Impacts*

There should be nominal safety and health impacts to this alternative since the excavation is flooded with bentonite slurry and there would be nominal truck traffic moving around the Site. The excavated materials would be placed on the ash pond and graded for positive drainage.

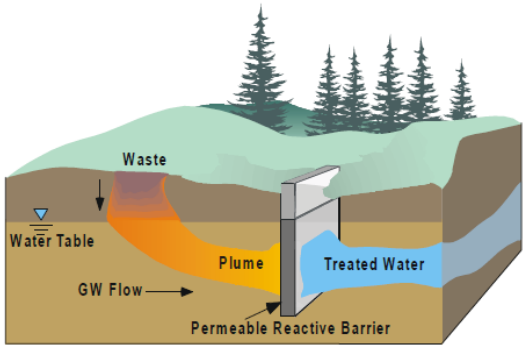
#### *9.2.1.5 Best Management Practices*

Best management practices (BMPs) are limited to working near the excavation and the in-place bentonite slurry. The slurry will remain soft even after placement, so pedestrian and vehicle traffic should be avoided. Access roads will need to be constructed at various locations around the ash pond to allow access to the ash pond interior.

#### *9.2.1.6 Feasibility*

Of the ancillary alternatives, the cut-off wall is one of the more feasible options. The bentonite slurry aids in keeping the excavation open, the excavation can double as the anchor trench for the final cover system, and it has a rather quick completion time. This has also been a time-tested solution to restrict contaminant migration.

### *9.2.2 Permeable Reactive Barriers*




A Permeable Reactive Barrier (PRB) is an in-situ groundwater remediation technology that involves installing a reactive material within the subsurface to intercept a plume of contaminated groundwater. As the groundwater flows passively through the barrier under the existing hydraulic gradient, the contaminants are removed or transformed through physical, chemical, or biological processes. PRBs are particularly applicable in situations where a defined plume of dissolved contaminants is migrating in a predictable flow path within a permeable aquifer. They can be a cost-effective and sustainable solution for treating groundwater contamination downgradient of a source area, preventing further migration and reducing contaminant concentrations to acceptable levels without requiring continuous energy input for pumping and treating groundwater.

A PRB installed at the CCR impoundments would need to intersect the surrounding confined Basal Sand Unit, which varies in depth from 25 to 55 feet below the existing ground surface. Additionally, it would need to be designed to treat the Appendix IV constituents of concern (CoCs) found within the DAP and with sufficient reactive material to provide for potential depletion over time to ensure reliable performance of the PRB.

Implementing a PRB within the confined Basal Sand Unit at a depth of 25 to 55 feet presents considerable challenges. Installation via trenching or injection carries the risk of creating preferential flow pathways to the aquifer. Furthermore, ensuring complete and continuous interception of the <1.0 to 18.5 feet thick aquifer at this depth to effectively capture all contaminant movement may be technically difficult, potentially rendering the PRB an unreliable remedy.

#### *9.2.2.1 Timeframe*

Installation time for a PRB should be similar to the installation of the Cut-off Wall (<6 months). However, the Cut-off Wall is a long-term solution for the impacted groundwater.

#### *9.2.2.2 Implementation*

The PRB could be constructed any time before the placement of the final cover system. Several references cite heavy metal cleanup with PRB (Blowes et al., 2000, Hashim et al., 2011). Blowes et al. (2000) lists several inorganic parameters that have treatment potential and cites small scale field testing for Cd, Cr, Cu, Fe, Ni, Pb, $NO_3$, $PO_4$, and $SO_4$. Ahn et al. (2003) indicated that steel manufacturing byproducts could remove high concentrations of Arsenic (25 mg/L) in bench tests. No references could be found for removal of Cobalt via PRB.

Excavating the trench for the installation of the reactive materials could be difficult. Removing the Basal Sand Unit without a slurry to keep the trench open will be problematic at the depths observed around the ash ponds.

#### *9.2.2.3 Performance*

Although PRBs have been shown to be an effective remediation technology for organic contaminants, the effective treatment of many CCR parameters is unknown. While zero valent iron treatment is effective for several metals, including Arsenic, Chromium, and Selenium, there is no indication of its effectiveness for other CCR parameters, like Boron, Chloride, and many of the Appendix IV metals (ITRC, 2011). This coupled with the depths that must be reached at DAP and LAP would preclude this alternative from being an effective solution.

#### *9.2.2.4 Safety and Health Impacts*

There should be nominal safety and health impacts to this alternative since the excavation is backfilled with reactive material and there would be nominal truck traffic moving around the Site. The excavated materials would be placed on the ash pond and graded for positive drainage. However, care will be needed to ensure that the reactive material does not pose a human health hazard.

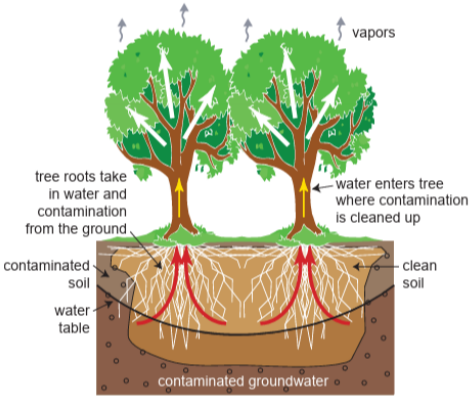
#### *9.2.2.5 Best Management Practices*

Best management practices (BMPs) are limited to working near the excavation and the in-place reactive material. Access roads may need to be constructed at various locations around the ash pond to allow access to the ash pond interior.

#### *9.2.2.6 Feasibility*

A PRB is one of the less feasible ancillary alternatives available. Of greatest concern is the excavation of the aquifer material at the depth found on site and being able to replace the aquifer with the reactive barrier materials.

### *9.2.3 Phytoremediation*




Phytoremediation is an in-situ remediation technology that utilizes the natural abilities of plants to remove, stabilize, or transform contaminants in soil, sediment, and water. Through various mechanisms such as uptake, accumulation, degradation, and immobilization, carefully selected plant species can help to mitigate the environmental impact of pollutants.

However, the depth to groundwater at the site makes the use of phytoremediation problematic. Phytoremediation is generally not effective for all CCR constituents, which would possibly necessitate the use of additional remediation techniques. Additionally, many plant species in our climate zone go dormant during the fall and winter months, making them ineffective for year-round groundwater cleanup. The depth of the aquifer, in conjunction with the time required for root systems to reach the aquifer, combined with the climate, effectively preclude phytoremediation as an effective remediation technique for the DAP.

#### *9.2.3.1 Timeframe*

Planting the appropriate plant species should be a relatively short timeframe (<6 months). However, the time needed for the plants to mature and become effective would take several years.

#### *9.2.3.2 Implementation*

Phytoremediation could be constructed any time before the placement of the final cover system and could be implemented in a short timeframe. It is also likely that Phytoremediation will not be effective against several of the CCR parameter, including Boron, Chloride, and Sulfate. Having the Phytoremediation system active for only part of the year also makes the system problematic.

#### *9.2.3.3 Performance*

Phytoremediation can assist in remediation of certain contaminants. However, this remediation technique is a near-surface process, whereby the plants take up groundwater and contaminants leaving behind clean soil. This type of remediation would potentially require a large amount of space, which does not exist

where Sugar Creek and DAP and LAP are located. This area is also prone to flooding when water needs to be released from Lake Springfield.

Additionally, the CCR parameters would likely require multiple species to remediate all the potential contamination (if possible). Plants that absorb the contamination would also need to be properly managed to prevent re-introduction of the contaminants back into the environment. Also, due to the depth of the BSU, this treatment system would need to be coupled with an extraction system to get the contaminated groundwater closer to the surface for treatment.

#### *9.2.3.4 Safety and Health Impacts*

There should be nominal safety and health impacts to this alternative, since it only requires the planting of appropriate plant species.

#### *9.2.3.5 Best Management Practices*

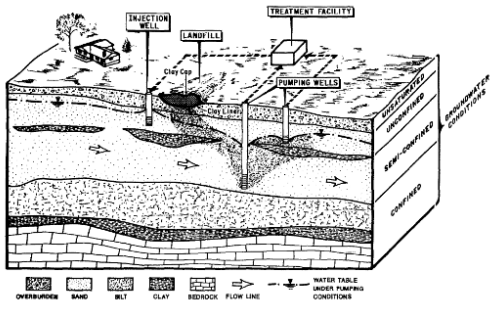
Best management practices (BMPs) would be nominal. The most important practice would be to keep undesirable plant species out of the remediation area to prevent reduced uptake of the contaminants or crowding out of the desired plant species.

#### *9.2.3.6 Feasibility*

Phytoremediation is also a less feasible alternative than other presented alternatives. The biggest drawback is the depth of the uppermost aquifer and the ability of the vegetation to reach the 40-50-foot depths needed to implement this alternative. The climate in central Illinois also limits phytoremediation because of vegetation dormancy in the late fall and winter.

### *9.2.4 Pump and Treat*

Pump and Treat (P&T) involves the extraction of contaminated groundwater from the subsurface using a system of wells or drains, followed by ex-situ treatment of the extracted water to remove the targeted contaminants. The treated water may then be discharged to surface water, a publicly owned treatment works, or reinjected back into the aquifer. P&T aims to hydraulically control the migration of contaminated groundwater and reduce contaminant mass in the aquifer over time through continuous extraction and treatment.




Extraction wells would be installed downgradient of the DAP where the contaminants would be removed from the extracted groundwater via treatment (precipitation, coagulation/flocculation, sedimentation, filtration, ion exchange, reverse osmosis, or activated carbon). Treatability of Arsenic is well documented in Kanel et al. (2023). Cobalt can also be removed from groundwater. Treatment processes include chemical precipitation (using hydroxides), ion exchange (using exchange resins), and membrane filtration (using reverse osmosis (RO)). Other treatment options are also available, but may be less effective (Lenntech, 2025).

Risks involved with P&T would be the possibility of pumping within the Basal Sand Unit drawing groundwater from the DAP, through the Lower Cohesive Unit, and further leaching additional contaminants into the aquifer. Additionally, treatment of the groundwater can result in new solid wastes that require disposal. P&T primarily addresses dissolved contaminants, and there is a potential for residual contamination sorbed to the aquifer matrix to slowly desorb resulting in the rebound of contaminant concentrations.

#### *9.2.4.1 Timeframe*

Installation of the extraction wells, construction of the header system and electrical layout, and the installation of the necessary treatment devices should take approximately 6 to 8 months.

#### *9.2.4.2 Implementation*

Some initial study would be necessary to determine the appropriate spacing of the P&T extraction wells along with designing the header system, the electrical layout, and designing the size and type of remediation treatment system(s). Long term use of the P&T will require normal maintenance and disposal of any accumulation of treatment sludges or wastes.

#### *9.2.4.3 Performance*

A Pump and Treat system will need to address the depths necessary to reach the BSU (25 to 55 feet). A french drain system would be impractical to install at depth, so wells will be needed to remove impacted groundwater. Treatment of many of the Appendix IV parameters should be straight forward, but many of the treatment methods generate a waste stream that must be properly disposed (e.g., precipitation, RO, etc.).

#### *9.2.4.4 Safety and Health Impacts*

There should be nominal safety and health impacts to this alternative, but some of the treatment sludges and wastes could have adverse health impacts. Proper personal protective equipment (PPE) could be needed when personnel are exposed to these waste products.

#### *9.2.4.5 Best Management Practices*

Best management practices (BMPs) should be limited to the use of PPE when performing regular maintenance on the P&T equipment.

#### *9.2.4.6 Feasibility*

Pump and treat could be a feasible alternative, but there are two issues that could impact feasibility. These issues include the long-term need to pump groundwater to reach the necessary concentrations and the need to regenerate treatment resins or dispose of treatment sludges.

## 10. Nature and Estimated Quantity of Material Released [Attachment 1, Item 7]

No CCR material has been released from Dallman or Lakeside Ash Ponds. The estimated quantity of constituents that have potentially been released to groundwater has been calculated (see Sections 6 and 7, along with Figure 3, Figure 4, and Table 2-5 in the Nature and Extent Report located in Appendix B).

See Appendix D for the results of testing of materials from the Dallman Ash Pond for the constituents listed in Appendix IV of 40 C.F.R. Part 257, Subpart D.

Note that the results show that the levels of arsenic and cobalt inside the Dallman Ash Pond materials are lower than arsenic at RW-3, AP-7, AP-8 and AW1 and cobalt at AP-2 and AP-3. This would indicate there is no connection between the SSL of arsenic at RW-3, cobalt at AP-2 and the Dallman Ash Pond. This issue is further discussed in the Nature and Extent Report located in Appendix B.

## 11. Natural Attenuation [Attachment 1, Item 8]

Natural Attenuation or Monitored Natural Attenuation uses several processes to remove or aid in removal of contaminants migrating in groundwater. The processes of natural attenuation include biodegradation, chemical reactions, dilution, evaporation, and sorption.

Several of these processes will not be successful in cleaning up CCR impacted groundwater. Biodegradation, chemical reactions, and sorption require that the cation or anion impacting groundwater can interact with whatever exists in the soil/groundwater system or with some other additives used to attenuate the migration of the CCR contaminant(s). Evaporation can work with volatile compounds, but inorganic cations and anions will be left behind once the groundwater has evaporated and potentially dissolved back into the aquifer once additional fresh water is added to the system. Sorption and dilution are the two most likely treatment options. Dilution simply requires sufficient fresh water input to the system to lower the concentrations of CCR parameters. Sorption can be a useful treatment method for several of the CCR metals, but the soil minerology needs to contain compounds to which the metal ions can bond and the appropriate Eh/pH levels to allow the solid-phase components to precipitate.

Hanson does not recommend the use of natural attenuation for the ash pond closures. The distance from the ash ponds to Sugar Creek is small, reducing the volume of soil needed for such attenuation to occur.

## 12. Sugar Creek Flood Event and Ecological Risk [Attachment 1, Item 9]

A database check from the Illinois Department of Natural Resources Ecological Compliance Assessment Tool (EcoCAT) reported that only one protected species may be in the vicinity of the project location: Kirtland's Snake (*Clonophis kirtlandi*). The US Fish and Wildlife Service Information for Planning and Consultation (IPaC) listed the Indiana bat (*Myotis sodalist*) *as* endangered, and the eastern prairie fringed orchid (*Platanthera leucophaea*) as threatened.

A field visit was completed on April 16, 2025 to observe the conditions of Sugar Creek within the vicinity of the DAP and LAP. The Site visit determined that suitable habitat for the listed endangered and threatened species exist within and surrounding Sugar Creek. See Appendix E for Hanson's Habitat Assessment Memo, EcoCAT results and IPaC results.

To evaluate flood events along Sugar Creek, the velocity of the flood flows was compared to the permissible velocities of vegetative linings to represent the existing berms around the Dallman and Lakeside Ash Ponds. Fischenich (2001) was used to determine the permissible velocities of the existing vegetative cover. Table 2 (Fischenich, 2001) lists the Permissible Shear and Velocity for Selected Lining Materials, including vegetative turf covers. These turfs were separated into classes A, B and C. These classifications are described in "Design or Roadside Channels with Flexible Linings" (FHA, 2005). Table 4.1 provides vegetative species and coverage conditions to determine the retardance class of the cover system. These tables are included in

Appendix E. Based on field observations of the existing vegetation along the Lakeside and Dallman berms, retardance class B was selected, providing permissible maximum velocities of between 4 and 7 ft/sec.

Hanson utilized the August 2, 2007 Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) Number 17167CV000B for Sangamon County, IL for flood volume information. The document provided the 100-year peak discharge for Sugar Creek at Spaulding Dam of 27,800 cubic feet per second (CFS) at an elevation of 545 NAVD88. This data was based on topography of the project area that did not include the construction of the Lakeside or Dallman Ash Pond, which incorrectly identifies these areas as being within the flood zone. Additionally, there are three (3) culverts that discharge water beneath Interstates 55/72. These culverts have a minor drainage area (approximately 37 acres) relative to the discharges from Lake Springfield.

This information was used to approximate the flood elevation based off lidar elevations from 2023, velocity for the 100-year storm and to project that information for a 1,000-year storm event. Bonnin et al. (2006) precipitation frequency estimates for the project location in Springfield, IL was used to escalate the 100-year storm to the 1,000-year storm. This document is included in Appendix E and shows the 100-year storm precipitation rate of 6.22 inches and the 1,000-year rate of 8.38 inches. This represents a 35% increase in the potential inflow volume and would result in a 1,000-year outflow volume of 37,454 CFS.

Appendix E includes a cross section that summarizes an evaluation of the floods to provide a range of potential elevations and velocities that could be present for the 100 and 1,000-year events. The evaluation began with holding the 100-year elevation of 545, the outflow volume of 27,800 CFS to calculate a velocity of 0.9 ft/sec based off the area presented in the cross section. This elevation was held, and velocity increased to 6.2 ft/sec to maintain the flow volume based on the new lidar topography. Maintaining the cross-sectional area and 100-year flow velocity was also held for another review, but the elevation increased to 560.18. These two approaches were then averaged to result in an elevation of 552.59 with a 100-year velocity of 3.5 ft/sec. The same process was repeated with the projected 1,000-year flow volume. The highest velocity that can be seen is holding the elevation of 545 for the 1,000-year storm at 8.3 ft/s. This approach is likely overconservative, and the current channel geometry produces higher water elevations and lower velocities, most like the averages of 3.5 ft/sec for the 100-year storm and 4.8 ft/sec for the 1,000-year storm.

Using the maximum permissible velocities of the existing vegetative lining in the range of 4 to 7 ft/sec. and the expected flood velocities within or below that range, there should be no erosion of the existing berms. With there being no concern of erosion of the existing berms that would predicate a release of material, there is minimal ecological risk to Sugar Creek based on the 100-year or 1,000-year flood events.

## 13. ACM Placement in Operating Record [40 C.F.R. §§ 257.96(d)]

CWLP will place the completed ACM in the facility's operating record upon completion.

## 14. Public Meeting [40 C.F.R. §§ 257.96(e)]

CWLP will discuss the results of the ACM at least thirty (30) days prior to the selection of remedy, in a public meeting with interested and affected parties.

## 15. Recordkeeping [40 C.F.R. §§ 257.96(f)]

CWLP will comply with the recordkeeping requirements for ACM as specified in 40 C.F.R. §§ 257.105(h), the notification requirements specified in 40 C.F.R. §§ 257.106(h), and the Internet requirements specified in 40 C.F.R. §§ 257.107(h).

## 16. References

AEI, 2024. "Geotechnical Investigation Report for Unstable Areas Demonstration, Safety Factor and Liquefaction Analysis for Coal Combustion Residuals Surface Impoundments", Andrews Engineering, Inc., Springfield, IL. 2237 pp.

AEI, 2025. "Flow Path Report", Andrews Engineering, Inc., Springfield, IL. 52 pp. + 6 app.

Ahn, J.S., C.M Chon, H.S. Moon, K.W. Kim, "Arsenic removal using steel manufacturing byproducts as permeable reactive materials in mine tailing containment systems", Water Research, V. 37, No. 10, Elsevier, Maryland Heights, MO. p. 2478-2488.

Blowes, D.W., C.J. Ptacek, S.G. Benner, C.W.T. McRae, T.A. Bennett, & R.W. Puls. "Treatment of inorganic contaminants using permeable reactive barriers", Journal of Contaminant Hydrology, V. 45, No. 1-2, Elsevier, Maryland Heights, MO. p. 123-137.

Bonin, G.M., D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley, 2006. "Precipitation-Frequency Atlas of the United States", NOAA Atlas 14, Volume 2, Version 3: Delaware, District of Columbia, Illinois, Indiana, Kentucky, Maryland, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, National Weather Service, National Oceanic and Atmospheric Administration, US Department of Commerce, Silver Springs, MD. 295 pp.

FHA, 2005. "Design of Roadside Channels with Flexible Linings, Hydraulic Engineering Circular No. 15, Third Edition", FHWA-NHI-05-114, September 2005, Federal Highway Administration, US Department of Transportation, Arlington, VA. 154 pp.

Fischenich, C. (2001). "Stability Thresholds for Stream Restoration Materials," EMRRP Technical Notes Collection (ERDC TN-EMRRP-SR-29), U.S. Army Engineer Research and Development Center, Vicksburg, MS. 10 pp.

Foth, H. D. and Turk, L. M., 1772. Fundamentals of Soil Science, Fifth Edition, John Wiley and Sons, Inc., New York, NY. 454 pp.

Hashim, M.A., S. Mukopadhyay, J.N. Sahu, & B. Sengupta. "Remediation technologies for heavy metal contaminated groundwater", Journal of Environmental Management, V. 92, No. 10, Elsevier, Maryland Heights, MO. p.2355-2388.

ITRC, 2011. "Permeable Reactive Barrier: Technology Update", The Interstate Technology & Regulatory Council, Washington, DC, 179 pp + 5 app.

Kanel, S.R., T.K. Das, R.S. Varma, S. Kurwadkar, S. Chakraborty, T.P. Joshi, A.N. Bezbaruah, & M. N. Nadagouda. "Arsenic contamination in groundwater: geochemical basis of treatment technologies", ACS Environmental Au, V. 3, No. 3, https://doi.org/10.1021/acsenvironau.2c00053

Leighton, M.M., G.E. Ekblaw, and L. Horberg, 1948. "Physiographic Divisions of Illinis, Report of Investigations No. 129," Illinois State Geological Survey, Urbana, IL. 33 pp.

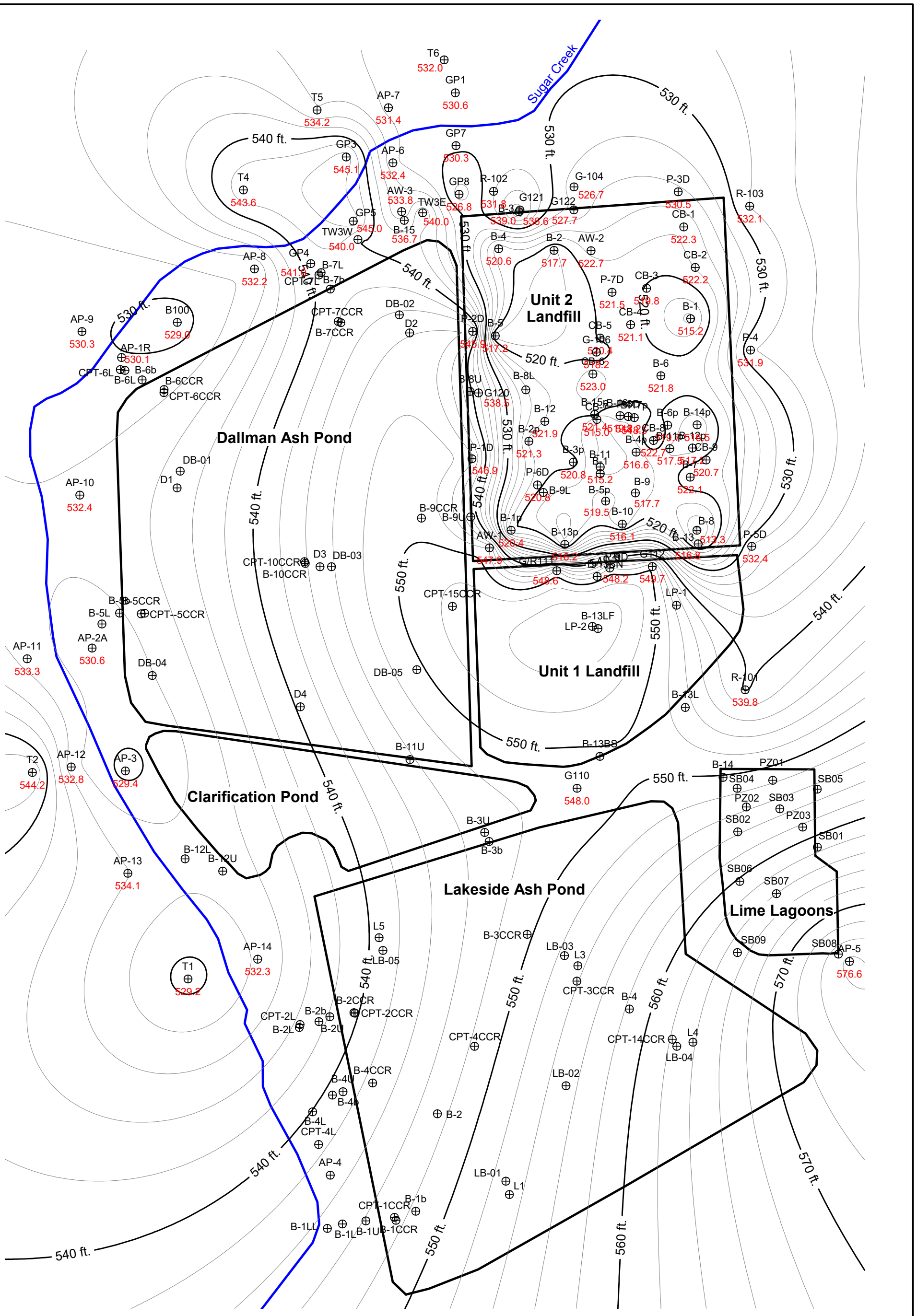
Lentech B.V. https://www.lenntech.com/applications/cobalt-removal.htm (viewed 17 September 2025).

415 Illinois Compiled Statutes 5/3/135 (2023) "Illinois Environmental Protection Act", https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1585&ChapterID=36

USGS, 1965. *Springfield East, Ill, USGS 7½-minute Series*, United States Geological Survey, US Department of Interior, Reston, VA, 1965.

# Appendix A

# Structural Contour and Isopach Maps

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red elevation indicates the Unit was identified at the indicated elevation at that boring location.

HANSON
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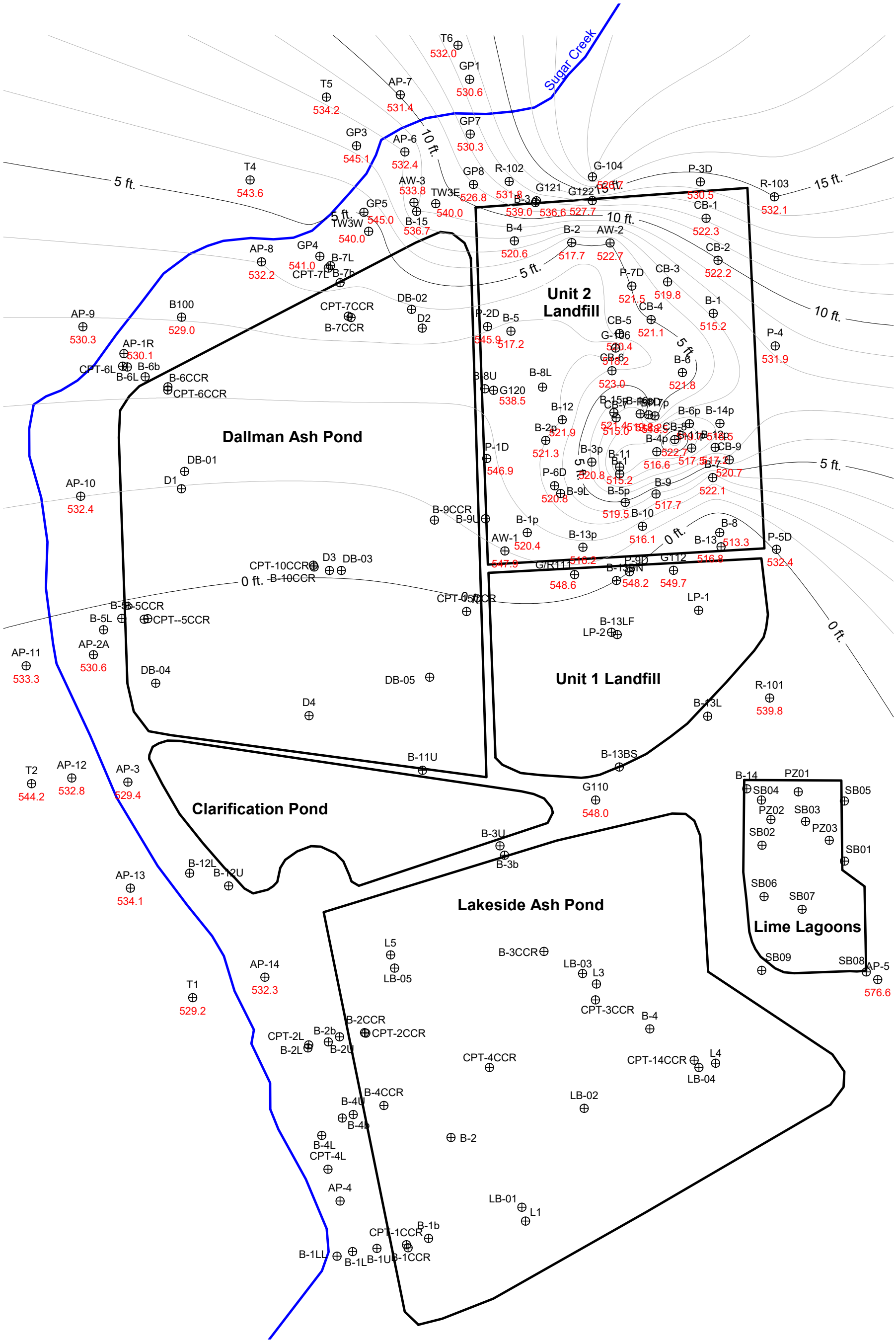
# Structural Contour Map - Upper Cohesive Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A1

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red thickness indicates the Unit was identified at the indicated thickness at that boring location.

HANSON
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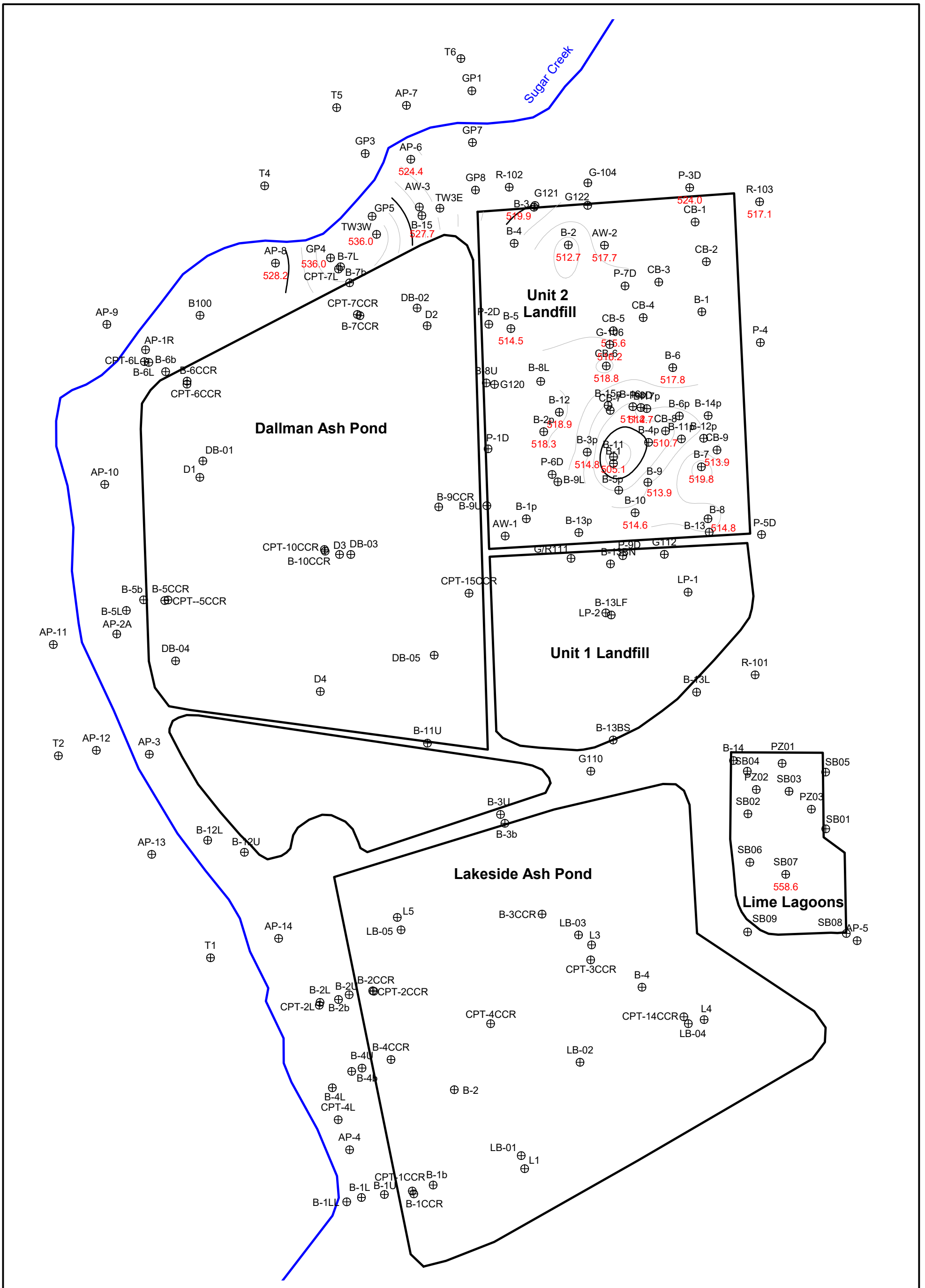
# Isopach Map - Upper Cohesive Unit

## DALLMAN AND LAKESIDE ASH PONDS
## CITY WATER, LIGHT AND POWER
## SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A2

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red elevation indicates the Unit was identified at the indicated elevation at that boring location.

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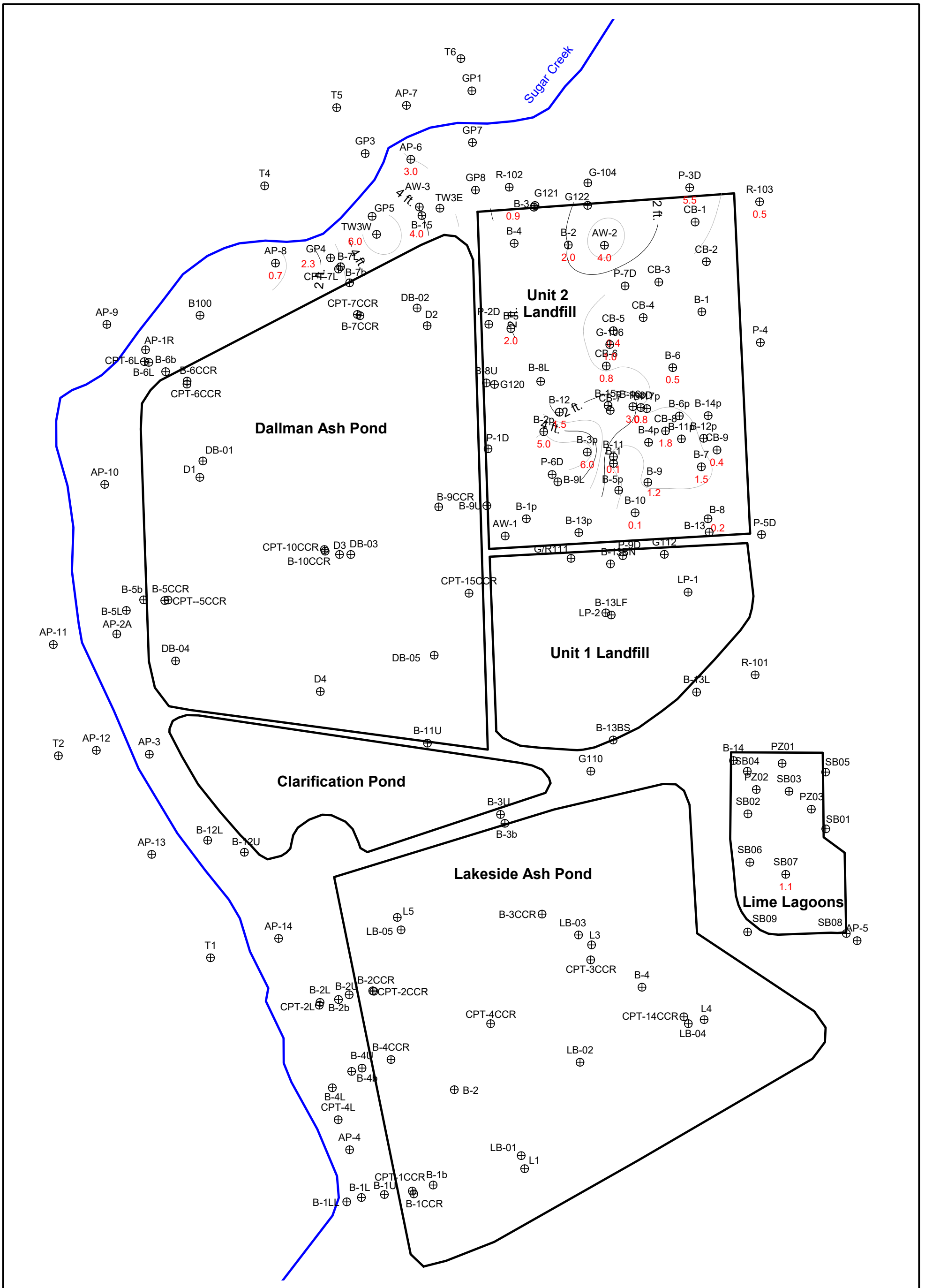
Structural Contour Map - Shallow Sand Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A4

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red thickness indicates the Unit was identified at the indicated thickness at that boring location.

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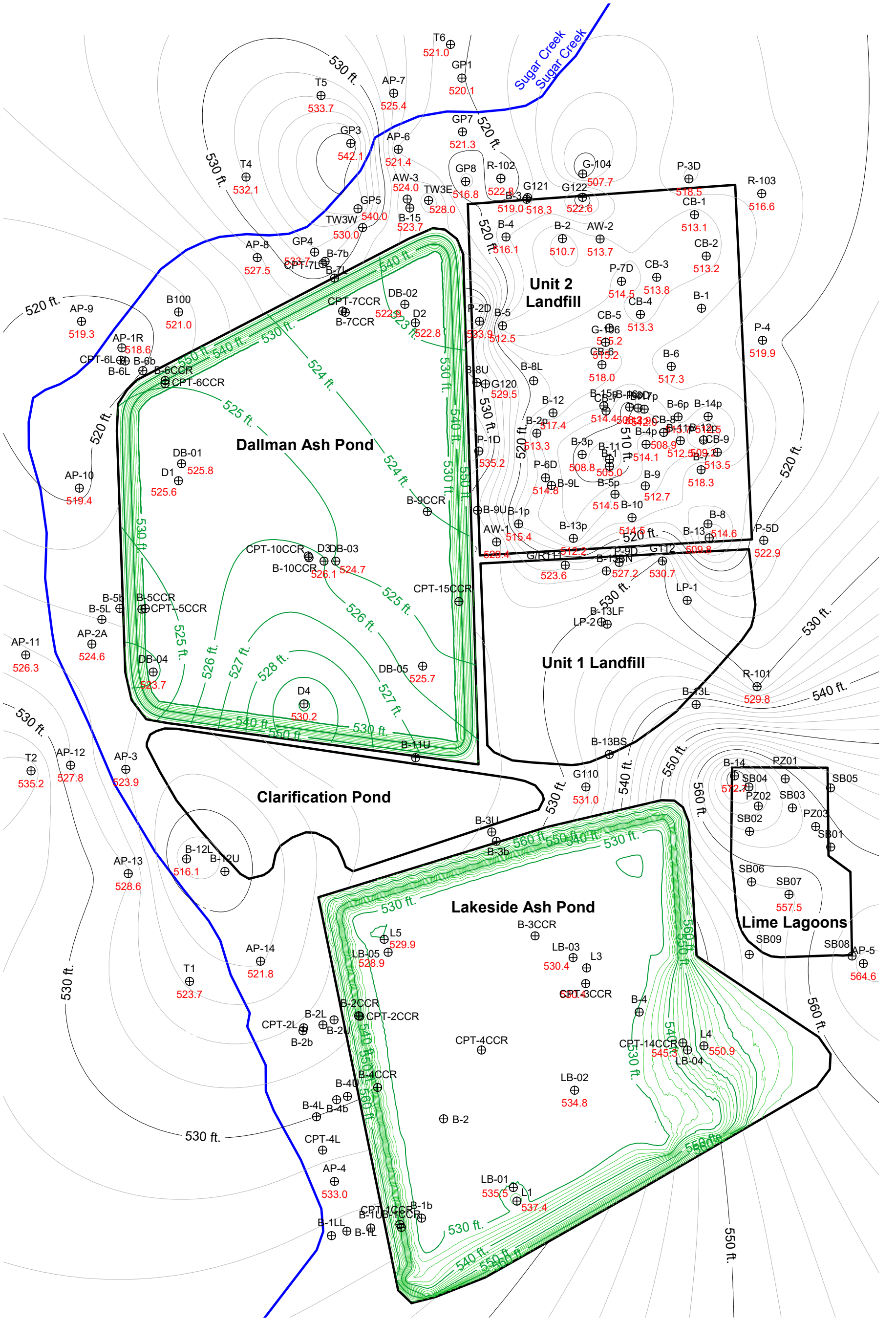
# Isopach Map - Shallow Sand Unit

## DALLMAN AND LAKESIDE ASH PONDS
## CITY WATER, LIGHT AND POWER
## SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A4




Lower Cohesive Unit elevations are shown as the floor elevations in Dallman and Lakeside Ash Ponds.

SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red elevation indicates the Unit was identified at the indicated elevation at that boring location.

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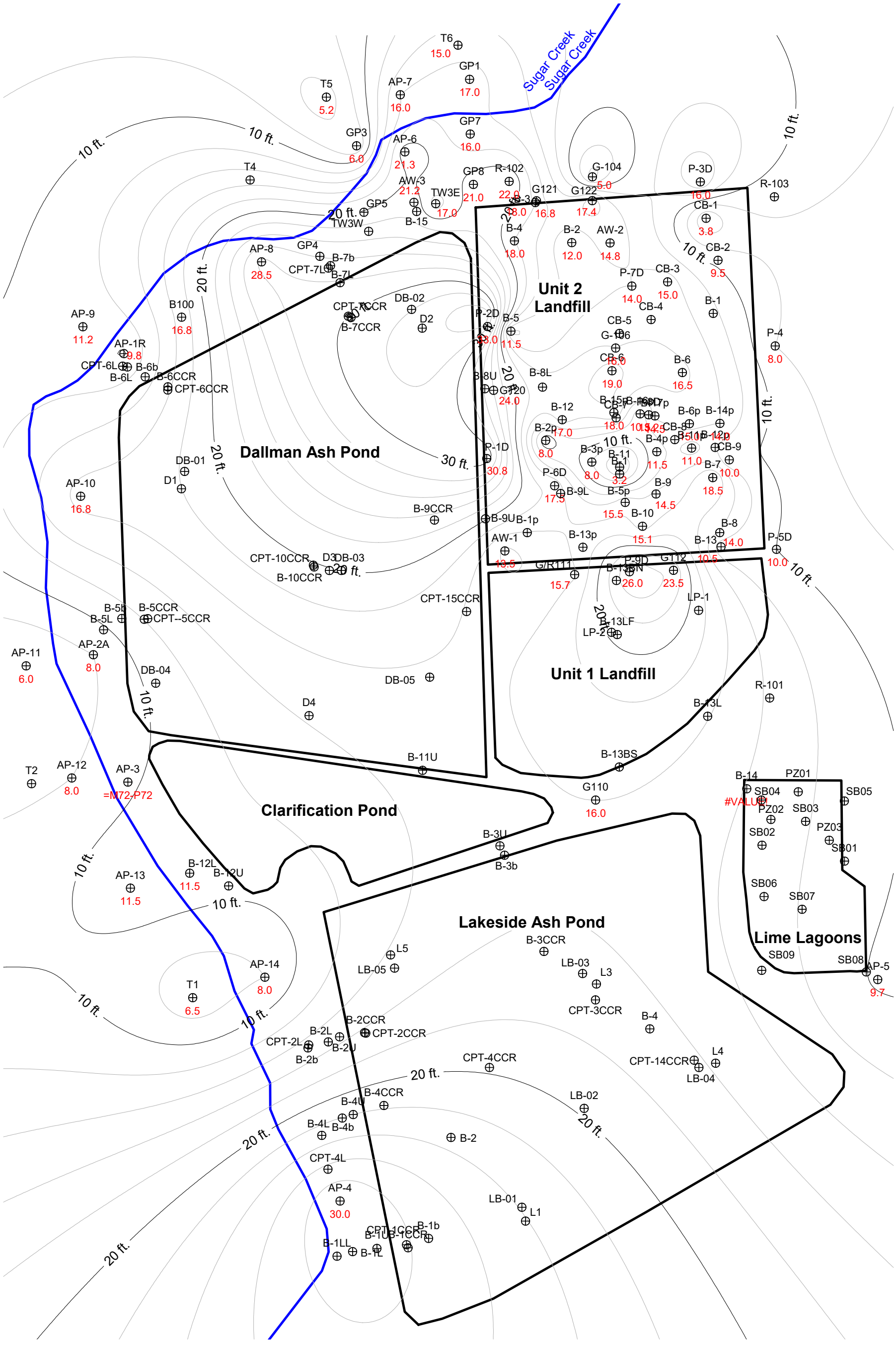
# Structural Contour Map - Lower Cohesive Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A5




Lower Cohesive Unit thichkesses are shown as pre-excavation thicknesses in Dallman and Lakeside Ash Ponds.

SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red thickness indicates the Unit was identified at the indicated thickness at that boring location.

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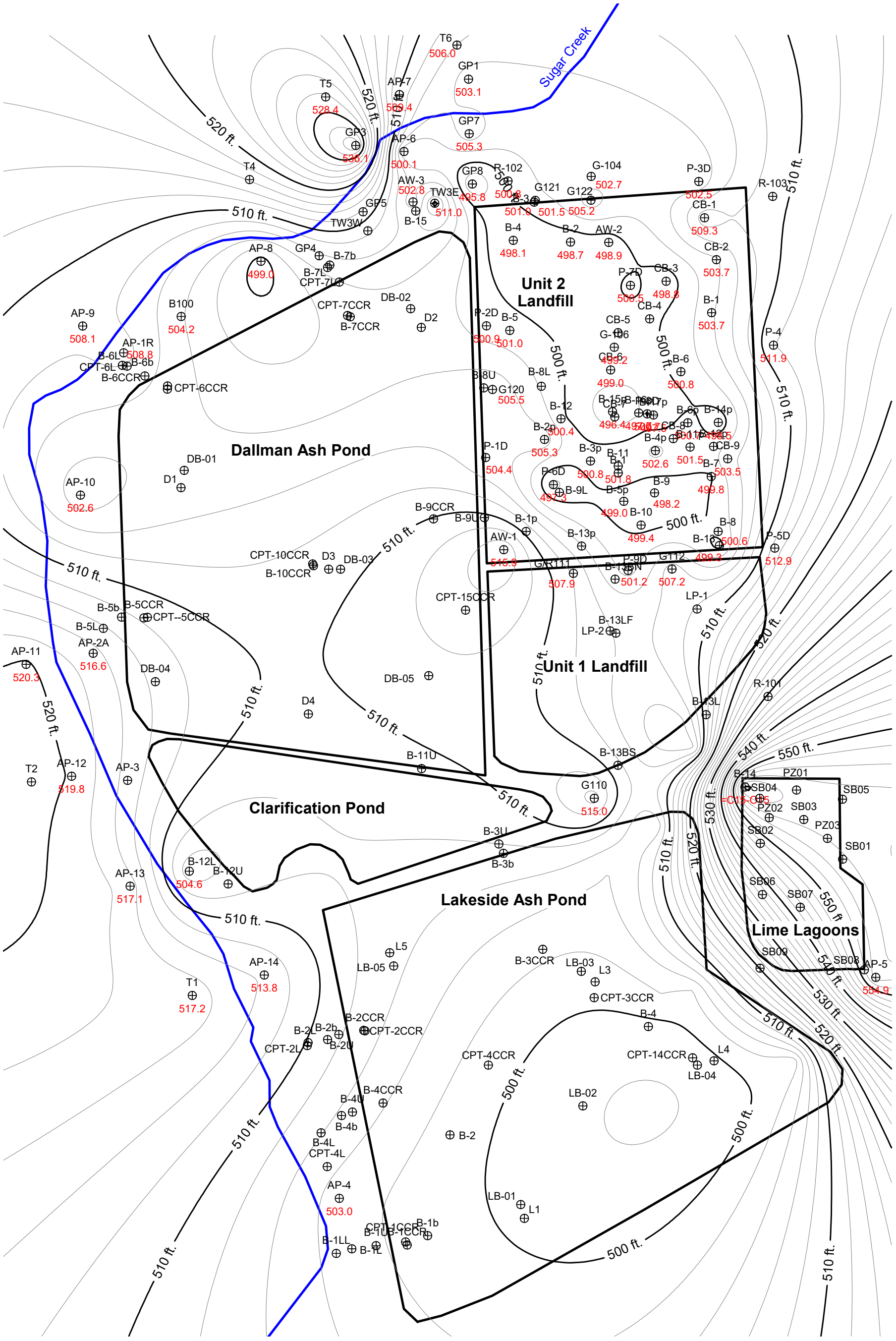
# Isopach Map - Lower Cohesive Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A6

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red elevation indicates the Unit was identified at the indicated elevation at that boring location.

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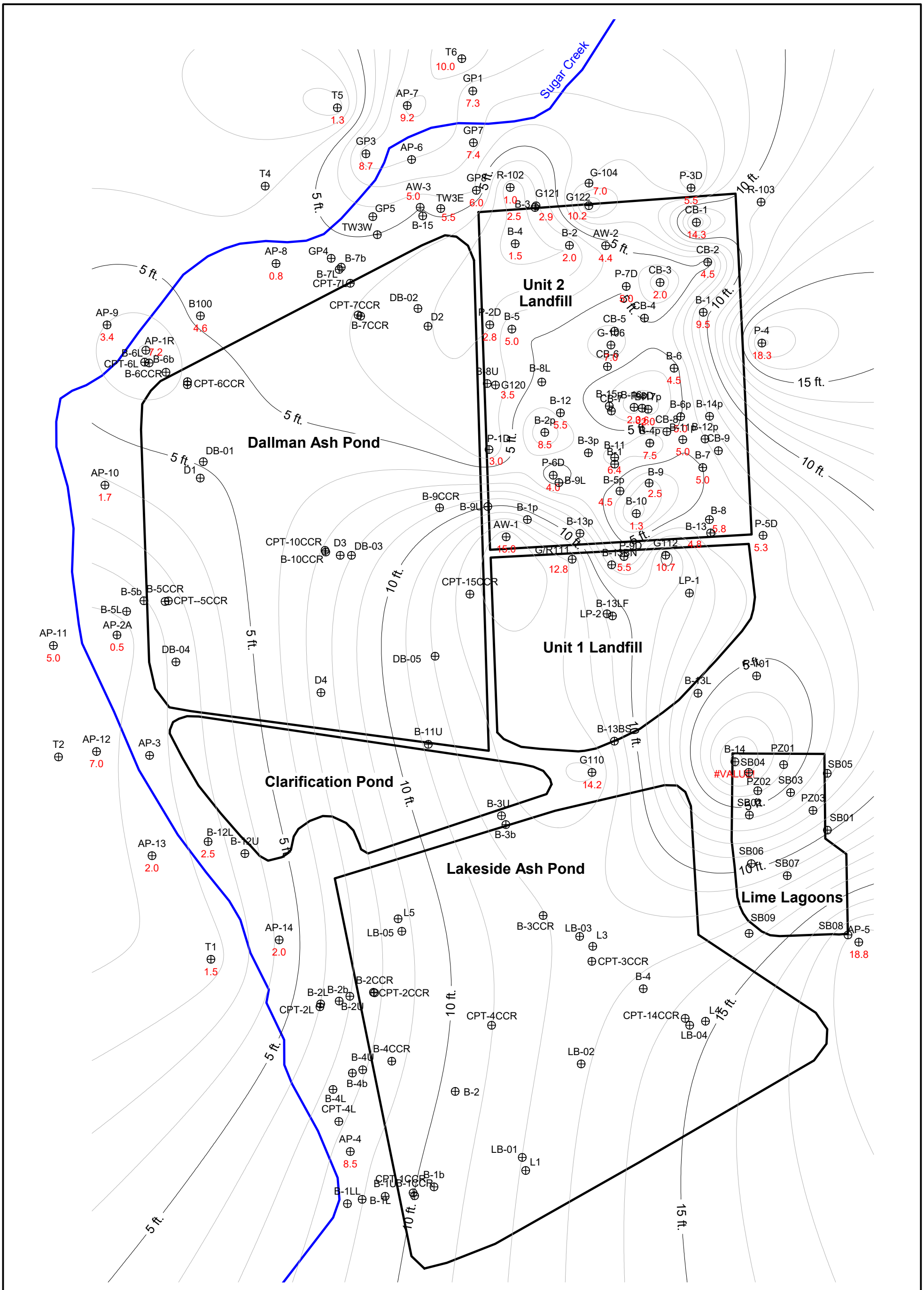
Structural Contour Map - Basal Sand Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A7

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red thickness indicates the Unit was identified at the indicated thickness at that boring location.

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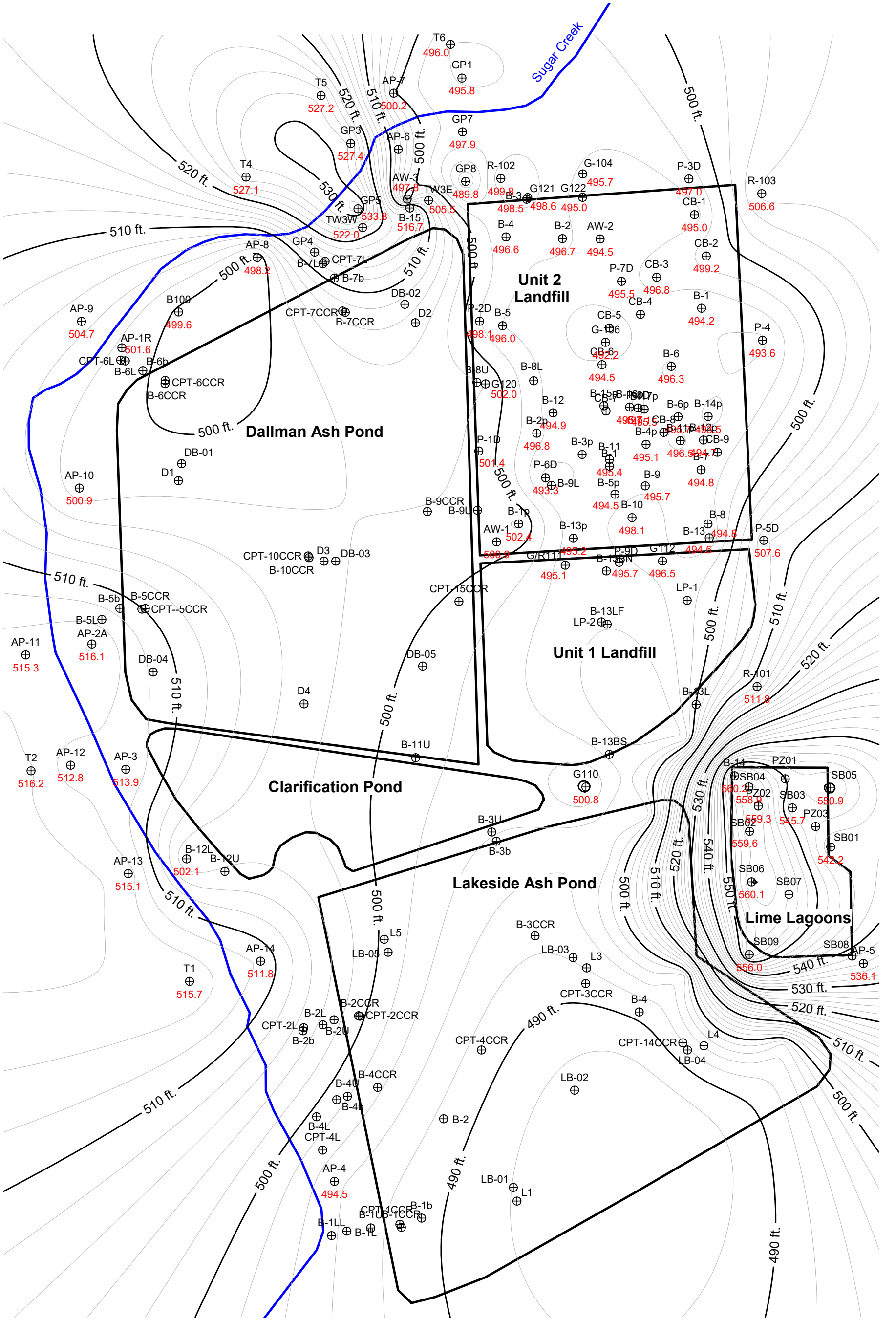
Isopach Map - Basal Sand Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A8

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SCALE: 1 inch equals 300 feet

0 ft. 300 ft. 600 ft. 900 ft.

Red elevation indicates the Unit was identified at the indicated elevation at that boring location.

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Structural Contour Map - Bedrock Unit

DALLMAN AND LAKESIDE ASH PONDS
CITY WATER, LIGHT AND POWER
SPRINGFIELD, SANGAMON CO., ILLINOIS

HANSON NO. 25E0006.00 FIGURE NO. A9

# Appendix B

# Nature and Extent Report

**City Water, Light & Power**
**Springfield, Illinois**

# CCR Surface Impoundments – Nature and Extent Report (CAFO, Paragraphs 268 and 270)

**June 2025**
**Revised September 2025**

*Prepared for:*
City Water, Light & Power
3100 Stevenson Drive
Springfield, Illinois

ANDREWS ENGINEERING

3300 Ginger Creek Drive, Springfield, IL 62711 | 217.787.2334

ILLINOIS | MISSOURI | INDIANA

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# 1. INTRODUCTION

The original Nature and Extent Report (June 11, 2025) was prepared on behalf of City Water, Light and Power (CWLP) pursuant to Paragraphs 268 and 270 of the Consent Agreement and Final Order (CAFO), effective January 14, 2025 and the requirements of 40 CFR 257.95(g). This revised report augments the initial report with additional information requested by the EPA in communication with CWLP. This report continues to address the Appendix IV constituents exhibiting Statistically Significant Levels (SSLs) identified in the February 13, 2025 Groundwater Protection Standards Report (GWPS Report) for the parameters arsenic (total) at wells RW-3, AP-7, AP-8, and AW-1 and cobalt (total) at wells AP-2 and AP-3.

# 2. BACKGROUND

CWLP owns and operates two existing coal combustion residuals (CCR) surface impoundments, identified as Lakeside Ash Pond and Dallman Ash Pond. The CWLP CCR surface impoundments are located north and east of the former Lakeside Power Generating Station and Dallman Power Generating Station in the Eastern ½ of Section 12, Township 15 North, Range 5 West, in Springfield, Illinois (see Figure 1). The subject of this submittal, the CCR surface impoundments, are identified as the Lakeside Ash Pond and the Dallman Ash Pond and will be closed.

The former Lakeside Power Generating Station and Dallman Power Generating Station are situated on the northwestern bank of Lake Springfield in Springfield, Illinois. The Lakeside Ash Pond is immediately north of Spaulding Dam at the northern end of Lake Springfield (see Figure 2). The Dallman Ash Pond is immediately northwest of the Lakeside Ash Pond. Placed into service prior to 1958, the Lakeside Ash Pond is primarily a diked embankment with an in situ soil liner. The Lakeside Ash Pond consists of four separate ponds (i.e., three lime softening ponds and a settling pond) totaling approximately 35.0 acres. The Lakeside Ash Pond ceased receiving ash in 2009. The Dallman Ash Pond was placed into service in approximately 1976 and is also a diked embankment with an in situ soil liner. The Dallman Ash Pond is approximately 34.5 acres in area and ceased receiving CCR materials in 2023.

The Lakeside Ash Pond historically received lime sludge from the CWLP Drinking Water Purification Plant and scrubber wastewater treatment plant clarifier blowdown. The Dallman Ash Pond historically received fly ash and bottom ash, which were sluiced with raw lake water from the power generating structures, and industrial facility wastewater treatment plant clarifier blowdown. Settled water from both the Lakeside Ash Pond and Dallman Ash Pond flows into opposite sides of a Clarification Pond for final treatment before being discharged to Sugar Creek at NPDES permitted Outfall 004.

Groundwater adjacent to the impoundments has been monitored under the direction of the Illinois EPA Bureau of Water beginning in 2011 and the US EPA (2016) pursuant to 40 CFR §257.91 –

§257.97. A Groundwater Monitoring Program (GMP) and statistical method appropriate for evaluating groundwater quality changes was prepared, placed into the facility operating record and certifications posted to the facility website October 12, 2017. The GMP was updated April 2018 (certification posted June 7, 2018) when well AW-3 was replaced. The GMP and statistical method were again updated March 2024 (certifications posted March 11, 2024) when wells AP-14, AW-1, and G120 were added to the program. The groundwater protection standards were recalculated, and the sampling procedures document was revised based upon USEPA comments. Most recently, the GMP and statistical method were updated in February 2025 (certifications posted February 21, 2025). Groundwater monitoring performed in accordance with the GMP identified Appendix III parameters at specific wells that exceeded the background concentrations. The exceedances were evaluated pursuant to 40 CFR §257.95. Assessment monitoring results over the period of first quarter 2022 (February 16, 2022) through fourth quarter 2024 (November 11, 2024) identified Appendix IV parameter arsenic exceeding the groundwater protection standard (0.0239 mg/L) at wells RW-3, AP-7, AP-8, and AW1 and Appendix IV parameter cobalt exceeding the groundwater protection standard (0.006 mg/L) at wells AP-2 and AP-3.

A detailed description of groundwater monitoring history for the impoundments is presented in Section 3 below.

# 3. GROUNDWATER MONITORING PROGRAM

Currently, the surface impoundments are regulated by the USEPA (40 CFR Part 257) and the Illinois EPA (35 Ill. Adm. Code 845). There are two separate groundwater monitoring programs. Data from both regulatory programs have been used in this report and will be differentiated where applicable.

Pursuant to 35 Ill. Adm. Code 845 and 40 CFR §257.91, a GMP was prepared for the CWLP CCR surface impoundments to characterize the groundwater monitoring network of wells, the sampling and analysis methods and procedures, and the Groundwater Protection Standards (GWPS). The GMP also characterizes the activities associated with the assessment of corrective measures, corrective action plan, and implementation of the corrective action plan.

## 3.1 Historical Groundwater Monitoring Activities

The GMP was initially operated pursuant to §257.94 and consisted of wells AP-1R, AP-2A, AP-3, AP-4, AP-5, and RW-3/AW-3. Under §257.94, constituents listed in Appendix III to 40 CFR Part 257 were monitored on a routine basis. In accordance with §257.95(b), an Assessment Monitoring Program was implemented in February 2018 in response to the statistically significant increase (SSI) over background concentrations for one or more parameters listed in Part 257, Appendix III. In May 2019, as part of the §257.94(e)(2) alternate source investigation, wells AP-6

and AP-7 were installed. Subsequent investigation of the Statistically Significant Increases (SSIs) completed pursuant to §257.95(g)(3)(ii) demonstrated compliance with the GWPS as no Appendix IV constituent concentration exceeded the GWPS. Therefore, assessment monitoring continued pursuant to §257.95(f).

In response to exceedances of GWPS values pursuant to 35 IAC 845.600, seven more wells were installed as part of the Illinois EPA CCR program to augment the monitoring well network and allow the evaluation of exceedances. In February 2021, wells AP-10 and AP-14 were installed along the west side of the impoundments, AP-8 installed along the north side of the CCR ash impoundments and wells AP-9, AP-11, AP-12, and AP-13 were installed west of the creek as facility boundary wells.

In March 2024, six existing wells from the 35 IAC 845 program were added to the 40 CFR 257 groundwater monitoring network pursuant to correspondence with the USEPA. These wells included AP-6, AP-7, AP-8, AP-14, AW-1, and G120.

In May 2024, five additional monitoring wells were advanced in locations across Sugar Creek opposite of the CCR ash impoundments. The subject temporary assessment wells (i.e., T-1, T-2, T-4, T-5, and T-6) were installed at these locations for purposes of an alternate source demonstration and/or determination of the nature and extent of elevated concentrations per 40 CFR 257.95(g)(1)(i) and (iii). The screen intervals were set at the bedrock interface, consistent with the existing downgradient wells. The current monitor well network is shown in Figure 2. Boring logs and well completion reports for the referenced temporary assessment wells are provided in Appendix *A*.

## 3.2 Monitoring System

In accordance with §257.91 the groundwater monitoring system consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that: (1) accurately represent the quality of background groundwater that has not been affected by the CCR surface impoundment, and (2) accurately represent the quality of groundwater passing the impoundment boundary of the CCR surface impoundment to monitor potential geochemical changes in the uppermost aquifer.

Pursuant to §257.91(b) the number, spacing, and depths of the groundwater monitoring wells have been determined based upon site-specific technical information to meet the rule's performance standard, including the subsurface conditions observed at the site. This includes a characterization of the uppermost aquifer and the confining bedrock layer immediately below the uppermost aquifer.

The groundwater monitoring system consists of wells screening the silt, sand, and gravel at the bedrock interface. Based on the direction of groundwater movement, the northern and western boundaries of the impoundments will be downgradient, and the southern boundaries will be upgradient for both impoundments with the eastern boundaries being upgradient to the Lakeside Ash Pond.

As shown in Figure 2, the current monitor well network includes AP-1R, AP-2A, AP-3, AP-4, AP-5, AP-6, AP-7, AP-8, AP-10, AP-14, RW-3, AW-1, and G120. Two (2) groundwater monitoring wells are representative of background (ambient) groundwater quality conditions of the uppermost aquifer. These wells are identified as AP-4 and AP-5. Background concentrations are chemical concentrations or parameter values that represent naturally-occurring groundwater that has not been affected by the surface impoundment or other facility activities.

Monitoring well AP-4 is located in the southwest corner of the CCR surface impoundments and along the eastern bank of Sugar Creek, immediately north of the Spaulding Dam. Well AP-4 is screened at the surface of the Pennsylvanian shale and basal sand deposits. This well is not upgradient of the subject CCR surface impoundments, but it is located on available CWLP property where it provides representative background groundwater quality pursuant to §257.91(a).

Monitoring well AP-5 is located in a hydraulically upgradient location, southeast of the Lakeside Ash Pond and in a slightly higher topographic location. The well is screened in wet sand and silt seams a few feet above the shale as the borehole samples at the bedrock interface were tight with no indications of formation water. This well monitors the upgradient groundwater quality of the uppermost aquifer at this location.

Eleven groundwater wells allow monitoring of the downgradient groundwater quality conditions in the uppermost aquifer (See Figure 2). The wells are identified as AW-1, RW-3, AP-1R, AP-2A, AP-3, AP-6, AP-7, AP-9, AP-10, AP-14, and G120. The locations and depths of these wells accurately represent the quality of groundwater passing the impoundment boundaries of the CCR units and reasonably make possible the detection of geochemical changes in the uppermost aquifer. Figure 3 identifies the facility boundary wells T-1, T-2, T-4, T-5, T-6, AP-7, AP-9, AP-11, AP-12, and AP-13 installed pursuant to 35 IAC 845.650(d)(1) and/or 40 CFR 257.95(g)(1) to delineate the GWPS exceedances. Temporary assessment wells AP-6 and AP-7 were installed during a July 2019 nature and extent investigation. Temporary assessment wells (i.e., T-1, T-2, T-4, T-5, and T-6) were installed west and north of Sugar Creek as part of the October 28, 2024 ASD to determine the nature and extent of elevated parameter concentrations. The screen intervals of these wells were set at the bedrock interface, consistent with the existing downgradient wells.

Groundwater sampling and analysis over the review period (i.e., first quarter 2022 through fourth quarter 2024) has demonstrated that the CCR surface impoundments have resulted in exceedances of the Appendix IV GWPS for arsenic at wells, AP-8, AW-1, and RW-3 and Appendix IV GWPS exceedances of cobalt at wells AP-2A and AP-3. The vertical and horizontal extent of has been delineated pursuant to §257.95(g)(1).

The detections of arsenic at monitoring well AP-7 are attributed to an alternate source and are not related to the CCR surface impoundments. AP-7 is located north of Sugar Creek, in an area hydrologically separated from the Dallman Ash Pond and other CCR units by a convergent groundwater flow system that directs groundwater from the north and south toward the creek.

Potentiometric surface elevations confirm that groundwater north of Sugar Creek flows southward toward the creek, while groundwater south of the creek, including beneath the Dallman Ash Pond, flows northward. This bidirectional flow pattern establishes Sugar Creek as a discharge zone and a natural hydraulic divide. The absence of hydraulic connectivity between the CCR impoundments and well AP-7 effectively rules out the CCR units as a source of arsenic at this location.

Furthermore, temporary assessment wells T-5 and T-6, located north of AP-7, exhibit potentiometric elevations greater than AP-7, indicating that groundwater and any associated constituents flows from those locations toward AP-7, not from the CCR units located south of the creek. These findings are corroborated by analytical results showing no consistent pattern of arsenic exceedances in wells situated between the Dallman Ash Pond and AP-7.

The spatial distribution of arsenic, combined with groundwater flow direction and the absence of a geochemical plume connecting the impoundments to AP-7, strongly supports the conclusion that the arsenic detected in AP-7 originates from natural geologic variability or other anthropogenic sources unrelated to the CCR surface impoundments. Therefore, no further action under CCR regulatory provisions is warranted at AP-7 based on current data.

## 3.3 Sampling and Analysis

The GMP includes consistent sampling and analysis procedures to provide accurate representation of groundwater quality (§257.93(a)). The activities include sample collection, preservation and shipment, analytical procedures, chain of custody, and quality assurance and quality control.

Groundwater is sampled for the constituents listed in Appendix III and Appendix IV to Part 257. For groundwater monitoring, these constituents include:

Appendix III to Part 257 Constituents for Detection Monitoring

- Boron
- Calcium
- Chloride
- Fluoride
- pH
- Sulfate
- Total Dissolved Solids

Appendix IV to Part 257 Constituents for Assessment Monitoring

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Mercury
- Molybdenum
- Selenium
- Thallium
- Radium 226 and 228 combined

In accordance with §257.93(i), all constituents are analyzed as total recoverable metals where samples are not field filtered. All groundwater samples collected pursuant to §257 Subpart D are analyzed by a certified laboratory using Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods, SW-846 (§257.93(b)). Pursuant to §257.93(c), groundwater levels are measured in each groundwater monitoring well immediately prior to purging, and each time groundwater is sampled.

All monitoring wells were sampled in accordance with 40 CFR 257.95(g)(1)(iv) for the characterization of the nature and extent.

# 4. SITE HYDROGEOLOGY

The uppermost aquifer and underlying confining unit control groundwater movement and the potential for CCR impacted groundwater migration. Detailed hydrogeologic information contained in the Flow Path Report was utilized to characterize the hydrogeology beneath the impoundments and Unit 2 Landfill. The Flow Path Report is provided in the final appendix of this document (Appendix J).

## 4.1 Uppermost Aquifer

The uppermost aquifer is characterized as the basal sand overlying the shale bedrock. In some locations, the creek fill materials, ranging from silty clays and organic silty clays to silty sands and clayey sands, were found not to be in direct hydraulic communication with the basal sand that directly overlies the bedrock surface. The Patrick report (1993) defined the creek fill material as materials placed into the abandoned creek within the Unit 2 landfill area. In further review of the historical documents, boring logs and cross sections, it was determined that the boring logs completed by Patrick incorrectly identified natural materials in the upper cohesive deposit as fill.

As indicated above, the hydraulic conductivity of the basal sand ranges from $5.6 \times 10^{-4}$ to $3.6 \times 10^{-2}$ cm/sec. The groundwater in the basal sand appears to be under confined, semi-confined, or unconfined conditions dependent upon location. The upper limit of the uppermost aquifer is dependent upon the seasonally fluctuating groundwater table. The potentiometric surface of the basal sand varies from 565 feet MSL at upgradient locations, south of the Lakeside Ash Pond, to 525 feet MSL at downgradient locations near Sugar Creek, north of the Dallman Ash Pond. As a result, the saturated thickness is variably dependent upon the location and the seasonal variation in the groundwater table.

Groundwater movement within the uppermost aquifer is controlled by recharge along topographic highs and discharge along topographic lows via gravity. The pre-surface impoundment flow direction in the uppermost aquifer was dominantly horizontal from the adjacent banks toward the natural convergence along Sugar Creek, which formerly drained the site. This was overall from east to west and south to north, perpendicular to Sugar Creek with local deviations. This dominant flow pattern persists under present day conditions but with localized variation introduced by the hydrologic discontinuity created upon construction of the CCR surface impoundments.

Groundwater elevations are collected on a quarterly basis from the CCR surface impoundment groundwater monitoring wells. The groundwater elevations were used to construct potentiometric surface maps based on wells screened in the basal sand (see Appendix B).

Groundwater monitoring well AW-1 exhibited exceedances of the Appendix IV parameter arsenic during the review period (first quarter 2022 through fourth quarter 2024). Well AW-1 is located

along the southeast corner of the Dallman Ash Pond. Groundwater monitoring wells/piezometer R111, G120 and P06D are located east, north and northeast of AW-1, respectively. Well R111 is part of the 40 CFR 257.94 groundwater monitoring program for the CCR landfill. Both well R111 and piezometer P06D are part of the Illinois EPA groundwater monitoring program for the FGDS Development landfill established pursuant to 35 IAC 811.319.

The potentiometric surface elevations at wells AW-1, R111, G120, and P06D are shown in the following table.

| Well | 2/16/22 | 6/2/22 | 8/25/22 | 11/9/22 | 1/26/23 | 4/11/23 | 7/5/23 | 10/25/23 | 2/22/24 | 5/13/24 | 8/12/24 | 11/12/24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AW-1** | 541.50 | 541.55 | 539.31 | 540.70 | 544.02 | 541.05 | 539.73 | 537.04 | 542.55 | 541.79 | 538.85 | 539.88 |
| **R111** | 529.90 | 529.40 | 528.20 | 528.85 | 526.74 | 527.74 | 526.87 | 525.53 | 528.06 | 528.18 | 526.11 | 527.16 |
| **G120** | 537.20 | 536.92 | 535.11 | 537.06 | 536.49 | 536.81 | 534.21 | 533.13 | 537.11 | 536.95 | 534.09 | 535.02 |
| **P06D** | 524.70 | 524.70 | 524.70 | 528.29 | 519.78 | 519.78 | 518.17 | 517.41 | 523.96 | 523.96 | 523.96 | NM |

NM – Not Measured

Potential constituent concentrations are expected to travel via advective flow. Groundwater, movement is west to east/northeast along the east side of the Dallman Ash Pond. The impacts reported for well AW-1 are attributed to the Dallman Ash Pond. These impacts are delineated by the downgradient wells R111, G120, and P06D. As discussed in Section 5.1 below, arsenic concentrations detected in AW-1 have been delineated.

The temporary assessment well AP-7 was installed to determine the extent of elevated concentrations of specific constituents observed at well RW-3. Sampling of AP-7 indicated exceedance of the Groundwater Protection Standard for arsenic. Additional temporary assessment wells T-5 and T-6 were installed to delineate concentrations of arsenic in the vicinity of AP-7. Temporary assessment well T-4 was installed north of Sugar Creek to delineate concentrations of arsenic detected at well AP-8.

The potentiometric surface elevations at wells RW-3, AP-6, AP-7, and AP-8 and temporary assessment wells T-4, T-5 and T-6 are shown in the following table. The surface water elevations for Sugar Creek (USGS Gage 05576250) are also included in the following table.

| Well | 2/16/22 | 6/2/22 | 8/25/22 | 11/9/22 | 1/26/23 | 4/11/23 | 7/5/23 | 10/25/23 | 2/22/24 | 5/13/24 | 8/12/24 | 11/12/24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RW-3** | 529.64 | 530.30 | 529.72 | 528.71 | 528.52 | 529.68 | 527.43 | 526.63 | 529.32 | 530.55 | 527.11 | 526.97 |
| **AP-6** | 530.04 | 530.06 | 528.6 | NM | 528.51 | 529.03 | 526.98 | 526.4 | 528.61 | 529.89 | 526.71 | 526.65 |
| **AP-8** | 530.79 | 531.74 | 529.90 | NM | 535.10 | 535.95 | 533.56 | 532.23 | 535.82 | 536.56 | 533.33 | 532.98 |
| Sugar Creek | 524.48 | 525.34 | 520.3 | 521.42 | 523.29 | 520.25 | 521.86 | 520.35 | 520.18 | 522.06 | 520.28 | 521.34 |
| **T-4** | NI | NI | NI | NI | NI | NI | NI | NI | NI | 536.22 | 530.28 | 529.32 |
| **AP-7** | 528.13 | 528.98 | 527.81 | NM | 524.41 | 527.43 | 526.57 | 525.44 | 526.81 | 528.02 | 525.87 | 525.45 |
| **T-6** | NI | NI | NI | NI | NI | NI | NI | NI | NI | 529.87 | 528.44 | 527.30 |
| **T-5** | NI | NI | NI | NI | NI | NI | NI | NI | NI | 535.36 | 529.96 | 529.20 |

Note:
NM – not measured
NI – not installed

The groundwater elevations at well RW-3 are greater than those observed at AP-6, a well located between Sugar Creek and RW-3. The creek elevation is consistently lower than the groundwater elevations adjacent (both sides) to the creek. This indicates groundwater movement is from RW-3 to the north. Potentiometric surfaces in wells T-5 and T-6 are greater than well AP-7, all located north of Sugar Creek. Groundwater movement is from north to south towards the creek. The creek is a convergence point (low point) between wells screened north and south of the creek. Potential constituent concentrations will travel via advective flow. As groundwater, movement is north to south, north of the creek, no influence from the impoundments will be detected north of the creek.

Similarly, to the north end of the Dallman Ash Pond, groundwater east and west of the Dallman Ash pond converges on Sugar Creek. Groundwater monitoring wells AP-2A and AP-3 are located immediately east of Sugar Creek, at the toe of the Dallman Ash Pond embankment. Groundwater monitoring wells AP-11 and AP-12 were installed west of Sugar Creek to delineate concentrations of cobalt. These wells were installed as assessment wells to determine the extent of the impacts observed at wells AP-2A and AP-3. Groundwater monitoring well T-2 was installed further west of AP-11 and AP-12 to allow determination of groundwater flow west of Sugar Creek.

The potentiometric surface elevations at wells AP-2A, AP-3, AP-11 and AP-12 and temporary assessment well T-2 are shown in the following table. The surface water elevations for Sugar Creek (USGS Gage 05576250) are also included in the following table.

| Well | 2/16/22 | 6/2/22 | 8/25/22 | 11/9/22 | 1/26/23 | 4/11/23 | 7/5/23 | 10/25/23 | 2/22/24 | 5/13/24 | 8/12/24 | 11/12/24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AP-2A** | 529.89 | 528.17 | 527.23 | NM | 529.2 | 528.86 | 527.53 | 527.40 | 528.88 | 529.05 | 527.61 | 529.56 |
| **AP-3** | 526.98 | 525.54 | 524.39 | NM | 525.93 | 525.77 | 524.69 | 525.31 | 528.14 | 526.14 | 525.30 | 525.70 |
| Sugar Creek | 524.48 | 525.34 | 520.3 | 521.42 | 523.29 | 520.25 | 521.86 | 520.35 | 520.18 | 522.06 | 520.28 | 521.34 |
| **AP-11** | 526.89 | 525.16 | 522.68 | NM | NM | 523.90 | 523.39 | 522.14 | 523.68 | 528.35 | 522.28 | 522.67 |
| **AP-12** | 526.52 | 526.09 | 523.41 | NM | NM | 525.74 | 524.07 | 522.26 | 523.35 | 528.46 | 522.66 | 522.78 |
| **T-2** | NI | NI | NI | NI | NI | NI | NI | NI | NI | 530.37 | 523.87 | 534.39 |

Note:
NM – not measured
NI – not installed

Potential constituent concentrations are expected to travel via advective flow. Groundwater, movement is east to west along the east side of Sugar Creek and west to east along the west side of Sugar Creek. No influence from the impoundments will be detected west of the creek. As discussed in Section 5.1 below, arsenic concentrations detected in AP-7 are not the result of influences from the impoundments.

## 4.2 Lower Confining Unit

The uppermost bedrock at the project site is primarily Pennsylvanian age shale with isolated thin coal layers. The Pennsylvanian shale functions as a lower confining unit due to its low permeability and effective porosity. The lower confining unit represents a natural hydrogeologic barrier (i.e., aquitard) to the vertical movement of groundwater.

In situ hydraulic conductivity test (slug tests) indicate that the hydraulic conductivity for the upper portions of the bedrock range from $1.8 \times 10^{-7}$ to $1.3 \times 10^{-6}$ cm/sec (Patrick, 1993). There appears to be good correlation between the rock lithology and the measured values of hydraulic conductivity. The bedrock over most of the site will act as an aquitard and prevent the downward movement of groundwater. Slug tests and boring logs for the two bedrock wells (P-6R and P-7R) are included in Appendix C.

## 4.3 Surface Water

The nearest surface water bodies are Lake Springfield, located upgradient to the CCR surface impoundments and Sugar Creek located adjacent to the western and northern perimeter of the CCR surface impoundments:

- Lake Springfield
- Sugar Creek

### *4.3.1 Surface Water Intakes*

There are two surface water intakes located near the CCR surface impoundments facility. These intakes are identified as:

- Intake No. 52140 - Lake Springfield 1 Intake
- Intake No. 52141 - South Fork Horse Creek Intake

Both of these intakes are located along Lake Springfield and supply water to the Springfield public water supply (IL1671200). These intakes are upgradient of the CCR surface impoundments and completely disassociated with the impoundments.

## 4.4 Community Water Supply Wells

A potable water well survey was completed in the vicinity of the Dallman and Lakeside Ash Ponds. The survey was conducted using the Illinois EPA's web-based Geographic Information System (GIS) database[1] in the Source Water Assessment Program (SWAP) for potable water wells downgradient of the CCR impoundments.

[1] (http://illinois-epa.maps.arcgis.com/apps/webappviewer/index.html?id=4d37a05f5ba441f1b30dab54ccb81fc8)

The Illinois EPA's SWAP GIS database system identifies community water supply wells and other potable wells (private, semi-private and non-community water supply wells) include data from the following sources:

- Illinois EPA, Division of Public Water Supplies;
- Illinois State Geological Survey (ISGS);
- Illinois State Water Survey; and
- Illinois Department of Public Health

Based on groundwater elevation data from numerous monitoring wells and piezometers located between and adjacent to the CWLP CCR impoundments, groundwater movement in the vicinity of the CCR impoundments is generally from the south-southeast to the north, approximately paralleling the Sugar Creek basin. The search extended to the first water well encountered hydraulically downgradient of the impoundments, located near Illinois Route 29 at a distance of approximately 3,400 feet.

There is no reason to believe that potable wells exist within 2,500-feet of the CCR impoundments that were not identified as part of this potable water well survey.

# 5. GROUNDWATER ANALYTICAL RESULTS

Quarterly groundwater sampling and analyses have occurred at CCR Impoundment wells for the parameters identified in Appendix III and Appendix IV to Part 257. The results of first quarter 2022 through fourth quarter 2024 sampling events indicate an exceedance of the GWPSs for the Appendix IV to Part 257 constituent arsenic at wells AW-1, RW-3, AP-7, and AP-8 and cobalt at wells AP-2A and AP-3. A summary table of the exceedances is provided as Table 1. Analytical summary tables are provided in Appendix D. Exceedance parameter trend graphs are provided in Appendix E. Geologic cross-sections are included as Appendix F. Laboratory analytical reports for the last four sampling events for the detection and assessment monitoring wells are provided in Appendix G.

## 5.1 Arsenic, Total

The groundwater protection standard for arsenic (0.0239 mg/L) exhibited confirmed exceedances at groundwater monitoring wells AW-1, RW-3, AP-7, and AP-8 during the review period (i.e., first quarter 2022 through fourth quarter 2024). Arsenic exceedances at downgradient wells RW-3 and AP-7 have been previously addressed in an October 28, 2024 ASD and are discussed in detail below. Graphs depicting arsenic concentrations at the CCR Impoundment groundwater monitoring well network are provided in Appendix E.

Arsenic occurs naturally in rock, soil, air, and plants. A report entitled, arsenic in Illinois Groundwater[2], was published in January 2002 in cooperation with the Illinois Department of Natural Resources, Illinois Department of Public Health, and Illinois Environmental Protection Agency. The report states that higher concentrations of arsenic are expected to be observed in private groundwater sources of drinking water as opposed to public water supply sources, as it is not filtered to remove natural sedimentation. A subsequent study conducted by the Illinois State Water Survey (Wilson, et al., 2004[3]) stated "arsenic is a minor constituent of some common minerals, and dissolved arsenic concentrations greater than 1 ppb are common in groundwater. In some aquifers and under certain conditions, much greater arsenic concentrations can be found, and concentrations above 10 ppb are not uncommon.

As discussed above, arsenic occurs naturally in rock, soil, air, and plants. The report, arsenic in Illinois Groundwater, states that higher concentrations of arsenic are expected to be observed in private groundwater sources. The elevated arsenic concentrations are attributed to the impact of the shallow outwash/bedrock aquifer. The uppermost bedrock is comprised of Pennsylvanian aged shale of the Spoon Formation. As noted in Panno et al. (1994)[4], redox-conditions and bedrock mineralogy control arsenic concentrations. Panno et al. (1994) identifies the reduction of adsorbed arsenate to arsenite as a possible source of the remobilization of adsorbed arsenic. Based upon the geological information collected to date, there appears to be a bedrock high oriented roughly northwest to southeast, between the northern limb located between T-4 and T-5 and extending southeast toward RW-3. The bedrock along this ridge appears to be the source of the higher total arsenic concentrations. Geologic cross-sections are provided in Appendix F. The ridge can be seen on two east-west cross sections, one immediately north of the impoundments (A-A') and one immediately north of Sugar Creek (M-M'). Cross Section K-K' is a north-south section crossing the creek between well T-5 and a previous assessment well TW3W. The change in bedrock elevation is very apparent, decreasing from approximately 527 feet MSL at previous assessment well GP3 to approximately 513 feet MSL at TW3W.

### *5.1.1 Well AW-1*

Well AW-1 is located along the southeast corner of the Dallman Ash Pond. Nearby downgradient wells include R111 and G120. The concentrations of arsenic at well AW-1 during the review period ranged from 0.129 to 0.208 mg/L, exceeding the groundwater protection standard nine out of the twelve sampling events. The groundwater protection standard for arsenic was not exceeded at wells R111 or G120 during the review period.

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*[2] Website:https://www.isws.illinois.edu/groundwater-science/gs-archive/arsenic-information/arsenic-in-illinois-groundwater.*

*[3] Wilson, S. D., Dunneback, B., Askren, K., and Kaiser, B., 2004, Arsenic in Illinois Groundwater: Implications for non-community public water supplies, MTAC TR04-0, Illinois State Water Survey, 40 p.*

*[4] Panno, S.V., et al. "Hydrochemistry of the Mahomet Bedrock Valley Aquifer, East-Central Illinois: indicators of recharge and ground-water flow." Ground Water, vol. 32, no. 4, July-Aug. 1994, pp. 591.*

Geologic cross-sections I-I' and L-L' depict the geologic conditions in the vicinity of AW-1, G120, and R111 (see Appendix F). As depicted in these geologic cross-sections the groundwater monitoring wells are consistently screened across the basal sand and unconsolidated/bedrock interface. The potentiometric surface depicted on cross-sections I-I' and L-L' shows groundwater elevations at wells AW-1, G120, and R111. As depicted on the cross-section groundwater movement is from AW-1 towards G120 and towards R111. As indicated above, the groundwater protection standard for arsenic was not exceeded at wells P06D, R111 or G120 during the review period. These wells help define the downgradient extent of the arsenic detections at well AW-1.

### *5.1.2 Well RW-3*

Well RW-3 is located at the northeast corner of the Dallman Ash Pond situated immediately north of the Dallman Ash Pond embankment and south of Sugar Creek. The concentrations of arsenic at well RW-3 during the review period ranged from 0.0831 to 0.74 mg/L, exceeding the groundwater protection standard all twelve sampling events.

The nature and extent of the arsenic exceedances at well RW-3 is defined by assessment wells AP-6, T-5, and T-6. These wells are located north of and downgradient of well RW-3.

The groundwater protection standard for arsenic was not exceeded at wells AP-6, T-4, T-5, or T-6 during the review period. The exceedances of arsenic at well AP-7 are discussed below.

Geologic cross-section N-N' depicts the geologic conditions along the north and south side of Sugar Creek, from RW-3 through AP-6, and across Sugar Creek to AP-7 (see Appendix F). As depicted in the geologic cross-sections the groundwater monitoring wells are consistently screened across the basal sand and unconsolidated/bedrock interface. The potentiometric surface depicted on cross-section N-N' shows groundwater elevations at these wells and Sugar Creek. As depicted on the cross-section groundwater movement both north and south of Sugar Creek appears to be toward the creek, as expected with a gaining stream.

### *5.1.3 Well AP-7*

Well AP7 was installed to determine the nature and extent of the arsenic detected in well RW-3. The concentrations at well AP-7 ranged from non-detect (<0.025 mg/L) to 0.0947 mg/L during the review period, exceeding the groundwater protection standard nine out of the twelve sampling events.

Temporary assessment wells located north of AP-7 include T-5 and T-6. Only three sampling events have occurred thus far for these temporary assessment wells. Arsenic concentrations at wells T-5 and T-6 ranged from less than the detection limit (0.001 mg/L) to 0.0158 mg/L for the second and third quarters of 2024 and at 0.0016 mg/L for the fourth quarter 2024.

The creek has historically been a point of convergence for the local groundwater system. As depicted in geologic cross-section N-N', groundwater movement at well AP-7 appears to be towards the creek, which is toward the impoundments (see Appendix F). The groundwater quality at well AP-7 is believed representative of conditions north of and unrelated to the CCR site.

### *5.1.4 Well AP-8*

Well AP-8, was installed along the north side of the Dallman Ash Pond to characterize CCR constituent concentrations. The concentrations of arsenic at well AP-8 during the review period ranged from 0.0319 to 0.0513 mg/L, exceeding the groundwater protection standard for seven out of the twelve sampling events. The nature and extent of the arsenic exceedance at well AP-8 is defined by temporary assessment well T-4. Well T-4 was installed north of well AP-8, along the northern bank of Sugar Creek. Only three sampling events have occurred thus far for temporary assessment well T-4. The concentrations of arsenic at well T-4 during the review period ranged from 0.0013 to 0.0055 mg/L.

Geologic cross-section O-O' depicts the geologic conditions along the north and south side of Sugar Creek, near AP-8 and T-4 (see Appendix F). As depicted in the geologic cross-sections the groundwater monitoring wells are consistently screened across the basal sand and unconsolidated/bedrock interface. The potentiometric surface depicted on cross-section O-O' shows groundwater elevations at wells AP-8 and T-4 and Sugar Creek. As depicted on the cross-section groundwater movement, both north and south of Sugar Creek appears to be toward the creek.

### *5.1.5 Piezometer P06D*

Piezometer P06D was redeveloped and sampled for total arsenic the first quarter 2025, resulting in a concentration of 0.0153 mg/L. The piezometer is screened in silty sand directly overlying the bedrock surface. As stated above, arsenic concentrations exceeding the GWPS at AW-1 are delineated by P06D. The piezometer has only been recently sampled two times: second quarter 2021 (0.0269 mg/L), and the first quarter 2025 (0.0153 mg/L). The boring log, well completion report and analytical reports are provided in Appendix H.

### *5.1.6 Piezometer GP-7*

Piezometer GP-7 is located north of the northeast corner of the Dallman Ash Pond, screened in a dark gray silty sand. The piezometer was installed in 2019 to better define the hydrogeologic characteristics in the proximity of well RW-3. The piezometer was sampled and analyzed for total arsenic and field parameters August 8, 2025. The total arsenic concentration result was 0.0072 mg/L, delineating concentrations of arsenic exceeding the GWPS at RW-3. The boring log, well completion report and laboratory report at provided in Appendix I.

## 5.2 Cobalt, Total

The analytical results for cobalt (0.006 mg/L) exhibit confirmed exceedances of the groundwater protection standard at groundwater monitoring wells AP-2A and AP-3 during the review period (i.e., first quarter 2022 through fourth quarter 2024).

Cobalt in Illinois groundwater is not extensively documented; however, its presence is inferred from geological and anthropogenic sources. According to Hem (1985)[5] naturally occurring concentrations of cobalt are low (<0.1 mg/L) in natural groundwater, likely derived from weathering of Cobalt-rich minerals. Elevated concentrations (>0.05 mg/L) typically indicate anthropogenic inputs. Electric Power Research Institute (EPRI) (2019)[6] states the occurrence of cobalt in CCR leachate ranges from less than the analytical detection limit to 3.1 mg/L with the median concentrations for porewater from different types of CCR at concentrations typically less than 0.004 mg/L.

Graphs depicting cobalt concentrations at the CCR impoundment groundwater monitoring well network are provided in Appendix E.

### *5.2.1 AP-2A*

The concentrations of cobalt at well AP-2A during the review period ranged from 0.0068 to 0.0115 mg/L, exceeding the groundwater protection standard (0.006 mg/L) for all twelve sampling events. At well AP-11, located west of the creek from AP-2A, the cobalt concentrations ranged from non-detect (<0.005 mg/L) to 0.0061 mg/L, exceeding the groundwater protection standard in two of the twelve sampling events.

Well AP-2A is located along the west side of the CCR impoundments and immediately east of Sugar Creek. As part of the evaluation of the extent of cobalt concentration in excess of the GWPS, temporary assessment wells AP-11 and T-2 were installed along the west side of Sugar Creek. Only three sampling events have occurred thus far for temporary assessment well T-2. The groundwater protection standard exceedances for cobalt at well AP-11 occurred during 2022 and 2023. The maximum concentrations detected at AP-11 during this period was 0.011 mg/L. Quarterly cobalt concentrations at AP-11 have been below the detection limit of 0.005 mg/L since October 2023, delineating the GWPS exceedances at AP-2 to the west.

The creek has historically been a point of convergence for the local groundwater system. Geologic cross-sections B-B' and C-C' depict the geologic conditions along the west side and east side of Sugar Creek, respectively (see Appendix F). As depicted in the geologic cross-sections, the groundwater monitoring wells are consistently screened across the basal sand and

[5] *Hem, J. D. - Study and interpretation of the chemical characteristics of natural water. 3.ed: U.S. Geological Survey Water- Supply Paper 2254. 1985. p. 272.*

[6] *Chemical Constituents in Coal Combustion Products: cobalt. EPRI, Palo Alto, CA: 2019. 3002016497.*

unconsolidated/bedrock interface. The potentiometric surface depicted on cross-section P-P' shows groundwater elevations at wells AP-2A and AP-11 and Sugar Creek. As depicted on the cross-section, groundwater movement both east and west of Sugar Creek appears to be toward the creek. The groundwater quality at wells AP-11 and T-2 is representative of conditions west of the CCR site.

### *5.2.2 AP-3*

The concentrations of cobalt at well AP-3 during the review period ranged from non-detect (0.005 mg/L) to 0.0071 mg/L, exceeding the groundwater protection standard in only two of the twelve sampling events. Well AP-3 is located along the west side of the CCR impoundments and immediately east of Sugar Creek. As part of the evaluation of the extent of cobalt concentration in excess of the GWPS, temporary assessment wells AP-12 and T-2 were installed along the west side of Sugar Creek. Well AP-12 is located directly west and across the creek from AP-3. Concentrations ranged from non-detect (<0.005 mg/L) to 0.0236 mg/L, exceeding the groundwater protection standard in five of the twelve sampling events. Therefore, well T-2 was installed west of AP-12 to further evaluate the cobalt concentrations. Of the three sampling events conducted at T-2 during the review period, the May 2024 sampling event yielded a concentration of 0.0075 mg/L. Subsequent quarterly sampling events at T-2 yielded concentrations below the detection limit of 0.005 mg/L, thus delineating the extent of cobalt west of AP-3.

The creek has historically been a point of convergence for the local groundwater system. Geologic cross-sections B-B', C-C', and F-F' depict the geologic conditions in the vicinity of AP-3, AP-12, and T-2 (see Appendix F). As depicted in these geologic cross-sections the groundwater monitoring wells are consistently screened across the basal sand and unconsolidated/bedrock interface. The potentiometric surface depicted on cross-section F-F' shows groundwater elevations at wells AP-3, AP-12, T-2, and Sugar Creek. As depicted on the cross-section groundwater movement both east and west of the creek appears to be toward the creek. The groundwater quality at wells AP-12 and T-2 is believed to be representative of conditions west of the CCR site.

## 5.3 Indicator Parameters

Detecting groundwater impacts from fly ash and bottom ash requires monitoring specific indicator parameters that reflect the leaching of CCRs and their interaction with groundwater. The best indicators are those that are mobile, persistent, and uniquely associated with CCRs, while also being detectable at low concentrations.

Based on a significant amount of data obtained from the numerous wells located on the periphery of the impoundments, boron has shown to be the best indicator parameter of the CCR constituents for the CWLP CCR ash impoundments. A graph illustrating the boron concentrations for the wells located immediately adjacent and downgradient to the impoundments (AP-1R, AP-3,

AP-4, AP-6, AP-8, AP-10, AP-14, and RW-3) is provided in Appendix E. As shown, wells AP-1R and AP-14 consistently exhibit the highest boron concentrations of the wells. Well AP-3 exhibits the next highest boron concentrations. The northern wells (AP-6 and RW-3) exhibit boron concentrations less than 0.5 mg/L. This indicates that the uppermost aquifer is not significantly influenced by the CCR impoundments on the northern periphery of the impoundments.

# 6. NATURE AND ESTIMATED QUANTITY OF MATERIAL

40 CFR 257.95(g)(1)(ii) requires data on the nature and estimated quantity of material released, including specific information on the constituents listed in Appendix IV and the levels at which they are present in the material released to be collected.

Information on the constituents listed in Appendix IV and the levels at which they are present in the in-place materials within Lakeside and Dallman Ash Ponds has been collected. In May 2024, four borings were advanced within Lakeside Ash Pond (L1, L3, L4, and L5) and four borings were advanced within Dallman Ash Pond (D1, D2, D3, and D4) for the purpose of obtaining representative samples of in-place solids materials and porewater. Each boring was advanced with hollow stem augers and solids samples were collected via split barrel samplers. Solids samples were submitted for total and TCLP/SPLP analysis of the Appendix IV constituents. Once final depth was reached, a PVC monitoring well was installed in the boring using 10-foot prepacked screens placed immediately above the clay bottom of the impoundments. After development, porewater samples were collected from each monitoring well and submitted for total and dissolved phase analysis of the Appendix IV constituents (see Appendix G). This information along with the volume, porosity and bulk density estimates were used to approximate the quantity of material.

The Dallman Ash Pond has approximately 1,523,073 cubic yards (1,164,000 $m^3$) and Lakeside Ash Pond has approximately 841,200 cubic yards (643,144 $m^3$) of in place CCR, a mixture of fly ash and bottom ash. The sluicing process homogenizes particle distribution and the post-settlement stratification, and consolidation decreases the CCR mixture porosity and increases the bulk density.

Studies of sluiced CCR in surface impoundments, which represent mixtures of fly ash and bottom ash, indicate that these materials exhibit porosities generally between 0.47 and 0.65 and dry unit weights ranging from 10.8 to 17.0 kN/$m^3$. Converting these dry unit weights to bulk densities yields values between approximately 1,100 kg/$m^3$ and 1,730 kg/$m^3$. Field data obtained by Tan et al. (2022)[7] from twelve undisturbed impoundment samples show individual sample porosities ($\theta$) from 0.44 to 0.65 and corresponding dry unit weights ($\gamma_n$) of 10.8–17.0 kN/$m^3$, reflecting normally consolidated, sandy-silt-like behavior in situ.

[7] *Tan, Y., Basantis, A., Benson, C. H., & Chen, J. N. (2022). "Hydraulic Properties of Sluiced Coal Combustion Products Disposed in Impoundments." Geo-Congress 2022, 335, 505–517.*

These values are supported by laboratory-simulated impoundment tests (EPRI 2012)[8] reporting bulk densities near 1,000–1,200 kg/m³. For context, individual ash properties reported by IEA Clean Coal Centre (2008)[9] show porosity ranges of 0.40–0.50 for fly ash and 0.25–0.40 for bottom ash, but mixed, sluiced CCR exhibits somewhat higher porosities due to fines content and natural consolidation.

Based on regression analyses presented by Tan et al. (2022), "typical" impoundment-scale hydraulic properties correspond to:

- Typical Porosity: $\theta \approx 0.50$ (50 %), and
- Typical Dry Unit Weight: $\gamma_n \approx 12$ kN/m³ (≈ 1,224 kg/m³)

These values are most representative of impoundment CCRs for when site-specific data are unavailable. In the calculations below, the dry unit weight is assumed to represent the bulk density.

## 6.1 Antimony

The mass of antimony leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Antimony

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.0035 | 0.0078 | 0.0141 | 0.0273 | 0.0029 | 0.007 | 0.0034 | 0.024 | 0.0029 | 0.0273 | 0.0113 |
| TCLP | mg/L | 0.017 | 0.0237 | 0.0163 | 0.0125 | 0.0178 | 0.0197 | 0.0395 | 0.0376 | 0.0125 | 0.0395 | 0.0230 |

The porewater volume of the surface impoundment is:

$$V_{porewater} = \text{Total Impoundment Volume} \times \theta$$

$$= 1{,}164{,}000\ m^3 \times 0.50 = 582{,}000\ m^3 = 582{,}000{,}000\ L$$

Using an average concentration (0.0113 mg/L) the total mass of antimony is:

$$\text{Mass of Antimony} = \text{Average Antimony Concentration} \times V_{porewater}$$

$$= 0.0113\ mg/L \times 582{,}000{,}000\ L = 6.58\ kg$$

[8] *Electric Power Research Institute (EPRI). (2012). "Laboratory-Simulated Coal Combustion Product (CCP) Impoundment Tests."*

[9] *IEA Clean Coal Centre. (2008). Management of Coal Combustion Wastes (CCC/231).*

Conservative estimate using the maximum concentration (0.0273 mg/L) is:

= 0.0273 mg/L x 582,000,000 L = 15.9 kg

Using bulk density ($\rho_b = \frac{mass\ of\ ash}{total\ volume}$) the total ash mass in the surface impoundment is:

$M_{ash} = V_{surface\ impoundment} \times \rho_b$

= 1,164,000 $m^3$ x 1,224 kg/$m^3$ = 1,424,736,000 kg = 1.42 million metric tons

The average and maximum antimony leaching rate per metric ton of ash is:

Antimony Leached = Total Antimony Mass / Total Ash Mass

= 6.58 kg / 1,424,736 metric tons = 0.00462 g Antimony/metric ton ash

= 15.9 kg / 1,424,736 metric tons = 0.0112 g Antimony/metric ton ash

Dallman Ash Pond - Porewater Results – Antimony, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | J 0.061 | J 0.024 | 0.23 | 0.0812 | 0.024 | 0.23 | 0.09905 |
| Dissolved | mg/L | 7/19/24 | 0.0025 | 0.0044 | 0.0034 | 0.0021 | 0.0021 | 0.0044 | 0.0031 |
| Total | mg/L | 7/19/24 | 0.0026 | 0.0058 | 0.0047 | 0.0059 | 0.0026 | 0.0059 | 0.00475 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for antimony, dissolved, the total mass is:

Mass of Antimony = Average Antimony Concentration x $V_{porewater}$

= 0.0031 mg/L x 582,000,000 L = 1.8 kg

Conservative estimate using the maximum concentration (0.0059 mg/L) is:

= 0.0044 mg/L x 582,000,000 L = 2.56 kg

The average and maximum antimony leaching rate per metric ton of ash is:

= 1.8 kg / 1,424,736 metric tons = 0.00127 g Antimony/metric ton ash

= 2.56 kg / 1,424,736 metric tons = 0.00180 g Antimony/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Antimony

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Antimony Concentration** | 0.0113 mg/L | 0.0031 mg/L |
| **Total Antimony Mass** | 6.58 kg | 1.80 kg |

The concentrations of antimony, dissolved, in the porewater sample are approximately 73% lower compared to SPLP results (0.0031mg/L vs. 0.0113 mg/L). The total antimony mass in porewater is 1.8-2.56 kg, significantly lower than SPLP-derived estimates (6.58-15.9 kg).

The significant difference between SPLP-derived antimony estimates (6.58-15.9 kg) and actual porewater measurements (1.8-2.56 kg) stems from fundamental contrasts between laboratory leaching tests and in-situ geochemical conditions. The SPLP test's acidic environment (pH 4.2) aggressively mobilizes antimony by dissolving weakly bound fractions and oxidizing Sb(III) to highly soluble Sb(V) (antimonate). This creates a "worst-case" leaching scenario that overestimates field conditions.

In contrast, the alkaline, reducing environment within the ash pond (pH ~8-12) promotes antimony retention through two key mechanisms: First, reducing conditions stabilize antimony as Sb(III) (antimonite), which strongly adsorbs to abundant iron oxide surfaces in the ash. Second, the high pH enhances Sb(III) adsorption onto mineral phases while simultaneously limiting mineral dissolution. These processes collectively suppress antimony solubility in the actual porewater, resulting in 73% lower dissolved concentrations than SPLP predictions.

Regarding mobility, antimony's behavior under current pond conditions is relatively constrained. The dominant Sb(III) species exhibits low mobility due to its affinity for iron oxides and the advection-dominated flow regime. However, this could change if environmental conditions shift: Oxidation during pond decommissioning could convert Sb(III) to mobile Sb(V), while acidic groundwater intrusion could dissolve sorbed fractions. The primary transport risk remains advective movement of Sb(V) rather than diffusion, given the low concentration gradients observed. Monitoring redox transitions and maintaining alkaline conditions are thus critical for long-term management.

Lakeside Ash Pond - SPLP/TCLP Results – Antimony

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.0114 | 0.0012 | 0.0054 | 0.0037 | J 0.0009 | 0.0067 | 0.0025 | 0.0009 | 0.0114 | 0.0045 |
| TCLP | mg/L | 0.0019 | 0.0064 | 0.0066 | 0.0024 | 0.0012 | 0.0072 | 0.0017 | 0.0012 | 0.0072 | 0.0039 |

The porewater volume of the surface impoundment is:

= 643,144 $m^3$ x 0.50 = 351,572 $m^3$ = 351,572,000 L

Using an average concentration (0.0045 mg/L) the total mass of antimony is:

= 0.0045 mg/L x 351,572,000 L = 1.58 kg

Conservative estimate using the maximum concentration (0.0114 mg/L) is:

= 0.0114 mg/L x 351,572,000 L = 4.01 kg

Using bulk density, the total ash mass in the surface impoundment is:

= 351,572 $m^3$ x 1,224 kg/$m^3$ = 430,324,128 kg = 0.430 million metric tons

The average and maximum antimony leaching rate per metric ton of ash is:

= 1.58 kg / 430,324 metric tons = 0.00367 g Antimony/metric ton ash

= 4.01 kg / 430,324 metric tons = 0.00932 g Antimony/metric ton ash

Lakeside Ash Pond - Porewater Results – Antimony, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | BJ 0.027 | B 0.0655 | 0.002 | <B 0.1 | 0.002 | 0.1 | 0.0486 |
| Dissolved | mg/L | 7/19/24 | < 0.001 | J 0.001 | 0.0025 | 0.0014 | 0.001 | 0.0025 | 0.00148 |
| Total | mg/L | 7/19/24 | 0.0011 | J 0.0008 | 0.0051 | J 0.0009 | 0.0008 | 0.0051 | 0.00198 |

Note:
B - Analyte detected in associated Method Blank
J - Analyte detected below quantitation limits

Using average porewater data for antimony, dissolved, the total mass is:

= 0.00148 mg/L x 351,572,000 L = 0.520 kg

Conservative estimate using the maximum concentration (0.0025 mg/L) is:

= 0.0025 mg/L x 351,572,000 L = 0.879 kg

The average and maximum antimony leaching rate per metric ton of ash is:

= 0.520 kg / 430,324 metric tons = 0.00121 g Antimony/metric ton ash

= 0.879 kg / 430,324 metric tons = 0.00204 g Antimony/metric ton ash

Comparison of the average porewater result with the average SPLP estimate:

Lakeside Ash Pond - Results Comparison – Antimony

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Antimony Concentration** | 0.0045 mg/L | 0.00148 mg/L |
| **Total Antimony Mass** | 1.58 kg | 0.520 kg |

The concentrations of antimony, dissolved, in the porewater sample are approximately 67% lower compared to SPLP results (0.00148 mg/L vs. 0.0045 mg/L). The total antimony mass in porewater is 0.52-0.879 kg, significantly lower than SPLP-derived estimates (1.58-4.01 kg).

Similar to the Dallman Ash Pond, the significant differences between SPLP-derived and porewater antimony concentrations in Lakeside Ash Pond reflect fundamental distinctions between leaching potential (SPLP) and in-situ equilibrium (porewater), controlled by site-specific geochemistry. See discussion above.

## 6.2 Arsenic

The mass of arsenic leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Arsenic

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.01 | 0.0471 | < 0.01 | 0.039 | < 0.01 | 0.0173 | < 0.01 | 0.0114 | 0.01 | 0.0471 | 0.0194 |
| TCLP | mg/L | < 0.01 | 0.0528 | 0.0505 | 0.345 | < 0.01 | 0.0155 | < 0.01 | 0.0242 | 0.01 | 0.345 | 0.0648 |

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.0194 mg/L) the total mass of arsenic is:

= 0.0194 mg/L x 582,000,000 L = 11.3 kg

Conservative estimate using the maximum concentration (0.0471 mg/L) is:

= 0.0471 mg/L x 582,000,000 L = 27.4 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum arsenic leaching rate per metric ton of ash is:

= 11.3 kg / 1,424,736 metric tons = 0.00793 g Arsenic/metric ton ash

= 27.4 kg / 1,424,736 metric tons = 0.0192 g Arsenic/metric ton ash

Dallman Ash Pond - Porewater Results – Arsenic, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 1.17 | 0.279 | 2.33 | 0.378 | 0.279 | 2.33 | 1.04 |
| Dissolved | mg/L | 7/19/24 | 0.0829 | 0.111 | 0.0797 | 0.0231 | 0.0231 | 0.111 | 0.0742 |
| Total | mg/L | 7/19/24 | 0.171 | 0.16 | 0.104 | 0.0629 | 0.0629 | 0.171 | 0.124 |

Using average porewater data for arsenic, dissolved, the total mass is:

= 0.124 mg/L x 582,000,000 L = 43.2 kg

Conservative estimate using the maximum concentrations (0.171 mg/L) is:

= 0.171 mg/L x 582,000,000 L = 64.6 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum arsenic leaching rate per metric ton of ash is:

= 43.2 kg / 1,424,736 metric tons = 0.0303 g Arsenic/metric ton ash

= 64.6 kg / 1,424,736 metric tons = 0.0453 g Arsenic/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Arsenic

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Arsenic Concentration** | 0.0194 mg/L | 0.0742 mg/L |
| **Total Arsenic Mass** | 11.3 kg | 43.2 kg |

The concentrations of arsenic in the SPLP sample are approximately 74% lower compared to porewater results (0.0194 mg/L vs. 0.0742mg/L). The total arsenic mass in porewater is 43.2-64.6 kg, significantly higher than SPLP-derived estimates (11.3-27.4 kg). This reversal of the typical pattern (where SPLP often over predicts leaching) occurs due to arsenic's unique geochemical behavior under alkaline, reducing conditions within the ash pond.

Arsenic may be more mobile under oxidizing and alkaline conditions (common in porewater) but less mobile under acidic SPLP conditions. The higher arsenic concentrations in porewater suggest site conditions (i.e., high pH or reducing conditions) favor arsenic mobility, which SPLP does not characterize well.

Under alkaline oxidizing conditions typical of CCR porewater, arsenic is present primarily as arsenate ($AsO_4^{3-}$), a negatively charged oxyanion. Arsenate is poorly sorbed under high pH conditions, especially when competing anions (e.g., phosphate, sulfate) are present, allowing it to remain dissolved and mobile.

The observed difference in arsenic concentrations between porewater and SPLP leachate can be attributed to key differences in geochemical conditions, test methodology, and material interaction timeframes.

Field conditions in saturated ash impoundments often become anaerobic (reducing conditions) over time. Under reducing conditions, arsenic associated with iron oxides released into solution as ferric iron ($Fe^{3+}$) is reduced to ferrous iron ($Fe^{2+}$), dissolving iron hydroxide minerals and mobilizing arsenic, particularly arsenite ($As^{3+}$). SPLP, in contrast, is an aerobic laboratory procedure and does not simulate this reductive dissolution process.

Porewater in CCR surface impoundments commonly exhibits elevated pH (>8) (i.e., alkaline conditions), due to the presence of alkaline ash components. At higher pH, arsenate ($As^{5+}$) sorption to mineral surfaces (e.g., iron oxides or aluminosilicates) is reduced, increasing arsenic mobility. SPLP extraction fluid is mildly acidic (pH 4.2–4.8), favoring stronger sorption of arsenic and thus lower leachate concentrations.

Porewater represents long-term equilibrium conditions that allow for extended interaction between the ash and pore fluids. Over time, arsenic may desorb from solid phases or be released from the dissolution of arsenic-bearing minerals. SPLP is a short-duration test (18 hours) that does not fully capture these long-term processes.

The SPLP procedure uses a 20:1 liquid-to-solid ratio, which dilutes the leachate and may underestimate field concentrations. In contrast, porewater samples are collected under in-situ moisture conditions, often resulting in higher solute concentrations.

Porewater may contain competing anions such as phosphate, bicarbonate, or silicate, which can displace arsenic from mineral sorption sites. These constituents are typically absent or at low concentrations in SPLP extraction fluid, further limiting their ability to replicate in-situ arsenic mobility.

The higher arsenic concentration observed in porewater relative to SPLP leachate is consistent with the expected influence of site-specific geochemical conditions, including reducing redox states, alkaline pH, extended interaction time, and the presence of competing ions. These factors enhance arsenic mobility under field conditions and are not fully replicated by the SPLP test method.

Regarding mobility, arsenic's behavior is highly sensitive to two site conditions. The mobility peaks in alkaline environments (current pond conditions) and reducing conditions maintain mobile As-III. These factors currently promote arsenic mobility within the impoundment. However, advection remains the dominant transport mechanism given the low concentration gradients.

Lakeside Ash Pond - SPLP/TCLP Results – Arsenic

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.0276 | < 0.01 | 0.0195 | < 0.01 | < 0.01 | 0.0331 | < 0.01 | 0.01 | 0.0331 | 0.0172 |
| TCLP | mg/L | < 0.01 | < 0.01 | 0.0279 | 0.0337 | < 0.01 | 0.0276 | < 0.01 | 0.01 | 0.0337 | 0.0185 |

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.0172 mg/L) the total mass of arsenic is:

= 0.0172 mg/L x 351,572,000 L = 6.05 kg

Conservative estimate using the maximum concentration (0.0331 mg/L) is:

= 0.0331 mg/L x 351,572,000 L = 11.6 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum arsenic leaching rate per metric ton of ash is:

= 6.05 kg / 430,324 metric tons = 0.0141 g Arsenic/ metric ton ash

= 11.6 kg / 430,324 metric tons = 0.0270 g Arsenic/metric ton ash

Lakeside Ash Pond - Porewater Results – Arsenic, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.717 | 2.43 | 0.0512 | 2.58 | 0.0512 | 2.58 | 1.44 |
| Dissolved | mg/L | 7/19/24 | 0.0076 | 0.0142 | 0.185 | 0.0217 | 0.0076 | 0.185 | 0.0571 |
| Total | mg/L | 7/19/24 | 0.0139 | 0.0328 | 0.453 | 0.0473 | 0.0139 | 0.453 | 0.137 |

Using average porewater data for arsenic, dissolved, the total mass is:

= 0.0571 mg/L x 351,572,000 L = 20.1 kg

Conservative estimate using the maximum concentration (0.185 mg/L) is:

= 0.185 mg/L x 351,572,000 L = 65.0 kg

Based upon the total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum arsenic leaching rate per metric ton of ash is:

= 20.1 kg / 430,324 metric tons = 0.0467 g Arsenic/metric ton ash

= 65.0 kg / 430,324 metric tons = 0.151 g Arsenic/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Arsenic

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Arsenic Concentration** | 0.0172 mg/L | 0.0571 mg/L |
| **Total Arsenic Mass** | 6.05 kg | 20.1 kg |

The concentrations of arsenic in the SPLP sample are approximately 70% lower compared to porewater results (0.0172 mg/L vs. 0.0571 mg/L). The total arsenic mass in porewater is 20.1-65.0 kg, significantly higher than SPLP-derived estimates (6.05-11.6 kg). These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.3 Barium

The mass of barium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Barium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.045 | < 0.045 | J 0.021 | < 0.045 | < 0.045 | < 0.045 | < 0.045 | < 0.045 | 0.021 | 0.045 | 0.042 |
| TCLP | mg/L | 0.358 | 0.514 | 0.556 | 0.352 | 0.492 | 0.373 | 0.238 | 0.287 | 0.238 | 0.556 | 0.396 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.042 mg/L) the total mass of barium is:

= 0.042 mg/L x 582,000,000 L = 24.4 kg

Conservative estimate using the maximum concentration (0.045 mg/L) is:

= 0.045 mg/L x 582,000,000 L = 26.2 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum barium leaching rate per metric ton of ash is:

= 24.4 kg / 1,424,736 metric tons = 0.0171 g Barium/metric ton ash

= 26.2 kg / 1,424,736 metric tons = 0.0184 g Barium/metric ton ash

Dallman Ash Pond - Porewater Results – Barium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 2.48 | 1.13 | 3.51 | 0.975 | 0.975 | 3.51 | 2.02 |
| Dissolved | mg/L | 7/19/24 | 0.0541 | 0.0376 | 0.0676 | 0.0843 | 0.0376 | 0.0843 | 0.0609 |
| Total | mg/L | 7/19/24 | 0.118 | 0.0997 | 0.0823 | 0.186 | 0.0823 | 0.186 | 0.122 |

Using average porewater data for barium, dissolved, the total mass is:

= 0.0609 mg/L x 582,000,000 L = 35.4 kg

Conservative estimate using the maximum concentrations (0.0843mg/L) is:

= 0.0843 mg/L x 582,000,000 L = 49.1 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum barium leaching rate per metric ton of ash is:

= 35.4 kg / 1,424,736 metric tons = 0.0249 g Barium/metric ton ash

= 49.1 kg / 1,424,736 metric tons = 0.0344 g Barium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Barium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Barium Concentration** | 0.042 mg/L | 0.0609 mg/L |
| **Total Barium Mass** | 24.4 kg | 35.4 kg |

The concentrations of barium in the SPLP sample are approximately 31% lower compared to porewater results (0.042 mg/L vs. 0.0609 mg/L). The total barium mass in porewater is 35.4-49.1 kg, significantly higher than SPLP-derived estimates (24.4-26.2 kg).

The higher barium concentrations in Dallman Ash Pond's porewater compared to SPLP results arise from geochemical interactions specific to alkaline CCR environments and methodological limitations of leaching tests. Three factors drive this discrepancy.

The SPLP's acidic leachant (pH 4.2 ± 0.5) contains elevated sulfate ($SO_4^{2-}$) from simulated rainwater. This promotes barite ($BaSO_4$) precipitation, sequestering dissolved barium during testing—a process absent in the sulfate-limited, alkaline porewater (pH 8–12).

Natural bicarbonate ($HCO_3^-$) in the pond porewater complexes $Ba^{2+}$, increasing solubility. In contrast, SPLP's low-pH environment lacks sufficient alkalinity to offset barite formation.

High calcium ($Ca^{2+}$) and magnesium ($Mg^{2+}$) in CCR porewater compete with $Ba^{2+}$ for sorption sites, further elevating dissolved concentrations unaccounted for in SPLP's simplified chemistry.

Barium mobility is primarily controlled by sulfate availability and pH. In the ash pond's low-sulfate, alkaline setting, barium remains relatively mobile as dissolved $Ba^{2+}$ or bicarbonate complexes. However, its migration downgradient may self-limit if sulfate-rich groundwater is encountered, triggering barite precipitation. Advection governs transport given the pond's sandy-silt hydrology, but the risk of barium spreading is constrained by its strong affinity for sulfate unlike more mobile CCR constituents (e.g., boron).

The porewater's 35.4–49.1 kg Ba mass (vs. SPLP's 24.4–26.2 kg) confirms SPLP under predicts barium solubility in alkaline impoundments. Site-specific porewater data better reflects actual leaching risk, though long-term stability depends on preventing sulfate influx or acidic shifts that could immobilize or remobilize barium, respectively.

Lakeside Ash Pond - SPLP/TCLP Results – Barium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.045 | J 0.026 | J 0.028 | J 0.0076 | 0.185 0.0571 | 0.0596 | J 0.023 | **0.0076** | **0.0596** | **0.0352** |
| TCLP | mg/L | 0.345 | 0.172 | 0.635 | 0.0139 | 0.453 0.137 | 0.574 | 1.24 | 0.0139 | 1.24 | 0.445 |

Note:

J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.0352 mg/L) the total mass of barium is:

= 0.0352 mg/L x 351,572,000 L = 12.4 kg

Conservative estimate using the maximum concentration (0.0331 mg/L) is:

= 0.0596 mg/L x 351,572,000 L = 21.0 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum barium leaching rate per metric ton of ash is:

= 12.4 kg / 430,324 metric tons = 0.0288 g Barium/metric ton ash

= 21.0 kg / 430,324 metric tons = 0.0488 g Barium/metric ton ash

Lakeside Ash Pond - Porewater Results – Barium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 3.48 | 1.49 | 0.308 | 1.6 | 0.308 | 3.48 | 1.72 |
| Dissolved | mg/L | 7/19/24 | 0.13 | 0.0912 | 0.101 | 0.0523 | 0.0523 | 0.13 | 0.0936 |
| Total | mg/L | 7/19/24 | 0.161 | 0.128 | 0.497 | 0.0877 | 0.0877 | 0.497 | 0.218 |

Using average porewater data for barium, dissolved, the total mass is:

= 0.0936 mg/L x 351,572,000 L = 32.9 kg

Conservative estimate using the maximum concentration (0.13 mg/L) is:

= 0.13 mg/L x 351,572,000 L = 45.7 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum barium leaching rate per metric ton of ash is:

= 32.9 kg / 430,324 metric tons = 0.0765 g Barium/metric ton ash

= 45.7 kg / 430,324 metric tons = 0.106 g Barium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Barium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Barium Concentration** | 0.0352 mg/L | 0.0936 mg/L |
| **Total Barium Mass** | 12.4 kg | 32.9 kg |

The concentrations of barium in the SPLP sample are approximately 62% lower compared to porewater results (0.0352 mg/L vs. 0.0936 mg/L). The total barium mass in porewater is 32.9-45.7 kg, significantly higher than SPLP-derived estimates (12.4-21 kg). These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.4 Beryllium

The mass of beryllium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Beryllium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLP** | mg/L | < 0.001 | J 0.0002 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0002 | 0.001 | 0.0009 |
| **TCLP** | mg/L | 0.0145 | 0.0085 | 0.0231 | J 0.0002 | 0.0114 | 0.0113 | 0.0056 | 0.0012 | 0.0002 | 0.0231 | 0.00948 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.0009 mg/L) the total mass of beryllium is:

= 0.0009 mg/L x 582,000,000 L = 0.524 kg

Conservative estimate using the maximum concentration (0.001 mg/L) is:

= 0.001 mg/L x 582,000,000 L = 0.582 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum beryllium leaching rate per metric ton of ash is:

= 0.524 kg / 1,424,736 metric tons = 0.000368 g Beryllium/metric ton ash

= 0.582 kg / 1,424,736 metric tons = 0.000409 g Beryllium/metric ton ash

Dallman Ash Pond - Porewater Results – Beryllium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | mg/L | 4/29/24 | 0.254 | 0.064 | 0.439 | 0.0674 | 0.064 | 0.439 | 0.206 |
| **Dissolved** | mg/L | 7/19/24 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| **Total** | mg/L | 7/19/24 | 0.002 | 0.0035 | 0.001 | 0.0056 | 0.001 | 0.0056 | 0.00303 |

The dissolved boron concentrations were reported as non-detect (<0.0005 mg/L) for all sampling events. Using the dissolved beryllium non-detect value, the total mass is:

= 0.0005 mg/L x 582,000,000 L = 0.291 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum beryllium leaching rate per metric ton of ash is:

= 0.291 kg / 1,424,736 metric tons = 0.000204 g Beryllium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Beryllium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Beryllium Concentration** | 0.0009 mg/L | 0.0005 mg/L |
| **Total Beryllium Mass** | 0.524 kg | 0.291 kg |

The concentrations of beryllium in the porewater sample are approximately 44% lower compared to SPLP results (0.0005 mg/L vs 0.0009 mg/L). The total beryllium mass in SPLP-derived estimates (0.524-0.582 kg) is higher than determined for porewater (0.291 kg).

The slightly higher SPLP-derived mass (0.524 kg vs. 0.291 kg) stems from its aggressive extraction of weakly adsorbed beryllium (Be) fractions, but the absolute difference remains small (<0.3 kg total). Both methods confirm beryllium poses minimal groundwater risk due to its extreme attenuation, consistent with its rarity as a contaminant of concern at CCR sites.

The minimal Be concentrations in both Dallman Ash Pond porewater and SPLP leachate reflect its strong geochemical immobilization, though subtle differences arise from testing conditions. Three factors explain the near-identical mass estimates.

Beryllium exhibits lowest solubility near pH 6–8. The ash pond's alkaline porewater (pH 8–12) promotes hydrolysis to insoluble $Be(OH)_2$ or $Be(OH)_3^-$, while SPLP's acidic environment (pH 4.2) slightly enhances dissolution via $Be^{2+}$ formation, though still limited by adsorption.

Be sorbs strongly to Al/Fe/Mn oxides, clay minerals, and organic matter in ash. At high pH, it forms stable surface complexes (e.g., ≡FeO–$BeOH^+$), reducing dissolved concentrations. SPLP's low pH partially disrupts this, explaining its marginally higher detection limit but still negligible release.

Be likely exists as refractory mineral phases (e.g., bertrandite) or substituted in silicate matrices, resisting dissolution in both natural and acidic conditions.

Beryllium is inherently immobile in CCR environments due to adsorption affinity (high K<sub>d</sub> > 10³ L/kg), low solubility in alkaline systems, and limited redox sensitivity. Its migration is restricted to short distances via advection, with precipitation or adsorption likely trapping it near source zones. No significant plume formation is expected.

Lakeside Ash Pond - SPLP/TCLP Results – Beryllium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.001 | 0.001 | 0.001 |
| TCLP | mg/L | J 0.0007 | 0.0015 | < 0.001 | 0.0054 | < 0.001 | 0.0049 | < 0.001 | 0.0007 | 0.0054 | 0.00221 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Beryllium concentrations were non-detect (<0.001 mg/L) for all SPLP samples. Using detection limit value (0.001 mg/L) the total mass of beryllium is:

= 0.001 mg/L x 351,572,000 L = 0.352 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the beryllium leaching rate per metric ton of ash is:

= 0.352 kg / 430,324 metric tons = 0.000818 g Beryllium/metric ton ash

Lakeside Ash Pond - Porewater Results – Beryllium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.0542 | 0.102 | 0.0024 | 0.0911 | 0.0024 | 0.102 | 0.0624 |
| Dissolved | mg/L | 7/19/24 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| Total | mg/L | 7/19/24 | J 0.0003 | J 0.0004 | 0.0045 | 0.0005 | 0.0003 | 0.0045 | 0.00143 |

Note:
J - Analyte detected below quantitation limits

The dissolved boron concentrations were reported as non-detect (<0.0005 mg/L) for all sampling events. Using the dissolved beryllium non-detect value, the total mass is:

= 0.0005 mg/L x 351,572,000 L = 0.176 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum beryllium leaching rate per metric ton of ash is:

= 0.176 kg / 430,324 metric tons = 0.000408 g Beryllium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Beryllium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Beryllium Concentration** | 0.001 mg/L | 0.0005 mg/L |
| **Total Beryllium Mass** | 0.352 kg | 0.176 kg |

The non-detect concentrations of beryllium in the porewater sample are approximately 50% lower compared to porewater results (0.0005 mg/L vs 0.001 mg/L). The total beryllium mass in SPLP samples (0.352 kg), is higher than porewater derived estimates (0.176 kg). These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.5 Cadmium

The mass of cadmium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Cadmium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | 0.002 | 0.002 | 0.002 |
| TCLP | mg/L | 0.0293 | 0.0706 | 0.0638 | < 0.002 | 0.0302 | 0.0475 | 0.0422 | 0.0063 | 0.002 | 0.0706 | 0.0365 |

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.002 mg/L) the total mass of cadmium is:

= 0.002 mg/L x 582,000,000 L = 1.16 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average cadmium leaching rate per metric ton of ash is:

= 1.16 kg / 1,424,736 metric tons = 0.000814 g Cadmium/metric ton ash

Dallman Ash Pond - Porewater Results – Cadmium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | **mg/L** | 4/29/24 | 0.222 | 0.0541 | 0.492 | J 0.068 | 0.0541 | 0.492 | 0.209 |
| **Dissolved** | **mg/L** | 7/19/24 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | 0.002 | 0.002 | 0.002 |
| **Total** | **mg/L** | 7/19/24 | J 0.0016 | J 0.0014 | < 0.002 | 0.0035 | 0.0014 | 0.0035 | 0.00213 |

Note:
J - Analyte detected below quantitation limits

Cadmium concentrations were non-detect (<0.002 mg/L) for all samples. Using detection limit value (0.002 mg/L) the total mass of cadmium is:

= 0.002 mg/L x 582,000,000 L = 1.16 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum cadmium leaching rate per metric ton of ash is:

= 1.16 kg / 1,424,736 metric tons = 0.000817 g Cadmium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Cadmium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Cadmium Concentration** | 0.002 mg/L | 0.002 mg/L |
| **Total Cadmium Mass** | 1.16 kg | 1.16 kg |

The concentrations of cadmium in the SPLP sample are in agreement with porewater results (0.002 mg/L vs. 0.002 mg/L). The total cadmium mass in porewater is 1.16 kg the same as the SPLP-derived estimate (1.16 kg).

The agreement between SPLP and porewater cadmium results in Dallman Ash Pond—both below detection (<0.002 mg/L) with identical mass estimates stems from cadmium's geochemical behavior in coal ash systems. Cadmium solubility is primarily controlled by pH-dependent adsorption and precipitation. In SPLP's acidic environment (pH 4.2), cadmium might be expected to mobilize as $Cd^{2+}$, but its strong affinity for iron oxides, clay minerals, and organic matter in ash promotes retention. Conversely, the alkaline porewater (pH 8–12) favors cadmium precipitation as insoluble carbonates (e.g., $CdCO_3$) or hydroxides, while also enhancing adsorption onto mineral surfaces. These opposing mechanisms, low-pH adsorption versus high-pH precipitation, converge to limit solubility across both environments.

Cadmium mobility is further suppressed by its tendency to form stable complexes with sulfides (e.g., CdS) under reducing conditions, which likely exist in submerged ash. The low concentrations indicate minimal dissolved cadmium, reflecting effective attenuation regardless of testing conditions. In groundwater, cadmium's mobility would be constrained by three key factors: (1) pH extremes that trigger precipitation/adsorption, (2) the presence of sorbents (Fe/Al oxides, carbonates), and (3) sulfide availability that immobilizes it as insoluble precipitates. This results in limited transport potential, confining cadmium plumes to narrow zones near sources unless acidic or low-sulfide conditions prevail. The consistency between SPLP and porewater data confirms cadmium's low leaching risk in this setting.

Lakeside Ash Pond - SPLP/TCLP Results – Cadmium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | 0.002 | 0.002 | 0.002 |
| TCLP | mg/L | 0.0045 | 0.0045 | 0.0154 | 0.0397 | < 0.002 | 0.149 | 0.0022 | 0.002 | 0.149 | 0.0310 |

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.002 mg/L) the total mass of cadmium is:

= 0.002 mg/L x 351,572,000 L = 0.703 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average cadmium leaching rate per metric ton of ash is:

= 0.703 kg / 430,324 metric tons = 0.00163 g Cadmium/metric ton ash

Lakeside Ash Pond - Porewater Results – Cadmium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.0776 | 0.26 | 0.0019 | 0.296 | 0.0019 | 0.296 | 0.159 |
| Dissolved | mg/L | 7/19/24 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | 0.002 | 0.002 | 0.002 |
| Total | mg/L | 7/19/24 | < 0.002 | < 0.002 | 0.0097 | < 0.002 | 0.002 | 0.0097 | 0.00393 |

Cadmium concentrations were non-detect (<0.002 mg/L) for all samples. Using the detection limit value (0.002 mg/L) the total mass of cadmium is:

= 0.002 mg/L x 351,572,000 L = 0.703 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum cadmium leaching rate per metric ton of ash is:

= 0.703 kg / 430,324 metric tons = 0.00163 g Cadmium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Cadmium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Cadmium Concentration** | 0.002 mg/L | 0.002 mg/L |
| **Total Cadmium Mass** | 0.703 kg | 0.703 kg |

Similar to the Dallman Ash Pond results, the concentrations of cadmium in the SPLP sample are the same for porewater results (0.002 mg/L vs. 0.002 mg/L). The total cadmium mass in porewater

is 0.703 kg, the same as the SPLP-derived estimate (0.703 kg). These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.6 Chromium

The mass of chromium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Chromium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | J 0.0049 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | 0.0049 | 0.01 | 0.00936 |
| TCLP | mg/L | 0.105 | 0.0707 | 0.116 | < 0.01 | 0.0692 | 0.0438 | 0.0151 | < 0.01 | 0.01 | 0.116 | 0.0550 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.00936 mg/L) the total mass of chromium is:

= 0.00936 mg/L x 582,000,000 L = 5.45 kg

Conservative estimate using the maximum concentration (0.01 mg/L) is:

= 0.01 mg/L x 582,000,000 L = 5.82 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum chromium leaching rate per metric ton of ash is:

= 5.45 kg / 1,424,736 metric tons = 0.00383 g Chromium/metric ton ash

= 5.82 kg / 1,424,736 metric tons = 0.00408 g Chromium/metric ton ash

Dallman Ash Pond - Porewater Results – Chromium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 3.91 | 0.902 | 6.25 | 1.03 | 0.902 | 6.25 | 3.02 |
| Dissolved | mg/L | 7/19/24 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 | 0.005 | 0.005 |
| Total | mg/L | 7/19/24 | 0.0277 | 0.0426 | 0.0121 | 0.0645 | 0.0121 | 0.0645 | 0.0367 |

Chromium concentrations were non-detect (<0.005 mg/L) for all samples. Using detection limit value (0.005 mg/L) the total mass of chromium is:

= 0.005 mg/L x 582,000,000 L = 2.91 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum chromium leaching rate per metric ton of ash is:

= 2.91 kg / 1,424,736 metric tons = 0.00204 g Chromium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Chromium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Chromium Concentration** | 0.00936 mg/L | 0.005 mg/L |
| **Total Chromium Mass** | 5.45 kg | 2.91 kg |

The concentrations of chromium in the porewater sample are approximately 47% lower compared to SPLP results (0.005 mg/L vs. 00936 mg/L). The total chromium mass in SPLP-derived estimates (5.45-5.82 kg) is greater than the porewater-derived estimate (2.91 kg).

The lower chromium concentrations in Dallman Ash Pond's porewater compared to SPLP results reflect redox and pH-controlled geochemical processes unique to in situ conditions. SPLP's acidic, oxygenated environment (pH 4.2) promotes chromium mobilization as soluble Cr(VI) (chromate, $HCrO_4^-$), while the pond's alkaline and reducing conditions (pH 8–12; low Eh) reduce Cr(VI) to Cr(III). This reduction triggers precipitation as insoluble Cr(III) hydroxides [$Cr(OH)_3$] or coprecipitation with iron oxides, sharply limiting dissolved chromium in porewater. Adsorption of Cr(III) onto clay minerals and organic matter further suppresses mobility under alkaline conditions.

Chromium's mobility is governed by three interdependent factors. These are: 1) Cr(VI) is highly mobile; Cr(III) is immobile; 2) alkaline conditions favor Cr(III) precipitation but can remobilize Cr(VI) as oxyanions; and 3) iron oxides and clays permanently sequester Cr(III).

In groundwater, chromium's nature and extent would depend on redox stability. If reducing conditions persist, migration would be minimal (< meters). However, oxidation during pond dewatering or acidic recharge could convert Cr(III) to mobile Cr(VI), potentially forming elongated plumes. The SPLP overestimates current risk (5.45–5.82 kg vs. porewater's 2.91 kg) because it ignores the pond's natural attenuation capacity. Long-term monitoring of Eh/pH is essential to detect shifts that could liberate Cr(VI).

Lakeside Ash Pond - SPLP/TCLP Results – Chromium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | 0.01 | 0.01 | 0.01 |
| TCLP | mg/L | < 0.01 | < 0.01 | < 0.01 | 0.0185 | < 0.01 | J 0.0082 | < 0.01 | 0.0082 | 0.0185 | 0.0110 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Chromium concentrations were non-detect (<0.01 mg/L) for all SPLP samples. Using detection limit value (0.01 mg/L) the total mass of chromium is:

= 0.01 mg/L x 351,572,000 L = 3.52 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the chromium leaching rate per metric ton of ash is:

= 3.52 kg / 430,324 metric tons = 0.00818 g Chromium/metric ton ash

Lakeside Ash Pond - Porewater Results – Chromium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.993 | 2.08 | 0.0632 | 1.81 | 0.0632 | 2.08 | 1.24 |
| Dissolved | mg/L | 7/19/24 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 | 0.005 | 0.005 |
| Total | mg/L | 7/19/24 | 0.0053 | 0.0068 | 0.0773 | 0.0078 | 0.0053 | 0.0773 | 0.0243 |

Chromium concentrations were non-detect (<0.005 mg/L) for all samples. Using detection limit value (0.005 mg/L) the total mass of chromium is:

= 0.005 mg/L x 351,572,000 L = 1.76 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum chromium leaching rate per metric ton of ash is:

= 1.76 kg / 430,324 metric tons = 0.00409 g Chromium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Chromium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Chromium Concentration** | 0.01 mg/L | 0.005 mg/L |
| **Total Chromium Mass** | 3.52 kg | 1.76 kg |

Similar to the Dallman Ash Pond results, the concentrations of chromium in the porewater sample are approximately 50% lower compared to SPLP results (0.005 mg/L vs 0.01 mg/L). The total chromium mass in the SPLP sample is 3.52 kg/L, greater than the porewater-derived estimate (1.76 kg). These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.7 Cobalt

The mass of cobalt leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Cobalt

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | 0.006 | 0.006 | 0.006 |
| TCLP | mg/L | 0.0145 | 0.0116 | 0.0182 | 0.013 | 0.0118 | J 0.0054 | 0.0107 | 0.0089 | 0.0054 | 0.0182 | 0.0118 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.006 mg/L) the total mass of cobalt is:

= 0.006 mg/L x 582,000,000 L = 3.49 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average cobalt leaching rate per metric ton of ash is:

= 3.49 kg / 1,424,736 metric tons = 0. 00245 g Cobalt/metric ton ash

Dallman Ash Pond - Porewater Results – Cobalt, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.241 | 0.0579 | 0.323 | J 0.061 | 0.0579 | 0.323 | 0.170 |
| Dissolved | mg/L | 7/19/24 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 | 0.005 | 0.005 |
| Total | mg/L | 7/19/24 | J 0.0029 | J 0.0029 | < 0.005 | 0.0062 | 0.0029 | 0.0062 | 0.00425 |

Note:
J - Analyte detected below quantitation limits

Cobalt concentrations were non-detect (<0.005 mg/L) for all samples. Using detection limit value (0.005 mg/L) the total mass of dissolved cobalt is:

= 0.005 mg/L x 582,000,000 L = 2.91 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum cobalt leaching rate per metric ton of ash is:

= 2.91 kg / 1,424,736 metric tons = 0.00204 g Cobalt/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Cobalt

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Cobalt Concentration** | 0.006 mg/L | 0.005 mg/L |
| **Total Cobalt Mass** | 3.49 kg | 2.91 kg |

The concentrations of cobalt, dissolved, in the porewater results are approximately 17% lower compared to SPLP samples (0.005 mg/L vs. 0.006 mg/L). The total cobalt mass in porewater is 2.91 kg, and the SPLP-derived estimate is 3.49 kg.

The close alignment between cobalt concentrations in Dallman Ash Pond's porewater and SPLP leachate reflects cobalt's consistent geochemical behavior across pH and redox gradients. Unlike redox-sensitive metals (e.g., Cr, As), cobalt solubility is primarily governed by pH-controlled precipitation and adsorption. In SPLP's acidic environment (pH 4.2), cobalt remains largely immobilized through adsorption onto Fe/Mn oxides and clay minerals. Conversely, in the pond's alkaline porewater (pH 8–12), cobalt precipitates as insoluble hydroxides ($Co(OH)_2$) or carbonates ($CoCO_3$), while also binding strongly to mineral surfaces. These parallel retention mechanisms, adsorption in acid, precipitation in alkali, converge to limit dissolved cobalt in both settings.

Cobalt mobility in groundwater is constrained by three key factors: 1) high K<sub>d</sub> values (>500 L/kg) on Fe/Mn oxides, particularly in neutral-alkaline conditions; 2) precipitation as secondary minerals reduces dissolved concentrations; and 3) formation of immobile CoS in reducing zones.

These characteristics restrict cobalt plumes to short migration distances (<10–50 m typically), with sharp concentration declining downgradient. The minor mass difference likely stems from SPLP's partial dissolution of weakly adsorbed cobalt pools absent in porewater equilibrium. Overall, the agreement confirms cobalt's low leaching risk in CCR impoundments regardless of testing methodology, though slightly higher SPLP values appropriately represent a conservative leaching scenario for regulatory purposes.

Lakeside Ash Pond - SPLP/TCLP Results – Cobalt

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | 0.006 | 0.006 | 0.006 |
| TCLP | mg/L | J 0.0054 | J 0.0033 | 0.0065 | 0.0161 | 0.0077 | 0.0218 | J 0.0043 | 0.0033 | 0.0218 | 0.0093 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Cobalt concentrations were non-detect (<0.006 mg/L) for all SPLP samples. Using detection limit value (0.006 mg/L) the total mass of cobalt is:

= 0.006 mg/L x 351,572,000 L = 2.11 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the cobalt leaching rate per metric ton of ash is:

= 2.11 kg / 430,324 metric tons = 0.00490 g Cobalt/metric ton ash

Lakeside Ash Pond - Porewater Results – Cobalt, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.154 | 0.336 | 0.0213 | 0.296 | 0.0213 | 0.336 | 0.202 |
| Dissolved | mg/L | 7/19/24 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 | 0.005 | 0.005 |
| Total | mg/L | 7/19/24 | < 0.005 | < 0.005 | 0.0194 | < 0.005 | 0.005 | 0.0194 | 0.0086 |

Dissolved cobalt concentrations were non-detect (<0.005 mg/L) for all samples. Using detection limit value (0.005 mg/L) the total mass of dissolved cobalt is:

= 0.005 mg/L x 351,572,000 L = 1.76 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum barium leaching rate per metric ton of ash is:

= 1.76 kg / 430,324 metric tons = 0.00409 g Barium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Cobalt

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Cobalt Concentration** | 0.006 mg/L | 0.005 mg/L |
| **Total Cobalt Mass** | 2.11 kg | 1.76 kg |

The concentrations of cobalt in porewater are approximately 17% lower compared to SPLP derived results (0.005 mg/L vs. 0.006 mg/L). The total cobalt mass in SPLP-derived estimates is 2.11 kg, is slightly higher than porewater estimates (1.76 kg). These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.8 Fluoride

The mass of chromium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the "Shake Extraction" and porewater analytical results.

The soil samples were analyzed for dissolved fluoride using ASTM D3987 (SW-846 Method 9036) "Shake Extraction." This method represents a water-based leaching scenario designed to simulate the dissolution of soluble constituents when solid materials come into contact with natural freshwater under mild agitation.

Dallman Ash Pond – Shake Extraction Results – Fluoride

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shake Extraction | mg/L | 0.13 | 0.19 | 0.2 | J 0.37 | J 0.08 | 0.11 | J 0.06 | 0.14 | 0.06 | 0.37 | 0.16 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.16 mg/L) the total mass of fluoride is:

= 0.16 mg/L x 582,000,000 L = 93.1kg

Conservative estimate using the maximum concentration (0.37 mg/L) is:

= 0.37 mg/L x 582,000,000 L = 215 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum fluoride leaching rate per metric ton of ash is:

= 93.1 kg / 1,424,736 metric tons = 0.0653 g Fluoride/metric ton ash

= 215 kg / 1,424,736 metric tons = 0.151 g Fluoride/metric ton ash

Dallman Ash Pond - Porewater Results – Fluoride, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.32 | 0.21 | 0.33 | 0.43 | 0.21 | 0.43 | 0.3225 |
| Dissolved | mg/L | 7/19/24 | J 0.06 | J 0.09 | 0.12 | J 0.09 | 0.06 | 0.12 | 0.09 |
| Total | mg/L | 7/19/24 | J 0.07 | J 0.1 | 0.12 | 0.12 | 0.07 | 0.12 | 0.103 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for fluoride, dissolved, the total mass is:

= 0.09 mg/L x 582,000,000 L = 52.4 kg

Conservative estimate using the maximum concentrations (0.12 mg/L) is:

= 0.12 mg/L x 582,000,000 L = 69.8 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum fluoride leaching rate per metric ton of ash is:

= 52.4 kg / 1,424,736 metric tons = 0.0368 g Fluoride/metric ton ash

= 69.8 kg / 1,424,736 metric tons = 0.0490 g Fluoride/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Fluoride

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Fluoride Concentration** | 0.16 mg/L | 0.09 mg/L |
| **Total Fluoride Mass** | 93.1 kg | 52.4 kg |

The concentrations of fluoride, dissolved, in the porewater sample are approximately 44% lower compared to shake extraction samples (0.16 mg/L vs. 0.09 mg/L). The total fluoride mass in shake extraction results is 93.1-215 kg, significantly higher than porewater derived estimates (52.4-69.8 kg).

The lower fluoride concentrations in Dallman Ash Pond's porewater compared to shake extraction results (0.16 mg/L) arise from methodological and geochemical factors. Shake extraction's aggressive agitation and acidic pH (typically pH ~4–5) dissolve weakly bound fluoride from mineral phases like fluorapatite [$Ca_5(PO_4)_3F$] or adsorb onto aluminum/iron oxides, amplifying release. In contrast, the alkaline porewater (pH 8–12) enhances fluoride adsorption onto positively charged Fe/Al-oxide surfaces and promotes precipitation as $CaF_2$ (fluorite), suppressing dissolved concentrations.

Fluoride mobility in groundwater is governed by three key characteristics: 1) mobility peaks in acidic conditions (pH < 6) where $OH^-$ competition is minimal; 2) higher $Ca^{2+}$ promotes $CaF_2$ precipitation, immobilizing fluoride; and 3) fluorite controls long-term release, with dissolution favored by low $Ca^{2+}$/high $CO_3^{2-}$.

In this setting, alkaline porewater and abundant calcium in ash limit fluoride mobility, confining plumes near source zones. The shake extraction overestimates mass (93–215 kg vs. porewater's 53–70 kg) because it disrupts natural equilibrium, dissolving pools not readily available under field conditions. Actual groundwater impacts would depend on downgradient pH and calcium levels, with advection dominating transport but attenuation likely within short distances due to adsorption/precipitation.

Lakeside Ash Pond – Shake Extraction Results – Fluoride

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.37 | 0.21 | 0.2 | 0.2 | 0.42 | 0.36 | J 0.08 | 0.08 | 0.42 | 0.263 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Fluoride concentrations ranged from a trace amount of 0.08 mg/L to 0.42 mg/L. Using an average concentration (0.263 mg/L) the total mass of fluoride is:

= 0.263 mg/L x 351,572,000 L = 92.5 kg

Conservative estimate using the maximum concentration (0.42 mg/L) is:

= 0.42 mg/L x 351,572,000 L = 148 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the fluoride leaching rate per metric ton of ash is:

= 92.5 kg / 430,324 metric tons = 0.215 g Fluoride/metric ton ash

= 148 kg / 430,324 metric tons = 0.344 g Fluoride/metric ton ash

Lakeside Ash Pond - Porewater Results – Fluoride, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.5 | 1.07 | 1.19 | 1.32 | 0.5 | 1.32 | 1.02 |
| Dissolved | mg/L | 7/19/24 | 0.1 | 0.35 | 0.62 | 0.37 | 0.1 | 0.62 | 0.36 |
| Total | mg/L | 7/19/24 | 0.11 | 0.36 | 0.64 | 0.38 | 0.11 | 0.64 | 0.373 |

Using average porewater data for fluoride, dissolved, the total mass is:

= 0.36 mg/L x 351,572,000 L = 127 kg

Conservative estimate using the maximum concentration (0.62 mg/L) is:

= 0.62 mg/L x 351,572,000 L = 218 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum fluoride leaching rate per metric ton of ash is:

= 127 kg / 430,324 metric tons = 0.294 g Fluoride/metric ton ash

= 218 kg / 430,324 metric tons = 0.507 g Fluoride/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Fluoride

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Fluoride Concentration** | 0.263 mg/L | 0.36 mg/L |
| **Total Fluoride Mass** | 92.5 kg | 127 kg |

The concentrations of fluoride in the shake extraction sample are approximately 27% lower compared to porewater results (0.263 mg/L vs. 0.36 mg/L). The total fluoride mass in porewater is 127-218 kg, higher than shake extraction derived estimates (92.5-148 kg).

The higher fluoride concentrations in Lakeside Ash Pond's porewater compared to shake extraction results reflect pH-driven geochemical processes that suppress fluoride release in acidic leaching tests but enhance solubility in alkaline field conditions. Shake extraction's low-pH environment (typically pH 4–5) promotes fluoride adsorption onto positively charged mineral surfaces (e.g., Al-/Fe-oxides) and may trigger precipitation as $CaF_2$ if calcium is abundant in the leachant. Conversely, the pond's alkaline porewater (pH 8–12) generates negatively charged mineral surfaces that repel fluoride anions, while high bicarbonate concentrations compete for adsorption sites, collectively increasing dissolved fluoride.

Fluoride mobility is primarily controlled by three factors: 1) pH, which reverses adsorption behavior (immobile in acid, mobile in alkali); 2) calcium availability, where high $Ca^{2+}$ induces fluorite precipitation; and 3) competing anions (e.g., $HCO_3^-$, $SO_4^{2-}$) that displace adsorbed fluoride.

In groundwater, fluoride plumes may extend farther in alkaline, low-calcium settings but will attenuate rapidly if downgradient conditions favor adsorption (pH < 6) or precipitation (high $Ca^{2+}$). The shake extraction underestimates mass (92.5–148 kg vs. porewater's 127–218 kg) because its artificial chemistry immobilizes fluoride through mechanisms not representative of in-situ alkalinity. This highlights the importance of porewater data for predicting actual contaminant flux, particularly where pH deviates from neutral.

## 6.9 Lead

The mass of lead leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Lead

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0075 | 0.0075 | 0.0075 |
| TCLP | mg/L | < 0.0075 | 0.0102 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0075 | 0.0102 | 0.00784 |

The porewater volume of the surface impoundment is 582,000,000 L. Using the non-detect value (0.0075 mg/L) the total mass of lead is:

= 0.0075 mg/L x 582,000,000 L = 4.37 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum lead leaching rate per metric ton of ash is:

= 4.37 kg / 1,424,736 metric tons = 0.000307 g Lead/metric ton ash

Dallman Ash Pond - Porewater Results – Lead, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 1.04 | 0.199 | 1.46 | 0.266 | 0.199 | 1.46 | 0.741 |
| Dissolved | mg/L | 7/19/24 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0075 | 0.0075 | 0.0075 |
| Total | mg/L | 7/19/24 | 0.0415 | 0.0135 | J 0.0046 | 0.0262 | 0.0046 | 0.0415 | 0.0215 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for lead, dissolved, (0.0075) the total mass is:

= 0.0075 mg/L x 582,000,000 L = 4.37 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum lead leaching rate per metric ton of ash is:

= 4.37 kg / 1,424,736 metric tons = 0.00306 g Lead/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Lead

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Lead Concentration** | 0.0075 mg/L | 0.0075 mg/L |
| **Total Lead Mass** | 4.37 kg | 4.37 kg |

The concentrations of lead in the SPLP sample are the same calculated to the porewater results (0.0075 mg/L vs. 0.0075 mg/L). The total lead mass in porewater is 4.37 kg, is the same for the SPLP-derived estimates (4.37 kg).

The identical lead concentrations (0.0075 mg/L) and total mass (4.37 kg) in both SPLP and porewater samples from Dallman Ash Pond result from lead's unique geochemical behavior, which minimizes solubility across a wide range of conditions. In SPLP's acidic environment (pH 4.2), lead precipitates as insoluble anglesite ($PbSO_4$) due to sulfate in the leachant, while in the pond's alkaline porewater (pH 8–12), it forms stable cerussite ($PbCO_3$) or hydroxides. Additionally, lead adsorbs strongly to iron/aluminum oxides and clay minerals in ash regardless of pH, with distribution coefficients (K<sub>d</sub>) typically >$10^4$ L/kg. These parallel immobilization mechanisms—precipitation and adsorption—suppress dissolution equally in both test methods.

Lead's mobility in groundwater is inherently low due to three key characteristics: 1) sulfate or carbonate availability triggers near-instantaneous mineral formation; 2) strong surface bonding persists across pH gradients; and 3) lead lacks soluble oxidized species, unlike chromium or arsenic.

Consequently, lead plumes rarely extend beyond local zones (<50 m) unless exposed to unusually acidic, low-sulfate, or low-carbonate groundwater. The SPLP-porewater agreement confirms that standardized leaching tests reliably predict lead's low environmental mobility in coal ash impoundments. However, long-term stability depends on maintaining geochemical conditions that favor precipitation—particularly avoiding acidic groundwater intrusion that could dissolve mineral phases.

Lakeside Ash Pond - SPLP/TCLP Results – Lead

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0075 | 0.0075 | 0.0075 |
| TCLP | mg/L | < 0.0075 | < 0.0075 | < 0.0075 | 0.0247 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0075 | 0.0247 | 0.00996 |

The porewater volume of the surface impoundment is 351,572,000 L. Lead concentrations were non-detect (<0.0075 mg/L) for all SPLP samples. Using detection limit value (0.0075 mg/L) the total mass of lead is:

= 0.0075 mg/L x 351,572,000 L = 2.64 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the lead leaching rate per metric ton of ash is:

= 2.64 kg / 430,324 metric tons = 0.00613 g Lead/metric ton ash

Lakeside Ash Pond - Porewater Results – Lead, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | B 0.655 | B 3.4 | 0.0526 | 2.78 | 0.0526 | 3.4 | 1.72 |
| Dissolved | mg/L | 7/19/24 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0075 | 0.0075 | 0.0075 |
| Total | mg/L | 7/19/24 | < 0.0075 | < 0.0075 | 0.16 | J 0.0043 | 0.0043 | 0.16 | 0.0448 |

Note:
B - Analyte detected in associated Method Blank

The dissolved lead concentrations were reported as non-detect (<0.0075 mg/L) for all sampling events. Using the average porewater data for lead, dissolved (0.0075), the total mass is:

= 0.0075 mg/L x 351,572,000 L = 2.64 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum lead leaching rate per metric ton of ash is:

= 2.64 kg / 430,324 metric tons = 0.00613 g Lead/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Lead

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Lead Concentration** | 0.0075 mg/L | 0.0075 mg/L |
| **Total Lead Mass** | 2.64 kg | 2.64 kg |

Similar to the Dallman Ash Pond results, the concentrations of lead in the SPLP sample are similar to porewater results (0.0075 mg/L vs. 0.0075 mg/L). The total lead mass in porewater is 2.64 kg, the same as the SPLP-derived estimates (2.64 kg). See discussion above.

## 6.10 Lithium

The mass of lithium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Lithium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.0033 | 0.0112 | 0.0078 | 0.0065 | 0.0033 | 0.0034 | 0.0075 | 0.0059 | 0.0033 | 0.0112 | 0.00611 |
| TCLP | mg/L | 0.0112 | 0.0367 | 0.0228 | 0.0707 | 0.0131 | 0.01 | 0.0192 | 0.0374 | 0.01 | 0.0707 | 0.0276 |

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.00611 mg/L) the total mass of lithium is:

= 0.00611 mg/L x 582,000,000 L = 3.56 kg

Conservative estimate using the maximum concentration (0.0112 mg/L) is:

= 0.0112 mg/L x 582,000,000 L = 6.52 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum lithium leaching rate per metric ton of ash is:

= 3.56 kg / 1,424,736 metric tons = 0.00250 g Lithium/metric ton ash

= 6.52 kg / 1,424,736 metric tons = 0.00458 g Lithium/metric ton ash

Dallman Ash Pond - Porewater Results – Lithium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | mg/L | 4/29/24 | 0.428 | 0.154 | 0.571 | 0.228 | 0.154 | 0.571 | 0.345 |
| **Dissolved** | mg/L | 7/19/24 | 0.207 | 0.0963 | 0.117 | 0.261 | 0.0963 | 0.261 | 0.170 |
| **Total** | mg/L | 7/19/24 | 0.273 | 0.11 | 0.11 | 0.298 | 0.11 | 0.298 | 0.198 |

Using average porewater data for lithium, dissolved, the total mass is:

= 0.17 mg/L x 582,000,000 L = 98.9 kg

Conservative estimate using the maximum concentrations (0.298 mg/L) is:

= 0.261 mg/L x 582,000,000 L = 152 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum lithium leaching rate per metric ton of ash is:

= 98.9 kg / 1,424,736 metric tons = 0.0694 g Lithium/metric ton ash

= 152 kg / 1,424,736 metric tons = 0.107 g Lithium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Lithium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Lithium Concentration** | 0.00611 mg/L | 0.170 mg/L |
| **Total Lithium Mass** | 3.56 kg | 98.9 kg |

The concentrations of lithium in the SPLP sample are approximately 96% lower compared to porewater results (0.00611 mg/L vs. 0.170 mg/L). The total lithium mass in porewater is 98.9-152 kg, significantly higher than SPLP-derived estimates (3.56-6.52 kg).

The substantial difference in lithium concentrations with porewater results stems from lithium's unique geochemistry in coal ash environments and methodological limitations of leaching tests. The key drivers of the discrepancy are pH-dependent mobilization, mineral dissolution and absence of precipitation controls.

SPLP's acidic leachant (pH 4.2) promotes ion exchange of $Li^+$ onto clay minerals and metal oxides in ash, temporarily sequestering it. Alkaline porewater (pH 8–12) enhances $Li^+$ solubility due to repulsive electrostatic forces on negatively charged mineral surfaces, and competition with $Na^+/K^+$ (abundant in ash porewater) for sorption sites.

Lithium is often hosted in soluble glassy phases of fly ash. Alkaline conditions gradually dissolve these phases, releasing $Li^+$ into porewater, a process not replicated in short-duration SPLP tests.

Unlike metals (e.g., Pb, Ba), lithium lacks insoluble precipitates, allowing it to accumulate in solution under favorable pH.

Lithium's mobility in groundwater is exceptionally high due to: 1) minimal adsorption (low $K_d$ ~1–10 L/kg); 2) no redox sensitivity or hydrolysis; and 3) high solubility across all pH ranges.

Once released, lithium behaves conservatively (similar to chloride), migrating with advective flow and forming extensive plumes. Its actual extent depends solely on hydraulic residence time and dilution, not chemical attenuation.

SPLP's acidic, low-ionic-strength chemistry fails to replicate the alkaline, ion-rich porewater that liberates lithium. The test thus grossly underestimates in-situ leaching potential. Porewater data is essential to identify lithium as a high-mobility contaminant in CCR impoundments.

Lakeside Ash Pond - SPLP/TCLP Results – Lithium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.003 | J 0.003 | J 0.0015 | J 0.003 | < 0.003 | J 0.0027 | 0.0033 | 0.0015 | 0.0033 | 0.00279 |
| TCLP | mg/L | 0.0036 | 0.0087 | 0.0053 | 0.0061 | 0.0034 | 0.0153 | 0.0183 | 0.0034 | 0.0183 | 0.00867 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.00279 mg/L) the total mass of lithium is:

= 0.00279 mg/L x 351,572,000 L = 0.981 kg

Conservative estimate using the maximum concentration (0.0033 mg/L) is:

= 0.0033 mg/L x 351,572,000 L = 1.16 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum lithium leaching rate per metric ton of ash is:

= 0.981 kg / 430,324 metric tons = 0.00228 g Lithium/metric ton ash

= 1.16 kg / 430,324 metric tons = 0.00270 g Lithium/metric ton ash

Lakeside Ash Pond - Porewater Results – Lithium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.172 | 0.621 | 0.0288 | 0.613 | 0.0288 | 0.621 | 0.359 |
| Dissolved | mg/L | 7/19/24 | 0.0408 | 0.0553 | 0.0071 | 0.144 | 0.0071 | 0.144 | 0.0618 |
| Total | mg/L | 7/19/24 | 0.0562 | 0.0899 | 0.0522 | 0.217 | 0.0522 | 0.217 | 0.104 |

Using average porewater data for lithium, dissolved, the total mass is:

= 0.0618 mg/L x 351,572,000 L = 21.7 kg

Conservative estimate using the maximum concentration (0.144 mg/L) is:

= 0.144 mg/L x 351,572,000 L = 50.6 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum lithium leaching rate per metric ton of ash is:

= 21.7 kg / 430,324 metric tons = 0.0505 g Barium/metric ton ash

= 50.6 kg / 430,324 metric tons = 0.118 g Barium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Lithium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Lithium Concentration** | 0.00279 mg/L | 0.0618 mg/L |
| **Total Lithium Mass** | 0.981 kg | 21.7 kg |

Similar to the Dallman Ash Pond results, the concentrations of lithium in the SPLP sample are approximately 88% lower compared to porewater results (0.00279 mg/L vs. 0.0618 mg/L). The total lithium mass in porewater is 21.7-50.6 kg, significantly higher than SPLP-derived estimates (0.981-1.16 kg). See discussion above.

## 6.11 Mercury

The mass of mercury leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Mercury

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| TCLP | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.00029 | < 0.0002 | 0.0002 | 0.00029 | 0.000211 |

The porewater volume of the surface impoundment is 582,000,000 L. Mercury concentrations were non-detect (<0.0002 mg/L) for all SPLP samples. Using detection limit value (0.0002 mg/L) the total mass of mercury is:

= 0.0002 mg/L x 582,000,000 L = 0.116 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the mercury leaching rate per metric ton of ash is:

= 0.116 kg / 1,424,736 metric tons = 0.0000814 g Mercury/metric ton ash

Dallman Ash Pond - Porewater Results – Mercury, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.00562 | 0.00046 | H 0.00685 | 0.00717 | 0.00046 | 0.00717 | 0.005025 |
| Dissolved | mg/L | 7/19/24 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| Total | mg/L | 7/19/24 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.0002 | 0.0002 | 0.0002 |

Mercury concentrations were non-detect (<0.0002 mg/L) for all dissolved mercury porewater samples. Using the detection limit value (0.0002 mg/L) the total mass of mercury is:

= 0.0002 mg/L x 582,000,000 L = 0.116 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum mercury leaching rate per metric ton of ash is:

= 0.116 kg / 1,424,736 metric tons = 0.0000814 g Mercury/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Mercury

| Parameter | SPLP | Porewater |
|---|---|---|
| **Maximum Mercury Concentration** | 0.0002 mg/L | 0.0002 mg/L |
| **Total Mercury Mass** | 0.116 kg | 0.116 kg |

The concentrations of mercury for both the SPLP and porewater samples were non-detect (<0.0002 mg/L). The total mercury mass is estimated to be 0.116 kg.

The non-detect mercury results in both SPLP and porewater samples from Dallman Ash Pond reflect mercury's extreme immobility in coal ash environments. Three geochemical factors drive this behavior: 1) mercury readily volatilizes during coal combustion, leaving minimal soluble $Hg^{2+}$ in ash; 2) residual mercury adsorbs irreversibly to carbon particles or sulfides in ash, forming insoluble complexes (e.g., HgS, $Hg^0$); and 3) submerged, reducing conditions in the pond favor precipitation as cinnabar (HgS) or amalgamation with other metals.

Mercury's mobility is inherently low due to high affinity for organic/sulfide phases (log $K_d$<5), volatility limiting aqueous residence, and reduction to insoluble $Hg^0$ under anoxia.

Consequently, mercury rarely migrates beyond ash deposits, posing negligible groundwater risk. The non-detects in both methods confirm that standardized leaching tests and porewater sampling align for mercury, unlike mobile constituents (e.g., Li, As), due to its near-total sequestration. Any long-term release would require oxidation or sulfide dissolution, which is unlikely in stable impoundments.

Lakeside Ash Pond - SPLP/TCLP Results – Mercury

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| TCLP | mg/L | < 0.0002 | < 0.0002 | 0.00028 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.0002 | 0.00028 | 0.000211 |

Note:
H - Holding times exceeded

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.0002 mg/L) the total mass of mercury is:

= 0.0002 mg/L x 351,572,000 L = 0.0703 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average mercury leaching rate per metric ton of ash is:

= 0.0703 kg / 430,324 metric tons = 0.000163 g Mercury/metric ton ash

Lakeside Ash Pond - Porewater Results – Mercury, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.00198 | 0.00926 | 0.0005 | 0.00559 | 0.0005 | 0.00926 | 0.004333 |
| Dissolved | mg/L | 7/19/24 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| Total | mg/L | 7/19/24 | < 0.0002 | < 0.0002 | 0.0003 | < 0.0002 | 0.0002 | 0.0003 | 0.000225 |

Mercury concentrations were non-detect (<0.0002 mg/L) for all dissolved mercury porewater samples. Using the detection limit value (0.0002 mg/L) the total mass of mercury is:

= 0.0002 mg/L x 351,572,000 L = 0.0703 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum mercury leaching rate per metric ton of ash is:

= 0.0703 kg / 430,324 metric tons = 0.000163 g Mercury/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Mercury

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Mercury Concentration** | 0.0002 mg/L | 0.0002 mg/L |
| **Total Mercury Mass** | 0.0703 kg | 0.0703 kg |

The concentrations of mercury in the SPLP sample are the same as the porewater results (0.0002 mg/L vs. 0.0002 mg/L). The total mercury mass in porewater and SPLP samples is 0.0703 kg. These results are similar to the Dallman Ash Pond SPLP and porewater analytical results. See discussion above.

## 6.12 Molybdenum

The mass of molybdenum leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Molybdenum

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.216 | 0.144 | 0.155 | 5.21 | 0.0138 | 0.0355 | 0.0495 | 0.134 | 0.0138 | 5.21 | 0.745 |
| TCLP | mg/L | 0.0402 | 0.0554 | 0.0571 | 1.27 | 0.0375 | 0.0415 | 0.105 | 0.179 | 0.0375 | 1.27 | 0.223 |

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.745 mg/L) the total mass of molybdenum is:

= 0.745 mg/L x 582,000,000 L = 434 kg

Conservative estimate using the maximum concentration (5.21 mg/L) is:

= 5.21 mg/L x 582,000,000 L = 3,030 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum molybdenum leaching rate per metric ton of ash is:

= 434 kg / 1,424,736 metric tons = 0.305 g Molybdenum/metric ton ash

= 3,030 kg / 1,424,736 metric tons = 2.13 g Molybdenum/metric ton ash

Dallman Ash Pond - Porewater Results – Molybdenum, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 15.7 | 8.04 | 2.61 | 2.3 | 2.3 | 15.7 | 7.16 |
| Dissolved | mg/L | 7/19/24 | 10.4 | 6.58 | 2.78 | 3.61 | 2.78 | 10.4 | 5.84 |
| Total | mg/L | 7/19/24 | 11.7 | 7.04 | 2.89 | 3.77 | 2.89 | 11.7 | 6.35 |

Using average porewater data for molybdenum, dissolved, the total mass is:

= 5.84 mg/L x 582,000,000 L = 3,399 kg

Conservative estimate using the maximum concentrations (10.4 mg/L) is:

= 5.84 mg/L x 582,000,000 L = 6,053 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum molybdenum leaching rate per metric ton of ash is:

= 3,399 kg / 1,424,736 metric tons = 2.39 g Molybdenum/metric ton ash

= 6,053 kg / 1,424,736 metric tons = 4.25 g Molybdenum/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Molybdenum

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Molybdenum Concentration** | 0.745 mg/L | 5.84 mg/L |
| **Total Molybdenum Mass** | 434 kg | 3,399 kg |

The concentrations of molybdenum in the SPLP sample are approximately 87% lower compared to porewater results (0.745 mg/L vs. 5.84 mg/L). The total molybdenum mass in porewater is 3,399-6,053 kg, significantly higher than SPLP-derived estimates (434-3,030 kg).

The stark difference in molybdenum concentrations stems from molybdenum's unique pH-dependent geochemistry and the contrasting conditions of the tests.

SPLP's acidic environment (pH 4.2) triggers molybdenum adsorption onto iron/aluminum oxides and clay minerals, where it forms strong inner-sphere complexes (e.g., ≡Fe–$MoO_4^+$). This immobilizes dissolved molybdenum. Conversely, the alkaline porewater (pH 8–12) in the ash pond generates negatively charged mineral surfaces that repel molybdate anions ($MoO_4^{2-}$), while high pH also dissolves Mo-bearing phases (e.g., powellite, $CaMoO_4$), enhancing solubility.

Molybdenum's mobility is exceptionally high in alkaline settings due to: 1) as an oxyanion, it resists adsorption at high pH; 2) few insoluble phases form in typical groundwater; and 3) Mo(VI) dominates across most Eh conditions.

Once released, molybdenum migrates conservatively with groundwater flow, forming extensive plumes with minimal attenuation—unlike cationic metals (e.g., Pb, Cd) that adsorb or precipitate.

SPLP's low-pH chemistry artificially immobilizes molybdenum through adsorption mechanisms irrelevant to the actual alkaline impoundment. Porewater data thus reveals the true leaching potential, confirming molybdenum as a high-priority contaminant in CCR sites. Its long-term mobility depends solely on pH stability; acidification could reduce flux, but alkaline plumes may migrate kilometers downgradient.

Lakeside Ash Pond - SPLP/TCLP Results – Molybdenum

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | 0.0145 | < 0.01 | 0.0111 | 0.0169 | < 0.01 | J 0.0076 | 0.0904 | 0.0076 | 0.0904 | 0.0229 |
| TCLP | mg/L | < 0.01 | 0.0118 | 0.0307 | < 0.01 | < 0.01 | J 0.0081 | 0.0375 | 0.0081 | 0.0375 | 0.0169 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.0229 mg/L) the total mass of molybdenum is:

= 0.0229 mg/L x 351,572,000 L = 8.05 kg

Conservative estimate using the maximum concentration (0.0904 mg/L) is:

= 0.0904 mg/L x 351,572,000 L = 31.8 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum molybdenum leaching rate per metric ton of ash is:

= 8.05 kg / 430,324 metric tons = 0.0187 g Molybdenum/metric ton ash

= 31.8 kg / 430,324 metric tons = 0.0739 g Molybdenum/metric ton ash

Lakeside Ash Pond - Porewater Results – Molybdenum, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | 0.161 | 0.218 | 0.0218 | 0.282 | 0.0218 | 0.282 | 0.171 |
| Dissolved | mg/L | 7/19/24 | 0.0903 | 0.0571 | < 0.01 | 0.366 | 0.01 | 0.366 | 0.131 |
| Total | mg/L | 7/19/24 | 0.0942 | 0.0611 | 0.01 | 0.378 | 0.01 | 0.378 | 0.136 |

Using average porewater data for molybdenum, dissolved, the total mass is:

= 0.131 mg/L x 351,572,000 L = 46.1 kg

Conservative estimate using the maximum concentration (0.378 mg/L) is:

= 0.366 mg/L x 351,572,000 L = 129 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum molybdenum leaching rate per metric ton of ash is:

= 46.1 kg / 430,324 metric tons = 0.107 g Molybdenum/metric ton ash

= 129 kg / 430,324 metric tons = 0.299 g Molybdenum/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Molybdenum

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Molybdenum Concentration** | 0.0229 mg/L | 0.131 mg/L |
| **Total Molybdenum Mass** | 8.05 kg | 46.1 kg |

Similar to the Dallman Ash Pond results, the concentrations of molybdenum in the SPLP sample are approximately 83% lower compared to porewater results (0.0229 mg/L vs. 0.131 mg/L). The total molybdenum mass in porewater is 46.1-129 kg, significantly higher than SPLP-derived estimates (8.05-31.8 kg). See discussion above.

## 6.13 Selenium

The mass of selenium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Selenium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | J 0.03 | J 0.021 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | J 0.021 | 0.021 | 0.05 | 0.0403 |
| TCLP | mg/L | J 0.017 | J 0.037 | J 0.017 | < 0.05 | < 0.05 | J 0.03 | < 0.05 | J 0.022 | 0.017 | 0.05 | 0.0341 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.0403 mg/L) the total mass of selenium is:

= 0.0403 mg/L x 582,000,000 L = 23.5 kg

Conservative estimate using the maximum concentration (0.05 mg/L) is:

= 0.05 mg/L x 582,000,000 L = 29.1 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum selenium leaching rate per metric ton of ash is:

= 23.5 kg / 1,424,736 metric tons = 0.0165 g Selenium/metric ton ash

= 29.1 kg / 1,424,736 metric tons = 0.0204 g Selenium/metric ton ash

Dallman Ash Pond - Porewater Results – Selenium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | J 0.1 | < 0.05 | J 0.13 | J 0.09 | 0.05 | 0.13 | 0.0925 |
| Dissolved | mg/L | 7/19/24 | J 0.032 | J 0.036 | < 0.04 | 0.143 | 0.032 | 0.143 | 0.0628 |
| Total | mg/L | 7/19/24 | J 0.036 | J 0.024 | J 0.028 | 0.158 | 0.024 | 0.158 | 0.0615 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for selenium, dissolved, the total mass is:

= 0.0628 mg/L x 582,000,000 L = 36.5 kg

Conservative estimate using the maximum concentrations (0.143 mg/L) is:

= 0.143 mg/L x 582,000,000 L = 83.2 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum selenium leaching rate per metric ton of ash is:

= 36.5 kg / 1,424,736 metric tons = 0.0257 g Selenium/metric ton ash

= 83.2 kg / 1,424,736 metric tons = 0.0584 g Selenium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Selenium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Selenium Concentration** | 0.0403 mg/L | 0.0628 mg/L |
| **Total Selenium Mass** | 23.5 kg | 36.5 kg |

The concentrations of selenium in the SPLP sample are approximately 36% lower compared to porewater results (0.0403 mg/L vs. 0.0628 mg/L). The total selenium mass in porewater is 36.5-83.2 kg, significantly higher than SPLP-derived estimates (23.5-29.1 kg).

The higher selenium concentrations in Dallman Ash Pond's porewater compared to SPLP results with porewater mass estimates significantly exceeding SPLP-derived values result from selenium's redox-driven geochemistry and the contrasting conditions between field and lab environments. In SPLP's acidic (pH 4.2), oxygenated setting, selenium adsorbs strongly to iron oxides as immobile selenite [Se(IV)]. Conversely, the pond's alkaline (pH 8–12) reducing conditions stabilize mobile selenite [Se(IV)] while suppressing further reduction to insoluble elemental selenium [Se(0)]. This partial reduction traps selenium in its soluble Se(IV) form, enhancing porewater concentrations.

Selenium mobility hinges on three factors: 1) oxic conditions favor mobile selenate [Se(VI)]; reducing environments stabilize Se(IV) or Se(0); 2) alkaline conditions diminish adsorption of Se(IV) onto mineral surfaces; 3) sulfate and bicarbonate in porewater displace adsorbed selenium.

In groundwater, selenium's extent is determined by redox gradients. If reducing conditions persist, Se(IV) migrates moderately via advection but may attenuate where full reduction to Se(0) occurs. Oxidation during pond closure could convert Se(IV) to highly mobile Se(VI), forming extensive plumes. SPLP underestimates in-situ selenium because its acidic, oxic chemistry immobilizes selenium through adsorption irrelevant to the pond's actual reducing, alkaline environment. Porewater data thus better reflects current leaching risk, though long-term stability depends on maintaining reducing conditions to limit Se(VI) generation.

Lakeside Ash Pond - SPLP/TCLP Results – Selenium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | J 0.019 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | 0.019 | 0.05 | 0.0456 |
| TCLP | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | 0.05 | 0.05 | 0.05 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.0456 mg/L) the total mass of selenium is:

= 0.0456 mg/L x 351,572,000 L = 16.0 kg

Conservative estimate using the maximum concentration (0.05 mg/L) is:

= 0.05 mg/L x 351,572,000 L = 17.6 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum selenium leaching rate per metric ton of ash is:

= 16.0 kg / 430,324 metric tons = 0.0372 g Selenium/metric ton ash

= 17.6 kg / 430,324 metric tons = 0.0409 g Selenium/metric ton ash

Lakeside Ash Pond - Porewater Results – Selenium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | mg/L | 4/29/24 | 0.0906 | 0.158 | 0.0066 | 0.205 | 0.0066 | 0.205 | 0.115 |
| **Dissolved** | mg/L | 7/19/24 | < 0.04 | J 0.022 | 0.0456 | J 0.034 | 0.022 | 0.0456 | 0.0354 |
| **Total** | mg/L | 7/19/24 | J 0.026 | J 0.027 | 0.0428 | J 0.028 | 0.026 | 0.0428 | 0.0310 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for selenium, dissolved, the total mass is:

= 0.0354 mg/L x 351,572,000 L = 12.4 kg

Conservative estimate using the maximum concentration (0.0456 mg/L) is:

= 0.0456 mg/L x 351,572,000 L = 16.0 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum selenium leaching rate per metric ton of ash is:

= 12.4 kg / 430,324 metric tons = 0.0289 g Selenium/metric ton ash

= 16.0 kg / 430,324 metric tons = 0.0373 g Selenium/metric ton ash

Comparison of the conservative porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Selenium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Selenium Concentration** | 0.0456 mg/L | 0.0354 mg/L |
| **Total Selenium Mass** | 16.0 kg | 12.4 kg |

The concentrations of selenium, dissolved, in the porewater sample are approximately 22% lower compared to SPLP results (0.0354 mg/L vs. 0.0456 mg/L). The total selenium mass in porewater is 12.4-16.0 kg, is slightly lower than SPLP-derived estimates (16.0-17.6 kg).

Selenium is a redox-sensitive anion-forming element commonly associated with coal combustion residues and is known for its potential environmental mobility and ecological effects.

The SPLP result for the Lakeside Ash Pond was unexpectedly higher than porewater, suggesting the acidic SPLP leachate (pH ~4.2–4.8) may promote desorption or dissolution of selenium from ash surfaces that are otherwise more stable under neutral pH porewater conditions. The SPLP test environment is more oxidizing, favoring formation and release of selenate, the more mobile selenium species. The SPLP test may extract selenium that is not readily soluble under in-situ conditions but becomes mobilized under artificial laboratory conditions.

The selenium SPLP mass estimates for the Lakeside Ash Pond are only modestly greater, suggesting that field porewater concentrations reflect a reasonably representative long-term leaching scenario. SPLP overestimates mobility for selenium under certain conditions by not accounting for redox-controlled sorption or retention processes present in the field.

Given that the total selenium mass estimates differ by less than a factor of two, both datasets may be considered complementary for characterizing selenium mobility, with field conditions providing the more environmentally relevant perspective.

## 6.14 Thallium

The mass of thallium leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the SPLP and porewater analytical results.

Dallman Ash Pond - SPLP/TCLP Results – Thallium

| Method | Units | D1 19.5-21.5 | D1 36.5-38.5 | D2 19.5-21.5 | D2 33.5-35.5 | D3 4.5-6.5 | D3 14.5-29.5 | D4 19.5-21.5 | D4 29.5-31.5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.002 | J 0.001 | < 0.002 | J 0.0015 | < 0.002 | J 0.0017 | J 0.0017 | J 0.0013 | 0.001 | 0.002 | 0.00165 |
| TCLP | mg/L | 0.0229 | 0.0268 | 0.0257 | J 0.0018 | 0.0252 | 0.0185 | 0.0225 | 0.0243 | 0.0018 | 0.0268 | 0.0210 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 582,000,000 L. Using an average concentration (0.165 mg/L) the total mass of thallium is:

= 0.00165 mg/L x 582,000,000 L = 0.960 kg

Conservative estimate using the maximum concentration (0.002 mg/L) is:

= 0.002 mg/L x 582,000,000 L = 1.16 kg

Based upon a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum thallium leaching rate per metric ton of ash is:

= 0.960kg / 1,424,736 metric tons = 0.000674 g Thallium/metric ton ash

= 1.16 kg / 1,424,736 metric tons = 0.000814 g Thallium/metric ton ash

Dallman Ash Pond - Porewater Results – Thallium, total and dissolved

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Total | mg/L | 4/29/24 | J 0.13 | J 0.049 | 0.274 | J 0.066 | 0.049 | 0.274 | 0.130 |
| Dissolved | mg/L | 7/19/24 | < 0.002 | < 0.002 | 0.0021 | J 0.0017 | 0.0017 | 0.0021 | 0.00195 |
| Total | mg/L | 7/19/24 | 0.0035 | 0.0044 | 0.003 | 0.0071 | 0.003 | 0.0071 | 0.0045 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for thallium, dissolved, the total mass is:

= 0.00195 mg/L x 582,000,000 L = 1.13 kg

Conservative estimate using the maximum concentrations (0.0021 mg/L) is:

= 0.0021 mg/L x 582,000,000 L = 1.22 kg

Using a total ash mass in the surface impoundment of 1,424,736,000 kg (1.42 million metric tons), the average and maximum thallium leaching rate per metric ton of ash is:

= 1.13 kg / 1,424,736 metric tons = 0.000797 g Thallium/metric ton ash

= 1.22 kg / 1,424,736 metric tons = 0.000858 g Thallium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Dallman Ash Pond - Results Comparison – Thallium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Thallium Concentration** | 0.00165 mg/L | 0.00195 mg/L |
| **Total Thallium Mass** | 0.960 kg | 1.13 kg |

The concentrations of thallium in the SPLP sample are approximately 15% lower compared to porewater results (0.00165 mg/L vs. 0.00195 mg/L). The total thallium mass in porewater is 1.13-1.22 kg, somewhat higher than SPLP-derived estimates (0.960-1.16 kg).

The modestly higher thallium concentrations in Dallman Ash Pond's porewater compared to SPLP results arise from thallium's unique cationic geochemistry and subtle pH-dependent interactions. In SPLP's acidic environment (pH 4.2), thallium ($Tl^+$) competes with abundant $H^+$ ions for sorption sites on clay minerals and metal oxides, partially suppressing dissolution. Conversely, the alkaline porewater (pH 8–12) contains high concentrations of $Na^+$ and $K^+$ (common in coal ash leachates), which displace weakly adsorbed $Tl^+$ from exchange sites via ion competition, enhancing its solubility. This ion exchange effect, absent in SPLP's low-ionic-strength leachant, drives the small but consistent increase in porewater concentrations.

Thallium mobility in groundwater is governed by three key characteristics: 1) $Tl^+$ adsorbs moderately to clay/oxide surfaces ($K_d$ ~10–100 L/kg), but is readily displaced by $K^+/Na^+$; 2) unlike metals like lead, thallium lacks highly insoluble phases; and 3) Tl(I) dominates in most conditions, though oxidation to Tl(III) can occur in Mn-rich settings.

These traits allow thallium to migrate farther than strongly sorbed metals (e.g., lead) but not as conservatively as anions (e.g., molybdenum). Plumes typically extend 100–500 meters downgradient, attenuated gradually by adsorption. The SPLP slightly under predicts in-situ mobility because it fails to replicate the ion-rich porewater that liberates $Tl^+$ via competition. While the mass difference is small (~15%), porewater data better reflects actual flux, particularly in alkaline CCR impoundments where cation competition is pronounced. Long-term risks depend on downgradient potassium/sodium levels and pH stability.

Lakeside Ash Pond - SPLP/TCLP Results – Thallium

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 | J 0.0011 | < 0.002 | J 0.0019 | 0.0011 | 0.002 | 0.00186 |
| TCLP | mg/L | 0.0023 | 0.0041 | 0.0086 | 0.006 | J 0.0015 | 0.0199 | 0.0021 | 0.0015 | 0.0199 | 0.00636 |

Note:
J - Analyte detected below quantitation limits

The porewater volume of the surface impoundment is 351,572,000 L. Using an average concentration (0.00186 mg/L) the total mass of thallium is:

= 0.00186 mg/L x 351,572,000 L = 0.654 kg

Conservative estimate using the maximum concentration (0.002 mg/L) is:

= 0.002 mg/L x 351,572,000 L = 0.703 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum thallium leaching rate per metric ton of ash is:

= 0.654 kg / 430,324 metric tons = 0.00152 g Thallium/metric ton ash

= 0.703 kg / 430,324 metric tons = 0.00163 g Thallium/metric ton ash

Lakeside Ash Pond - Porewater Results – Thallium, total and dissolved

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | mg/L | 4/29/24 | < 0.04 | 0.0433 | J 0.0012 | < 0.1 | 0.0012 | 0.1 | 0.0461 |
| **Dissolved** | mg/L | 7/19/24 | < 0.002 | < 0.002 | < 0.002 | 0.0023 | 0.002 | 0.0023 | 0.00208 |
| **Total** | mg/L | 7/19/24 | J 0.001 | < 0.002 | 0.0055 | 0.0036 | 0.001 | 0.0055 | 0.00303 |

Note:
J - Analyte detected below quantitation limits

Using average porewater data for thallium, dissolved, the total mass is:

= 0.00208 mg/L x 351,572,000 L = 0.731 kg

Conservative estimate using the maximum concentration (0.0023 mg/L) is:

= 0.0023 mg/L x 351,572,000 L = 0.809 kg

Based upon a total ash mass in the surface impoundment of 430,324,128 kg (0.430 million metric tons), the average and maximum thallium leaching rate per metric ton of ash is:

= 0.731 kg / 430,324 metric tons = 0.00170 g Thallium/metric ton ash

= 0.809 kg / 430,324 metric tons = 0.00188 g Thallium/metric ton ash

Comparison of the porewater results with the SPLP estimate:

Lakeside Ash Pond - Results Comparison – Thallium

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Thallium Concentration** | 0.00186 mg/L | 0.00208 mg/L |
| **Total Thallium Mass** | 0.654 kg | 0.731 kg |

Similar to the Dallman Ash Pond, the concentrations of thallium in the Lakeside Ash Pond SPLP sample are approximately 11% lower compared to porewater results (0.00186 mg/L vs. 0.00208 mg/L). The total thallium mass in porewater is 0.731-0.809 kg, higher than SPLP-derived estimates (0.654-0.703 kg). See discussion above.

## 6.15 Radium 226 and 228 combined

The mass of radium 226 and radium 228 combined leachable from fly ash and bottom ash in a CCR surface impoundment was estimated from the solids and porewater analytical results.

The radium 226 and radium 228 CCR solids samples were analyzed using SW-846 Method 9315 and SW-846 Method 9320. Method 9315 is used to determine the concentrations of radium-226 (Ra-226) and radium-228 (Ra-228) in solid and aqueous environmental samples (e.g., soil, sediment, sludge, ash, and groundwater). Method 9320 is used to measure the concentration of radium-226 (Ra-226) in water samples (specifically drinking water, groundwater, and surface water).

The radium 226 and radium 228 CCR porewater samples were analyzed using EPA 903.0 and EPA 904.0, respectively.

Dallman Ash Pond - Results – Radium 226 and 228 combined

| | | D1 | D1 | D2 | D2 | D3 | D3 | D4 | D4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Method | Units | 19.5-21.5 | 36.5-38.5 | 19.5-21.5 | 33.5-35.5 | 4.5-6.5 | 14.5-29.5 | 19.5-21.5 | 29.5-31.5 | Min | Max | Avg |
| 9315/9320 | pCi/g | < 2 | < 2 | < 2 | < 2 | < 2 | | < 2 | < 2 | 2 | 2 | 2 |

The total mass of combined Radium-226 and Radium-228 in the surface impoundment is based on the given concentration in the ash solids. Given a radium-226 and radium-228 combined concentration of 2 pCi/g (in ash), and a total ash mass of 1,424,736,000 kg (1.42 million metric tons), the total radioactivity (pCi) is:

Total activity = Concentration x Mass of Ash

Total activity = 2000 pCi/kg x 1,424,736,000 kg = 2,849,472,000,000 pCi

Converting activity to mass (using Ra-226 specific activity = 1 Ci/g = $3.7 \times 10^{10}$ pCi/g):

Mass = 2,849,472,000,000 / $3.7 \times 10^{10}$ pCi/g = 0.0770 kg

The total combined mass of Radium-226 and Radium-228 in the ash is approximately 0.0770 kg. This assumes the entire 2 pCi/g is due to Ra-226 or an average radionuclide with similar specific activity. If Ra-228, with a much shorter half-life, were dominant, the mass would be even smaller.

Dallman Ash Pond - Porewater Results – Radium 226 and 228 combined

| Method | Units | Date | D1 | D2 | D3 | D4 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| 9320 | pci/L | 4/29/24 | < 1.43 | 6.81 | < 2.5 | < 3.34 | 1.43 | 6.81 | 3.52 |

The total mass of combined radium 226 and radium 228 in porewater is calculated using the total activity for the average combined concentration and the total activity:

Total activity = Concentration x Volume

Total activity = 3.52 pCi/L x 582,000,000 L = 2,048,640,000 pCi

For the maximum concentration (6.81 pCi/L) the total activity is:

Total activity = 6.81 pCi/L x 582,000,000 L = 3,963,420,000 pCi

Converting activity to mass (using Ra-226 equivalence):

Mass = 2,048,640,000 pCi / 3.7 x 1010 pCi/g = 0.0000554 kg

And for the maximum concentration:

Mass = 3,963,420,000 pCi / 3.7 x $10^{10}$ pCi/g = 0.000107 kg

The total combined mass of Radium-226 and Radium-228 in the ash is approximately 0.0000554 to 0.000107 kg. This assumes the specific activity of Ra-226; if Ra-228 dominates (which has a much higher specific activity due to its shorter half-life), the actual mass would be smaller.

Dallman Ash Pond - Results Comparison – Radium 226 and 228 combined

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Radium 226 and 228 combined Concentration** | 2 pCi/g | 3.52 pCi/L |
| **Total Radium 226 and 228 combined Mass** | 0.0770 kg | 0.0000554 kg |

The concentrations of radium 226 and 228 combined, in the SPLP and porewater samples are given in different units (pCi/kg and pCi/L, respectively). The total radium 226 and 228 combined mass in porewater is 0.0000554 kg, is significantly less than the SPLP-derived estimate (0.0770 kg).

The observed discrepancy in the total mass of radium-226 (Ra-226) and radium-228 (Ra-228) between the coal combustion residual (CCR) solids (fly ash and bottom ash) and the associated porewater reflects important geochemical and risk-based differences. These differences are

influenced by the mobility of radium in CCR environments and have direct implications for human health risk assessments. Solids Analysis (SW-846 Methods 9315 & 9320) shows significantly higher total mass of Ra-226 and Ra-228. Porewater Analysis (EPA Methods 903.0 & 904.0) shows much lower total radium mass. Based upon the evaluation, approximately 99% of total radium mass is retained in the solid phase.

The likely causes of the discrepancy include factors which limit radium mobility such as sorption and incorporation into solid matrix. Radium strongly adsorbs to iron and manganese oxides, aluminosilicates, and other mineral phases present in fly ash and bottom ash. In some cases, radium may be co-precipitated or structurally incorporated into solid phases (e.g., barium sulfate or carbonate minerals).

The geochemical conditions of CCR porewater that may contribute to this discrepancy include high pH typical of CCR porewater (>8.5–11). High pH promotes low radium solubility due to formation of insoluble hydroxides or competition with $Ca^{2+}$, $Ba^{2+}$, and $Sr^{2+}$ for exchange sites. Also, the redox environment and the absence of strong complexing agents also reduce Ra mobility.

Low partitioning to aqueous phase may also contribute to the discrepancy. The distribution coefficient (Kd) for radium in CCR environments is often high, meaning only a small fraction partitions to water.

Therefore, despite high solid-phase concentrations, porewater concentrations may remain low unless geochemical conditions shift.

Porewater concentrations are more representative of risk. Human exposure risk from CCR sites (particularly for groundwater users) is generally driven by dissolved-phase transport of contaminants—what can leach and migrate into drinking water supplies.

The solid-phase inventory is useful for understanding the long-term potential for release (i.e., source strength), but does not represent an immediate risk unless radium becomes mobilized.

The large mass of Ra-226 and Ra-228 in CCR solids demonstrates a substantial source term, but the very low porewater concentrations indicate limited current mobility under site conditions. From a risk assessment perspective, porewater concentrations are the more relevant and protective measure of human health risk, particularly for groundwater contamination pathways.

Lakeside Ash Pond – Results – Radium 226 and 228 combined

| Method | Units | L1 14.5-21.5 | L1 24.5-31.5 | L3 19.5-21.5 | L3 29.5-32.7 | L4 10-15.3 | L5 19.5-21.5 | L5 32.5-35.2 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPLP | pCi/g | < 2 | < 2 | < 2 | < 2 | < 2 | < 3.31 | < 3.55 | 2 | 3.55 | 2.41 |

Given a radium-226 and radium-228 combined average concentration of 2.41 pCi/g (in ash), and a total ash mass of 430,324,128 kg (0.430 million metric tons), the total radioactivity (pCi) is:

Total activity = 2,410 pCi/kg x 430,324,128 kg = 1,037,081,148,000 pCi

For the maximum combined radium 226 and radium 228 concentration (3.55 pCi/kg), the total activity is:

Total activity = 3,550 pCi/kg x 430,324,128 kg = 1,527,650,654,000 pCi

The mass calculation assumes an average effective specific activity for radium-226:

Mass = 1,037,081,148,000 pCi / 3.7 x $10^{10}$ pCi/g = 0.0280 kg

And for the maximum combined radium-226 and radium-228 concentration (3.55 pCi/kg), the mass is:

Mass = 1,527,650,654,000 pCi / 3.7 x $10^{10}$ pCi/g = 0.0413 kg

The total combined mass of Radium-226 and Radium-228 in the ash is approximately 0.0280 kg to 0.0413 kg. This assumes the entire combined mass of radium-226 and radium-228 is due to Ra-226 or an average radionuclide with similar specific activity. If Ra-228, with a much shorter half-life, were dominant, the mass would be even smaller.

Lakeside Ash Pond - Porewater Results – Radium 226 and 228 combined

| Method | Units | Date | L1 | L3 | L4 | L5 | Min | Max | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Porewater | pci/L | 4/29/24 | < 1.25 | 2.5 | 1.05 | 17.7 | 1.05 | 17.7 | 5.64 |

The total mass of combined radium 226 and radium 228 in porewater is calculated using the total activity for the average combined concentration and the total activity:

Total activity = 5.64 pCi/L x 351,572,000 L = 1,982,866,080 pCi

For the maximum combined radium 226 and radium 228 concentration (17.7 pCi/L), the total activity is:

Total activity = 17.7 pCi/L x 351,572,000 L = 6,222,824,400 pCi

Since the activity is combined, the combined mass is calculated assuming an average effective specific activity for radium-226:

Mass = 1,982,866,080 pCi / 3.7 x 1010 pCi/g = 0.0000536 kg

And for the maximum combined radium-226 and radium-228 concentration, the mass is:

Mass = 6,222,824,400 pCi / 3.7 x $10^{10}$ pCi/g = 0.000168 kg

The total combined mass of Radium-226 and Radium-228 in the ash is approximately 0.0000536 kg to 0.000168 kg. This assumes the specific activity of Ra-226; if Ra-228 dominates (which has a much higher specific activity due to its shorter half-life), the actual mass would be smaller.

Lakeside Ash Pond - Results Comparison – Radium 226 and 228 combined

| Parameter | SPLP | Porewater |
|---|---|---|
| **Average Radium 226 and 228 combined Concentration** | 2.41 pCi/kg | 5.64 pCi/L |
| **Total Radium 226 and 228 combined Mass** | 0.0280 kg | 0.0000536 kg |

The concentrations of radium 226 and 228 combined, in the solids and porewater analytical results are given in different units (pCi/kg and pCi/L, respectively) and cannot be directly compared. The total radium 226 and 228 combined mass in porewater is 0.0000536-0.000168 kg, and significantly less than that calculated for the solids derived estimate (0.0280-0.0413 kg). See discussion above.

# 7. MASS OF ARSENIC AND COBALT IN THE BASAL SAND PLUME

The quantity of total arsenic and total cobalt in the basal sand plume is calculated as the dissolved mass within the specified plume area where concentrations exceed the groundwater protection standard (total arsenic = 0.0239 mg/L and total cobalt = 0.006 mg/L). This uses the following formula for dissolved contaminants in groundwater:

Mass (M) = Plume area (A) x Aquifer thickness (b) x Total Porosity (n) x Average plume concentration (C)

Given:

Plume area (A) = area of the plume where concentrations exceed the groundwater protection standard; 8 consecutive quarters of groundwater analytical data was collated for the parameters total arsenic and total cobalt (see Table 2 and Table 3, respectively). This data was used to calculate the averages for total arsenic and total cobalt concentrations. The average values were

used to generate plume maps for total arsenic and total cobalt (See Figure 3 and Figure 4, respectively). Using the design and geological data, the areas of each plume were determined;

- for total arsenic > 0.0239 mg/L = 241,780 ft² = 22,462 m² (see Figure 3);
- for total cobalt > 0.006 mg/L = 192,776 ft² = 17,909 m² (see Figure 4).

Aquifer thickness (b) = 4.3 feet or 1.31 m; (average based on basal sand range of 0–16.9 feet from site data; an average values is assumed as a conservative estimate for the plume-bearing zone, as the unit is not consistent but is the primary migration pathway).

Total Porosity (n) = 0.437; for the basal sand, the total porosity is based on the saturation water content of sand (0.437)(Rawls et al., 1982).

Average plume concentration (C) = Average concentration of contaminant of concern within the plume area;

- for total arsenic = 0.136 mg/L = 0.136 g/m³ (see Figure 3); Average of values at wells AP8 (0.0426 mg/L) and well RW3 (0.229 mg/L) within arsenic plume area
- for total cobalt = 0.00801 mg/L = 0.00801 g/m³ (see Figure 4); Average of values at wells AP2A (0.00976 mg/L) and AP3 (0.00626 mg/L) within cobalt plume area.

Total Arsenic Mass

Pore volume = A × b × n = 22,462 m² × 1.31 m × 0.437 = 12,859 m³

Total mass = 12,859 m³ × 0.136 g/m³ = 1746 g = 1.746 kg

For the excess mass above the standard (using $C_{excess}$ = 0.136 – 0.0239 = 0.112 mg/L = 0.112 g/m³):

Excess mass = 12,859 m³ × 0.112 g/m³ = 1,439 g = 1.439 kg

Using the average concentration, the approximate mass of total arsenic in the plume area that exceeds the groundwater protection standard (0.0239 mg/L) is 1.439 kg.

Total Cobalt Mass

Pore volume = A × b × n = 17,909 m² × 1.31 m × 0.437 = 10,253 m³

Total mass = 10,253 m³ × 0.00801 g/m³ = 82 g = 0.082 kg

For the excess mass above the standard (using $C_{excess}$ = 0.00801 - 0.006 = 0.002 mg/L = 0.002 g/m³):

Excess mass = 17,909 m³ × 0.002 g/m³ = 21 g = 0.021 kg.

Using the average concentration, the approximate mass of total cobalt in the plume area that exceeds the groundwater protection standard (0.006 mg/L) is 0.021 kg.

# 8. CONCLUSIONS

Based upon an evaluation of the analytical data from the review period (first quarter 2022 through fourth quarter 2024) there were exceedances of the groundwater protection standards for arsenic at wells AW-1, RW-3, AP-7, and AP-8 and cobalt at wells AP-2A and AP-3. While the source of the arsenic and cobalt exceedances at wells adjacent to the CCR surface impoundments is likely due to leaching of the CCR, the spatial distribution of the impacts at wells north and west of Sugar Creek indicates the source is more likely attributed to other natural and/or anthropogenic sources.

The nature and extent of arsenic exceedances along the north side of the Dallman Ash Pond at wells AW-1, RW-3, AP-7, and AP-8 have been characterized. Advection appears to be the primary transport mechanism due to sustained groundwater flow, while diffusion is negligible because large, dilute plumes generate weak concentration gradients. At well AW-1, the limits of arsenic exceedances are delineated by the arsenic concentrations at G120, P06D, and R111. The arsenic exceedances at RW-3 are delineated by well AP-6. At well AP-7, the arsenic exceedances appear to be the result of natural spatial variability or influences from other sources north of the impoundments. Bedrock contours and potentiometric surface data indicate groundwater converges on Sugar Creek with groundwater flow to the south, north of Sugar Creek and groundwater flow to the north, south of Sugar Creek. At well AP-8 the nature and extent of the arsenic exceedances are defined by well T-4. The wells (i.e., T-4, T-5, T-6, and AP-7) utilized in the evaluation of arsenic are all north of Sugar Creek, Wells AP-6 and RW-3 are located south of Sugar Creek.

Along the west side of the Dallman Ash Pond, the nature and extent of the cobalt exceedances at AP-2A and AP-3 are characterized by the cobalt concentrations at wells located west of Sugar Creek (i.e., AP-11, AP-12, and T-2). The cobalt exceedances at wells AP-2A and AP-3 may be related to the CCR surface impoundments; however, the concentrations of cobalt at wells AP-11, AP-12, and T-2 appears to be related to natural spatial variability or influences from other sources west of the impoundments. Bedrock contours and potentiometric surface data indicate groundwater converges on Sugar Creek with groundwater flow to the east, west of Sugar Creek and groundwater flow to the west, east of Sugar Creek.

Evaluation of porewater and synthetic precipitation leaching procedure (SPLP) analytical results provides important insight into the environmental mobility of arsenic and cobalt in the ash ponds. In the Dallman Ash Pond, the average arsenic concentration in porewater (0.124 mg/L) is approximately 84% higher than the SPLP concentration (0.0194 mg/L). Correspondingly, the estimated total arsenic mass in porewater (72.2–99.5 kg) is substantially greater than SPLP-derived estimates (11.3–27.4 kg). In the Lakeside Ash Pond, the average arsenic concentration in porewater (0.137 mg/L) is approximately 87% higher than in SPLP samples (0.0172 mg/L), and the estimated arsenic mass in porewater (48.2–159 kg) similarly exceeds SPLP-derived estimates (6.05–11.6 kg). These findings suggest that site-specific porewater conditions—characterized by elevated pH and potentially reducing environments—enhance arsenic solubility and mobility, conditions not replicated under SPLP's acidic leaching environment. As a result, SPLP may under predict the mass and leachability of arsenic from CCR under field-relevant conditions.

In the Dallman Ash Pond, the average porewater cobalt concentrations (0.00425 mg/L) are about 29% lower than SPLP results (0.006 mg/L), yielding comparable mass estimates (2.47–3.61 kg for porewater vs. 3.49 kg SPLP-derived). In the Lakeside Ash Pond, porewater cobalt concentrations (0.0086 mg/L) are approximately 30% higher than SPLP concentrations (0.006 mg/L), with estimated mass in porewater (3.02–6.82 kg) slightly exceeding SPLP-derived estimates (2.11 kg). The modest but notable differences between porewater and SPLP cobalt data highlight some influence of site geochemical conditions, though cobalt appears to be less sensitive to pH-driven mobilization than arsenic.

Taken together, the significantly higher arsenic concentrations and mass estimates in CCR porewater compared to SPLP data indicate that arsenic is mobilized under field conditions present within the ash ponds and that these conditions are not well captured by laboratory leaching tests. This supports the conclusion that arsenic observed in groundwater at wells adjacent to the impoundments is likely at least partially attributable to leaching from CCR materials.

In contrast, cobalt exhibits smaller differences between porewater and SPLP results, suggesting that while leaching may occur, it may be less dependent on the site-specific geochemical conditions. Nonetheless, given the presence of statistically significant exceedances near the impoundments and measurable cobalt mass in porewater, CCR leaching remains a plausible source for observed cobalt concentrations in groundwater near the ash ponds.

Accordingly, the combined assessment of groundwater exceedances, hydrogeologic conditions, and constituent leaching behavior supports the conclusion that leachate originating from CCR units is a likely contributor to the observed arsenic and cobalt concentrations in certain downgradient wells. The quantities of total arsenic (~1.44 kg excess) and total cobalt (~0.021 kg excess) released from the Dallman and Lakeside Ash Ponds into the basal sand are small relative to leachable masses in the impoundments (~63-130 kg arsenic; ~4.7 kg cobalt), reflecting effective containment by low-permeability cohesive deposits and semi-confined conditions.

Releases are limited to localized plumes in the basal sand, driven by downward gradients but attenuated by adsorption and low hydraulic conductivities. No releases to the shallow sand occur due to its discontinuity, vertical separation, and lack of pathways. Overall, the site hydrogeology minimizes off-site migration, with radium and other constituents similarly retained; ongoing monitoring and closure activities (e.g., dewatering) will further reduce risks by eliminating hydraulic heads. Continued assessment monitoring and corrective measures evaluation under 40 CFR § 257.95 are warranted to ensure protection of groundwater resources and inform closure strategy implementation.

The assessment of corrective measures per 40 CFR 257.95(g)(1) for the Appendix IV constituents identified as exhibiting Statistically Significant Levels (SSLs) identified in the February 13, 2025 Groundwater Protection Standards Report (GWPS Report) has been completed. The nature and extent of the Appendix IV exceedances are not expected to affect the proposed closure of the CCR surface impoundments (i.e., the selected remedy).

This report has provided a discussion of relevant site conditions necessary to characterize the nature and extent of the Appendix IV exceedances and any conditions that may affect the proposed closure of the CCR surface impoundments. Characterization of the release includes:

- A groundwater monitoring well network that adequately characterizes groundwater flow and the Appendix IV exceedances; and,
- A summary of analytical results for Appendix IV constituents and comparison to the established groundwater protection standards.

Assessment monitoring shall continue as specified in the Groundwater Monitoring Program.

# 9. ENGINEERING CERTIFICATION

The owner or operator of a coal combustion residual unit must obtain a certification from a qualified professional engineer that the Nature and Extent Report has been completed pursuant to 40 C.F.R. § 257.95(g)(3)(ii) and Paragraphs 268 and 270 of the Consent Agreement and Final Order.

The engineering certification for the groundwater monitoring system follows.

# QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I, Karl W. Finke, a qualified professional engineer in good standing in the State of Illinois, certify that the information in this report is presented pursuant to 40 CFR 257.95(g)(3)(ii) and Paragraphs 268 and 270 of the Consent Agreement and Final Order, is accurate as of the date of my signature below. The content of this report is not to be used for other than for its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.

Signature: _____

Illinois P.E. No: 062-068571

Date: September 22, 2025

License Expiration: November 30, 2025

# TABLES

Table 1: Groundwater Analytical Summary Data
Table 2: Total Arsenic Summary Table
Table 3: Total Cobalt Summary Table

# TABLE 1:
## Groundwater Analytical Summary Data

**Table 1**
**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Summary of Exceedances**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Appendix III** | | | | | | | | | | | | | | | | | | |
| AP-1 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 22.3 | 23.1 | 22.1 | 21.4 | 23.2 | 21.2 | 22.5 | 21.7 | 23.5 | 22.7 | 22.9 | 23.6 |
| AP-2 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 4.68 | 4.25 | 4.32 | 4.08 | 3.94 | 3.7 | 3.73 | 3.23 | 3.38 | 3.43 | 3.1 | 3.52 |
| AP-3 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 15.8 | 14.7 | 14.8 | 14.6 | 14.5 | 14.3 | 14 | 15.2 | 14.8 | 14.5 | 14.6 | 14.9 |
| AP-6 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.247 | 0.275 | 0.0716 | 0.166 | 0.13 | 0.174 | 0.0753 | 0.214 | 0.171 | 0.238 | 0.25 | 0.248 |
| AP-7 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.381 | 0.339 | 0.204 | 0.26 | 0.18 | 0.391 | 0.141 | 0.331 | 0.173 | 0.0978 | 0.244 | 0.332 |
| AP-10 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | 3.58 | 3.52 | 3.35 | 3.32 | 3.76 | 3.81 | 3.6 | 3.71 | 3.92 | 3.9 | 3.95 |
| AP-11 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.276 | 0.271 | 0.0533 | 0.261 | 0.282 | 0.241 | 0.24 | 0.256 | 0.232 | 0.0555 | 0.211 | 0.261 |
| AP-13 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.0403 | 0.0375 | 0.268 | 0.044 | 0.0485 | 0.0328 | 0.0235 | 0.0386 | 0.0356 | 0.0343 | 0.0357 | < 0.02 |
| AP-14 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 23.1 | 23.3 | 21.8 | 21.3 | 21.3 | 23 | 22.6 | 22.1 | 21.6 | 22.3 | 20 | 21 |
| AW-1 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | 8.24 | 7.78 | | | 8.39 | | 8.66 | 8.24 | 9.44 | 9.19 | 8.91 |
| RW-3 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.179 | 0.196 | 0.177 | 0.192 | 0.175 | 0.186 | 0.0595 | 0.117 | 0.116 | 0.154 | 0.122 | 0.137 |
| R111 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 4.19 | | 0.104 | | | 4.64 | 3.89 | 0.102 | < 0.02 | 0.901 | 3.5 | 4.19 |
| G120 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | 6.19 | 5.85 | | | 6.92 | | 7.15 | 7.12 | 7.43 | 7.71 | 7.5 |
| T-1 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.227 | 0.141 | 0.15 |
| T-2 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.189 | 0.0718 | 0.0507 |
| T-6 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.201 | 0.214 | 0.21 |
| AP-1 | Calcium, total | mg/L | 181.6 | | | **181.6** | 245 | 243 | 239 | 242 | 230 | 242 | 285 | 229 | 250 | 248 | 244 | 237 |
| AP-2 | Calcium, total | mg/L | 181.6 | | | **181.6** | 265 | 236 | 241 | 248 | 217 | 210 | 244 | 204 | 210 | 194 | 206 | 222 |
| AP-3 | Calcium, total | mg/L | 181.6 | | | **181.6** | 150 | 152 | 157 | 160 | 161 | 168 | 189 | 181 | 177 | 176 | 175 | 185 |
| AP-11 | Calcium, total | mg/L | 181.6 | | | **181.6** | 127 | 149 | 102 | 141 | 169 | 145 | 118 | 134 | 150 | 217 | 126 | 124 |
| AP-12 | Calcium, total | mg/L | 181.6 | | | **181.6** | 201 | 287 | 266 | 260 | 265 | 269 | 271 | 268 | 228 | 240 | 258 | 203 |
| AP-14 | Calcium, total | mg/L | 181.6 | | | **181.6** | 225 | 215 | 217 | 236 | 209 | 233 | 235 | 278 | 263 | 245 | 237 | 253 |
| AW-1 | Calcium, total | mg/L | 181.6 | | | **181.6** | | 195 | | | | 191 | | 197 | 203 | 200 | 186 | 193 |
| G120 | Calcium, total | mg/L | 181.6 | | | **181.6** | | 263 | | | | 274 | | 257 | 265 | 259 | 240 | 263 |
| T-1 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 105 | 183 | 172 |
| T-2 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 150 | 218 | 211 |
| AP-1 | Chloride, total | mg/L | 12.3 | | | **12.3** | 55 | 59 | 44 | 61 | 58 | 60 | 36 | 53 | 54 | 29 | 59 | 52.1 |
| AP-2 | Chloride, total | mg/L | 12.3 | | | **12.3** | 36 | 35 | 34 | 34 | 36 | 37 | 54 | 40 | 39 | 36 | 39 | 35.1 |
| AP-3 | Chloride, total | mg/L | 12.3 | | | **12.3** | 42 | 42 | 47 | 55 | 60 | 59 | 51 | 57 | 54 | 53 | 55.9 | 59.5 |
| AP-4 | Chloride, total | mg/L | 12.3 | | | **12.3** | 12 | 16 | 13 | 14 | 14 | 14 | 13 | 14 | 13 | 13 | 15 | 12.3 |
| AP-6 | Chloride, total | mg/L | 12.3 | | | **12.3** | 35 | 38 | 25 | 31 | 27 | 31 | 28 | 33 | 30 | 33 | 37 | 34.5 |
| AP-7 | Chloride, total | mg/L | 12.3 | | | **12.3** | 64 | 66 | 36 | 58 | 45 | 70 | 39 | 60 | 42 | 43 | 50 | 62.1 |
| AP-8 | Chloride, total | mg/L | 12.3 | | | **12.3** | 26 | 28 | 27 | 26 | 26 | 26 | 25 | 25 | 24 | 26 | 35 | 23.2 |
| AP-9 | Chloride, total | mg/L | 12.3 | | | **12.3** | 24 | 64 | 30 | 27 | 36 | 60 | 28 | 26 | 25 | 39 | 29 | 23.6 |
| AP-10 | Chloride, total | mg/L | 12.3 | | | **12.3** | | 29 | 28 | 28 | 27 | 28 | 28 | 27 | 27 | 27 | 30 | 25.7 |
| AP-11 | Chloride, total | mg/L | 12.3 | | | **12.3** | 83 | 119 | 29 | 105 | 140 | 123 | 79 | 90 | 122 | 429 | 90 | 91 |
| AP-12 | Chloride, total | mg/L | 12.3 | | | **12.3** | 113 | 162 | 143 | 147 | 140 | 142 | 139 | 124 | 115 | 121 | 136 | 120 |
| AP-13 | Chloride, total | mg/L | 12.3 | | | **12.3** | 35 | 27 | 103 | 26 | 29 | 26 | 26 | 27 | 27 | 26 | 27 | 25.8 |
| AP-14 | Chloride, total | mg/L | 12.3 | | | **12.3** | 49 | 52 | 59 | 65 | 59 | 71 | 73 | 89 | 82 | 83 | 92 | 94 |
| AW-1 | Chloride, total | mg/L | 12.3 | | | **12.3** | | 40 | | | | 41 | | 40 | 40 | 40 | 41 | 37.3 |
| RW-3 | Chloride, total | mg/L | 12.3 | | | **12.3** | 29 | 31 | 31 | 30 | 29 | 32 | 28 | 31 | 27 | 28 | 29 | 25.1 |
| R111 | Chloride, total | mg/L | 12.3 | | | **12.3** | 202 | | 25 | | | 219 | | < 4 | 6 | 22 | 185 | 202 |
| G120 | Chloride, total | mg/L | 12.3 | | | **12.3** | | 40 | | | | 40 | | 40 | 39 | 39 | 41 | 37.4 |
| T-1 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | 49 | 259 | 233 |
| T-2 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | 173 | 447 | 509 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**Table 1**
**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Summary of Exceedances**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T-6 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | 21 | 24 | 19.4 |
| AP-1 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.57 | 6.58 | 6.65 | 6.68 | 6.6 | 6.52 | 6.51 | 6.71 | 6.51 | 6.31 | 6.7 | 6.54 |
| AP-2 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.43 | 6.43 | 6.45 | 6.52 | 6.46 | 6.44 | 6.4 | 6.57 | 6.41 | 6.21 | 6.58 | 6.41 |
| AP-3 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.6 | 6.58 | 6.6 | 6.65 | 6.58 | 6.64 | 6.53 | 6.69 | 6.55 | 6.36 | 6.2 | 6.48 |
| AP-9 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.47 | 6.63 | 6.92 | 6.83 | 6.85 | 6.69 | 6.88 | 6.81 | 6.82 | 6.75 | 6.89 | 6.8 |
| AP-10 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | 6.69 | 6.7 | 6.76 | 6.58 | 6.68 | 6.57 | 6.82 | 6.65 | 6.54 | 6.53 | 6.73 |
| AP-11 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.57 | 6.51 | 6.61 | 6.64 | 6.42 | 6.45 | 6.64 | 6.6 | 6.45 | 6.75 | 6.44 | 6.66 |
| AP-12 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.53 | 6.44 | 6.56 | 6.6 | 6.47 | 6.43 | 6.57 | 6.62 | 6.53 | 6.52 | 6.43 | 6.59 |
| AP-13 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.71 | 6.59 | 6.76 | 6.79 | 6.62 | 6.54 | 6.66 | 6.74 | 6.73 | 6.7 | 6.59 | 6.67 |
| AP-14 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.93 | 6.95 | 6.94 | 7.05 | 6.69 | 6.97 | 6.93 | 7.06 | 6.93 | 6.95 | 6.76 | 6.93 |
| AW-1 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.67 | 6.66 | 6.64 | 6.83 | 6.54 | 6.47 | 6.51 | 6.54 | 6.55 | 6.58 | 6.58 | 6.56 |
| RW-3 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.27 | 7.2 | 7.11 | 7.21 | 6.15 | 7.06 | 7.13 | 7.31 | 7.1 | 6.7 | 7.23 | 7.13 |
| R111 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 5.96 | 6.86 | 6.92 | 6.81 | 7.69 | 6.97 | 6.91 | 6.42 | 6.14 | 6.01 | 6.84 | 5.96 |
| G120 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.77 | 6.73 | 6.7 | 6.7 | 6.62 | 6.54 | 6.79 | 6.78 | 6.47 | 6.65 | 6.81 | 6.55 |
| T-1 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.57 | 6.51 | 6.57 |
| T-2 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.51 | 6.37 | 6.54 |
| T-4 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.31 | 6.68 | 6.65 |
| T-5 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.62 | 6.86 | 6.82 |
| T-6 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.56 | 6.77 | 6.97 |
| AP-1 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 732 | 791 | 753 | 777 | 56.8 | 768 | 443 | 740 | 790 | 805 | 836 | 849 |
| AP-2 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 583 | 532 | 545 | 643 | 485 | 462 | 795 | 380 | 393 | 411 | 417 | 440 |
| AP-3 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 410 | 408 | 384 | 444 | 461 | 483 | 467 | 495 | 512 | 493 | 554 | 558 |
| AP-5 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 57 | 35 | 66 | 36 | 37 | 44 | 43 | 45 | 50 | 43 | 63 | 59.2 |
| AP-9 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 23 | 57 | 27 | 28 | 38 | 64 | 24 | 23 | 23 | 22 | 25 | 17.7 |
| AP-10 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | 86 | 87 | 96 | 96 | 100 | 100 | 91 | 96 | 100 | 108 | 89.4 |
| AP-11 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 67 | 88 | 120 | 89 | 105 | 89 | 65 | 81 | 89 | 134 | 77 | 63.4 |
| AP-12 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 402 | 678 | 607 | 691 | 641 | 659 | 632 | 563 | 460 | 499 | 612 | 457 |
| AP-13 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 134 | 135 | 64 | 142 | 133 | 146 | 139 | 151 | 118 | 140 | 135 | 121 |
| AP-14 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 670 | 681 | 639 | 736 | 699 | 707 | 714 | 806 | 679 | 740 | 821 | 909 |
| AW-1 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | 344 | | | | 399 | | 384 | 369 | 401 | 406 | 388 |
| G120 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | 464 | | | | 500 | | 555 | 503 | 535 | 534 | 565 |
| T-1 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 36 | 236 | 224 |
| T-2 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 135 | 181 | 142 |
| T-4 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 87 | 100 | 104 |
| AP-1 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1490 | 1550 | 1550 | 1540 | 7.4 | 1540 | 1190 | 1360 | 1400 | 1490 | 1530 | 1640 |
| AP-2 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1310 | 1270 | 1360 | 1310 | 1180 | 1100 | 1600 | 1020 | 1020 | 1040 | 1110 | 1160 |
| AP-3 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 882 | 942 | 1030 | 920 | 1040 | 984 | 990 | 1080 | 935 | 1040 | 1170 | 1160 |
| AP-9 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 224 | 618 | 565 | 595 | 586 | 638 | 515 | 524 | 530 | 535 | 558 | 740 |
| AP-10 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | 752 | 755 | 730 | 778 | 756 | 725 | 732 | 745 | 720 | 796 | 790 |
| AP-11 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 606 | 778 | 550 | 625 | 820 | 726 | 670 | 640 | 665 | 1780 | 596 | 686 |
| AP-12 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 998 | 1600 | 1540 | 1440 | 1440 | 1580 | 1640 | 1320 | 1290 | 1620 | 1670 | 1300 |
| AP-13 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 486 | 530 | 690 | 525 | 495 | 538 | 530 | 465 | 500 | 910 | 560 | 655 |
| AP-14 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1240 | 1340 | 1390 | 1380 | 1280 | 1330 | 1480 | 1440 | 1510 | 1480 | 1610 | 1840 |
| AW-1 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1080 | 1060 | 1090 | 1100 | 1150 | | | 1220 | 1120 | 1010 | 1190 | 1100 |
| RW-3 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1030 | 428 | 428 | 425 | 420 | | 290 | 340 | 335 | 345 | 344 | 470 |
| R111 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 875 | 135 | 805 | 118 | 110 | | | 68 | 78 | 525 | 832 | 875 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**Table 1**
**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Summary of Exceedances**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G120 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1360 | 1440 | 1420 | 1400 | 1450 | | | 1390 | 1320 | 1320 | 1450 | 1430 |
| T-1 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 700 | 1020 | 1060 |
| T-2 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 1060 | 1430 | 1580 |
| T-4 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 255 | 382 | 695 |
| **Appendix IV** | | | | | | | | | | | | | | | | | | |
| AP-4 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.0306 | < 0.025 | 0.0309 | 0.027 | < 0.025 | 0.025 | 0.0239 | 0.0225 | 0.0375 | 0.0229 | 0.0207 | 0.0246 |
| AP-7 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | 0.0468 | 0.0376 | < 0.025 | < 0.025 | 0.0462 | 0.0412 | 0.075 | 0.0555 | 0.0395 | 0.0438 | 0.0947 |
| AP-8 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.0319 | 0.0352 | 0.0377 | 0.034 | 0.0336 | 0.0348 | 0.0513 | 0.0395 | 0.0426 | 0.0461 | 0.0414 | 0.0386 |
| AW-1 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | 0.148 | 0.192 | | | 0.152 | | 0.208 | 0.16 | 0.153 | 0.129 | 0.168 |
| RW-3 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.178 | 0.109 | 0.11 | 0.142 | 0.169 | 0.185 | 0.0831 | 0.74 | 0.306 | 0.188 | 0.107 | 0.214 |
| AW-1 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | 0.64 | | | | 0.622 | | 1.96 | 2.02 | 1.48 | 0.602 | 0.446 |
| AP-2 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | 0.0102 | 0.0089 | 0.0115 | 0.0111 | 0.0091 | 0.0102 | 0.0085 | 0.0091 | 0.0068 | 0.0102 | 0.0073 | 0.0085 |
| AP-3 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | 0.0054 | < 0.005 | 0.0054 | < 0.005 | 0.0051 | < 0.005 | 0.0065 | 0.0071 | < 0.005 |
| AP-11 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | 0.005 | 0.0061 | 0.011 | < 0.005 | 0.0055 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-12 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | 0.0143 | 0.0077 | 0.0219 | 0.007 | < 0.005 | < 0.005 | < 0.005 | 0.0236 | < 0.005 | 0.0054 | < 0.005 | < 0.005 |
| AP-13 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | 0.0215 | 0.021 | < 0.005 | < 0.005 | < 0.005 | 0.0127 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| T-1 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | < 0.005 | 0.0063 | < 0.005 |
| T-2 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | 0.0075 | < 0.005 | < 0.005 |
| AP-12 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | 0.0225 | < 0.015 | 0.0228 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | 0.0161 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-13 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | 0.0163 | 0.0177 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-14 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | 0.0189 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

# TABLE 2:
## Total Arsenic Summary Table

Table 2: Total Arsenic Summary Table

| Well ID | Parameter | Units | GWPS | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 | 2025-Q1 | 2025-Q2 | 2025-Q3 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Arsenic, total | mg/L | 0.0239 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.001 |
| AP-10 | Arsenic, total | mg/L | 0.0239 | < 0.001 | 0.0011 | < 0.001 | < 0.001 | 0.0011 | < 0.001 | 0.0015 | 0.0012 | 0.00111 |
| AP-11 | Arsenic, total | mg/L | 0.0239 | < 0.001 | < 0.001 | 0.0037 | < 0.001 | < 0.001 | 0.0015 | < 0.001 | < 0.001 | 0.00140 |
| AP-12 | Arsenic, total | mg/L | 0.0239 | 0.0149 | 0.0013 | 0.0038 | 0.0015 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.00319 |
| AP-13 | Arsenic, total | mg/L | 0.0239 | 0.0075 | 0.0028 | 0.0032 | 0.0029 | 0.0038 | < 0.001 | 0.0032 | 0.002 | 0.00330 |
| AP-14 | Arsenic, total | mg/L | 0.0239 | 0.0036 | 0.0039 | 0.0019 | 0.0016 | 0.0022 |  | 0.0017 | 0.0011 | 0.00229 |
| AP-2 | Arsenic, total | mg/L | 0.0239 | 0.002 | 0.0027 | 0.002 | 0.0031 | 0.0016 | 0.0022 | 0.0013 | 0.0014 | 0.00204 |
| AP-3 | Arsenic, total | mg/L | 0.0239 | 0.0182 | 0.0101 | 0.0021 | 0.008 | 0.0182 | 0.0137 | 0.0103 | 0.016 | 0.0121 |
| AP-4 | Arsenic, total | mg/L | 0.0239 | 0.0225 | 0.0375 | 0.0229 | 0.0207 | 0.0246 | 0.021 | 0.0223 | 0.0248 | 0.0245 |
| AP-5 | Arsenic, total | mg/L | 0.0239 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.00100 |
| AP-6 | Arsenic, total | mg/L | 0.0239 | 0.0183 | 0.0068 | 0.0121 | 0.0074 | 0.0108 | 0.012 | 0.0037 | 0.0068 | 0.00974 |
| AP-7 | Arsenic, total | mg/L | 0.0239 | 0.075 | 0.0555 | 0.0395 | 0.0438 | 0.0947 | 0.0248 | 0.0289 | 0.0289 | 0.0489 |
| AP-8 | Arsenic, total | mg/L | 0.0239 | 0.0395 | 0.0426 | 0.0461 | 0.0414 | 0.0386 | 0.0487 | 0.0446 | 0.0389 | 0.0426 |
| AP-9 | Arsenic, total | mg/L | 0.0239 | 0.0062 | 0.0037 | 0.0024 | 0.0028 | 0.0019 | 0.0023 | 0.0014 | 0.0013 | 0.00275 |
| AW-1 | Arsenic, total | mg/L | 0.0239 | 0.208 | 0.16 | 0.153 | 0.129 | 0.168 | 0.146 | 0.0016 | 0.0098 | 0.122 |
| AW-2 | Arsenic, total | mg/L | 0.0239 | 0.0266 | 0.0235 | 0.0175 | 0.018 | 0.013 | 0.0017 | 0.0166 | 0.011 | 0.0160 |
| G110 | Arsenic, total | mg/L | 0.0239 | 0.0053 | 0.0057 | 0.0058 | 0.0046 | 0.0058 | 0.0044 | 0.0047 |  | 0.00519 |
| G112 | Arsenic, total | mg/L | 0.0239 | 0.0021 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.001 | < 0.001 |  | 0.00116 |
| G113 | Arsenic, total | mg/L | 0.0239 | < 0.001 | 0.0029 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |  | 0.00127 |
| G120 | Arsenic, total | mg/L | 0.0239 | 0.0162 | 0.0116 | 0.0121 | 0.0104 | 0.0119 | 0.0113 | 0.0114 | 0.0115 | 0.0121 |
| G121 | Arsenic, total | mg/L | 0.0239 | 0.0221 | 0.0173 | 0.0146 | 0.0084 | 0.016 | 0.0169 | 0.018 | 0.0044 | 0.0147 |
| G122 | Arsenic, total | mg/L | 0.0239 | 0.0046 | 0.0028 | 0.0035 | 0.0019 | 0.0029 | 0.001 | 0.0027 | 0.0029 | 0.00279 |
| GP7 | Arsenic, total | mg/L | 0.0239 |  |  |  |  |  |  |  | 0.0072 | 0.00720 |
| P03D | Arsenic, total | mg/L | 0.0239 |  |  |  |  |  |  |  | 0.0017 | 0.00170 |
| P04D | Arsenic, total | mg/L | 0.0239 |  |  |  |  |  |  |  | 0.0027 | 0.00270 |
| P07D | Arsenic, total | mg/L | 0.0239 |  |  |  | 0.0394 | 0.036 | 0.0276 | 0.0324 | 0.0255 | 0.0322 |
| P103 | Arsenic, total | mg/L | 0.0239 |  |  |  |  |  |  |  | 0.0018 | 0.00180 |
| P104 | Arsenic, total | mg/L | 0.0239 |  |  |  |  |  |  |  | 0.0055 | 0.00550 |
| R101 | Arsenic, total | mg/L | 0.0239 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0021 | < 0.001 | 0.00114 |
| R111 | Arsenic, total | mg/L | 0.0239 | 0.0019 | 0.0015 | 0.0175 | 0.0166 | 0.0185 | 0.0156 | 0.0215 |  | 0.0133 |
| RW-3 | Arsenic, total | mg/L | 0.0239 | 0.74 | 0.306 | 0.188 | 0.107 | 0.214 | 0.0961 | 0.0808 | 0.103 | 0.229 |
| T-1 | Arsenic, total | mg/L | 0.0239 |  |  | < 0.001 | 0.0048 | 0.0019 | 0.0023 | < 0.001 | 0.0016 | 0.00210 |
| T-2 | Arsenic, total | mg/L | 0.0239 |  |  | 0.0023 | 0.0053 | 0.006 | 0.0073 | 0.0056 | 0.0068 | 0.00555 |
| T-4 | Arsenic, total | mg/L | 0.0239 |  |  | 0.0013 | 0.0055 | 0.0055 | 0.0049 | 0.0039 | 0.0038 | 0.00415 |
| T-5 | Arsenic, total | mg/L | 0.0239 |  |  | < 0.001 | < 0.001 | 0.0016 | < 0.001 | < 0.001 | 0.0014 | 0.00117 |
| T-6 | Arsenic, total | mg/L | 0.0239 |  |  | 0.0076 | 0.0108 | 0.0158 | 0.0037 | 0.0195 | 0.0086 | 0.0110 |

# TABLE 3:
## Total Cobalt Summary Table

Table 3: Total Cobalt Summary Table

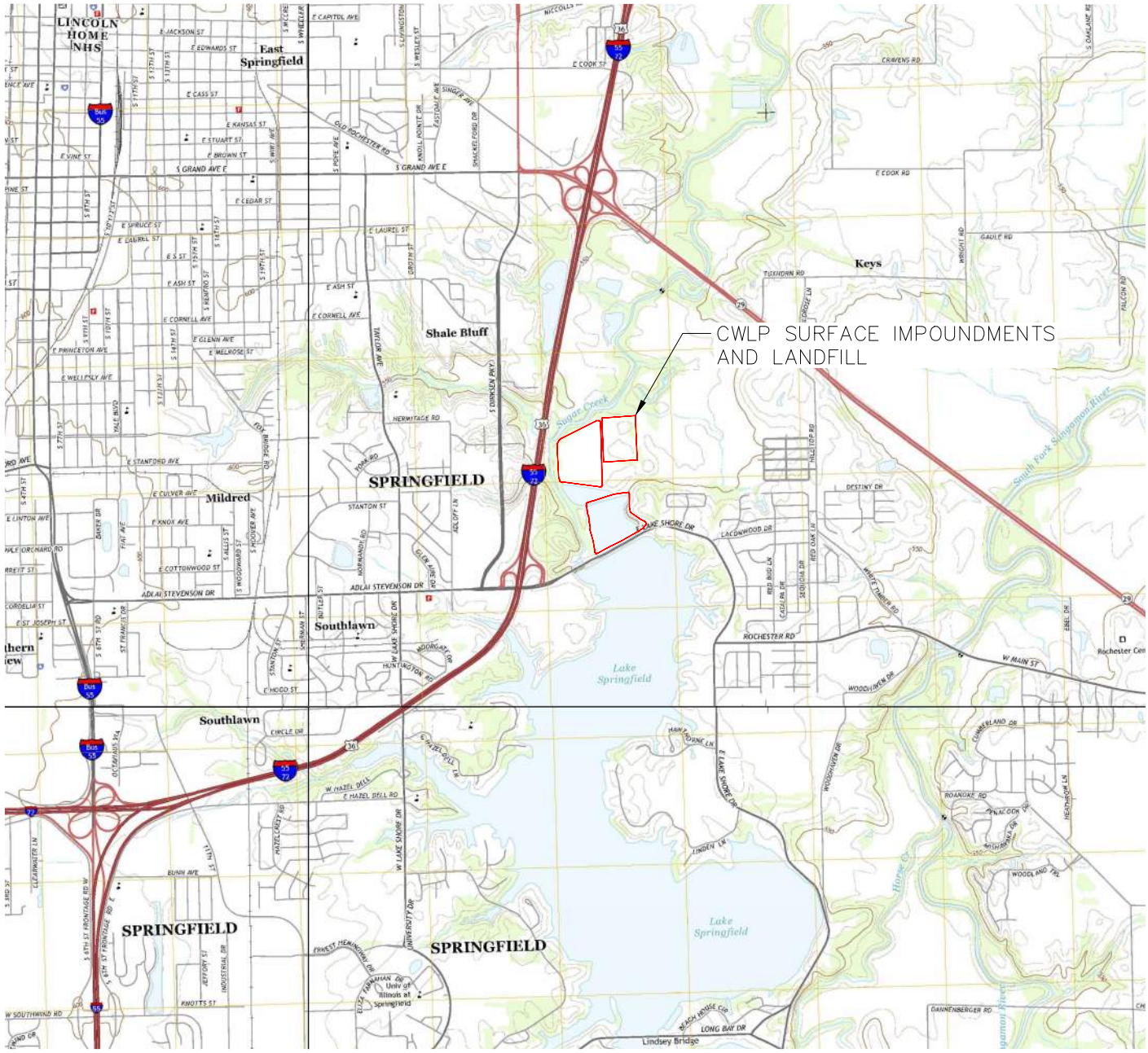
| Well ID | Parameter | Units | GWPS | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 | 2025-Q1 | 2025-Q2 | 2025-Q3 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-10 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-11 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-12 | Cobalt, total | mg/L | 0.0052 | 0.0236 | < 0.005 | 0.0054 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00738 |
| AP-13 | Cobalt, total | mg/L | 0.0052 | 0.0127 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00596 |
| AP-14 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |  | < 0.005 | < 0.005 | 0.005 |
| AP-2 | Cobalt, total | mg/L | 0.0052 | 0.0091 | 0.0068 | 0.0102 | 0.0073 | 0.0085 | 0.014 | 0.0095 | 0.0127 | 0.00976 |
| AP-3 | Cobalt, total | mg/L | 0.0052 | 0.0051 | < 0.005 | 0.0065 | 0.0071 | < 0.005 | 0.0057 | 0.0081 | 0.0076 | 0.00626 |
| AP-4 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.0083 | 0.0075 | 0.00573 |
| AP-5 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-6 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-7 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-8 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AP-9 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| AW-1 | Cobalt, total | mg/L | 0.0052 | < 0.005 | 0.0055 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00506 |
| AW-2 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| G110 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |  | 0.005 |
| G112 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |  | 0.005 |
| G113 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |  | 0.005 |
| G120 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.0058 | < 0.005 | 0.00510 |
| G121 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| G122 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| P07D | Cobalt, total | mg/L | 0.0052 |  |  |  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| R101 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.0088 | < 0.005 | 0.00548 |
| R111 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |  | 0.005 |
| RW-3 | Cobalt, total | mg/L | 0.0052 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| T-1 | Cobalt, total | mg/L | 0.0052 |  |  | < 0.005 | 0.0063 | < 0.005 | < 0.005 | 0.0055 | 0.0063 | 0.00552 |
| T-2 | Cobalt, total | mg/L | 0.0052 |  |  | 0.0075 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.0062 | 0.00562 |
| T-4 | Cobalt, total | mg/L | 0.0052 |  |  | < 0.005 | 0.005 | < 0.005 | 0.0052 | < 0.005 | < 0.005 | 0.00503 |
| T-5 | Cobalt, total | mg/L | 0.0052 |  |  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |
| T-6 | Cobalt, total | mg/L | 0.0052 |  |  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.005 |

# FIGURES

Figure 1: Site Location
Figure 2: Site Features with Current Monitor Well Network
Figure 3: Extent of Total Arsenic Exceedances
Figure 4: Extent of Total Cobalt Exceedances

# FIGURE 1:
## Site Location

J:\S\Springfield CWLP\CWLP Ash Pond\DWG\2025\Site Map.dwg Tab: Layout1



N

0 200 4000 8000

SCALE: IN FEET

NOTE:
BACKGROUND IMAGE COURTESY OF
UNITED STATES GEOLOGICAL SURVEY.

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PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: KWF | DESIGNED BY: KWF | DRAWN BY: BCK

SITE LOCATION

PLANS PREPARED FOR
CITY, WATER, LIGHT & POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

FIG. 1

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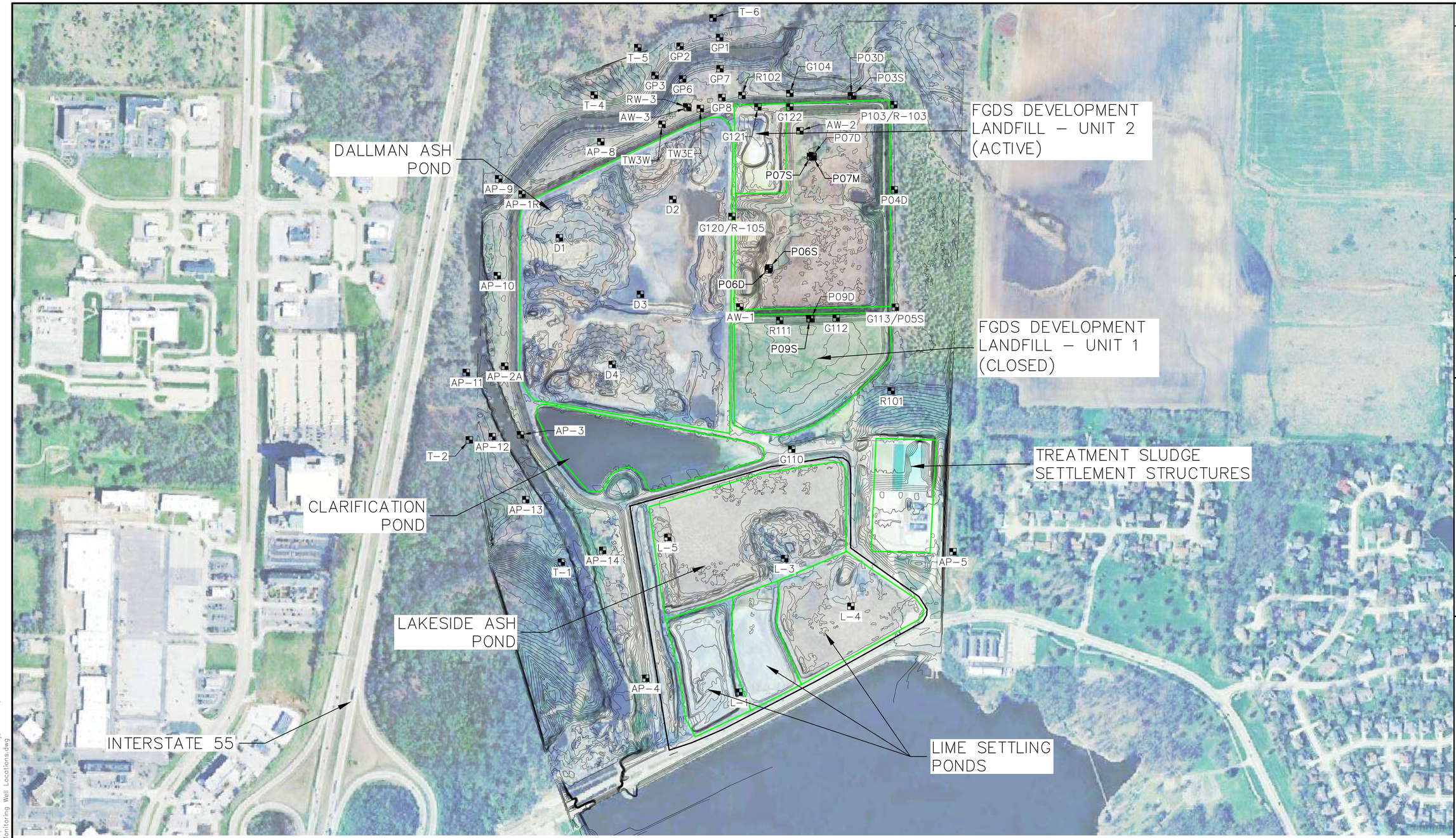
# FIGURE 2:

## Site Features with Current Monitor Well Network




## LEGEND

- POND/LANDFILL BOUNDARY
- IMPOUNDMENT BOUNDARY
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◔ PART 257 GROUNDWATER MONITORING WELL

## NOTE

1. AERIAL IMAGE FROM APRIL 7, 2024, FROM GOOGLE EARTH.

N

0 250 500 1000

SCALE: IN FEET

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

MONITORING WELL LOCATIONS

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: APRIL 2025

PROJECT ID: 240338/0016

SHEET NUMBER:

FIG. 3

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Tab: FIG 3 Last Saved: April 4, 2025, by Ben Karpus Plotted: Wednesday, June 11, 2025 8:21:38 AM
J:\S\Springfield CWLP\CWLP Ash Pond\DWG\2025\Monitoring Well Locations.dwg

# FIGURE 3:

## Extent of Total Arsenic Exceedances

## LEGEND

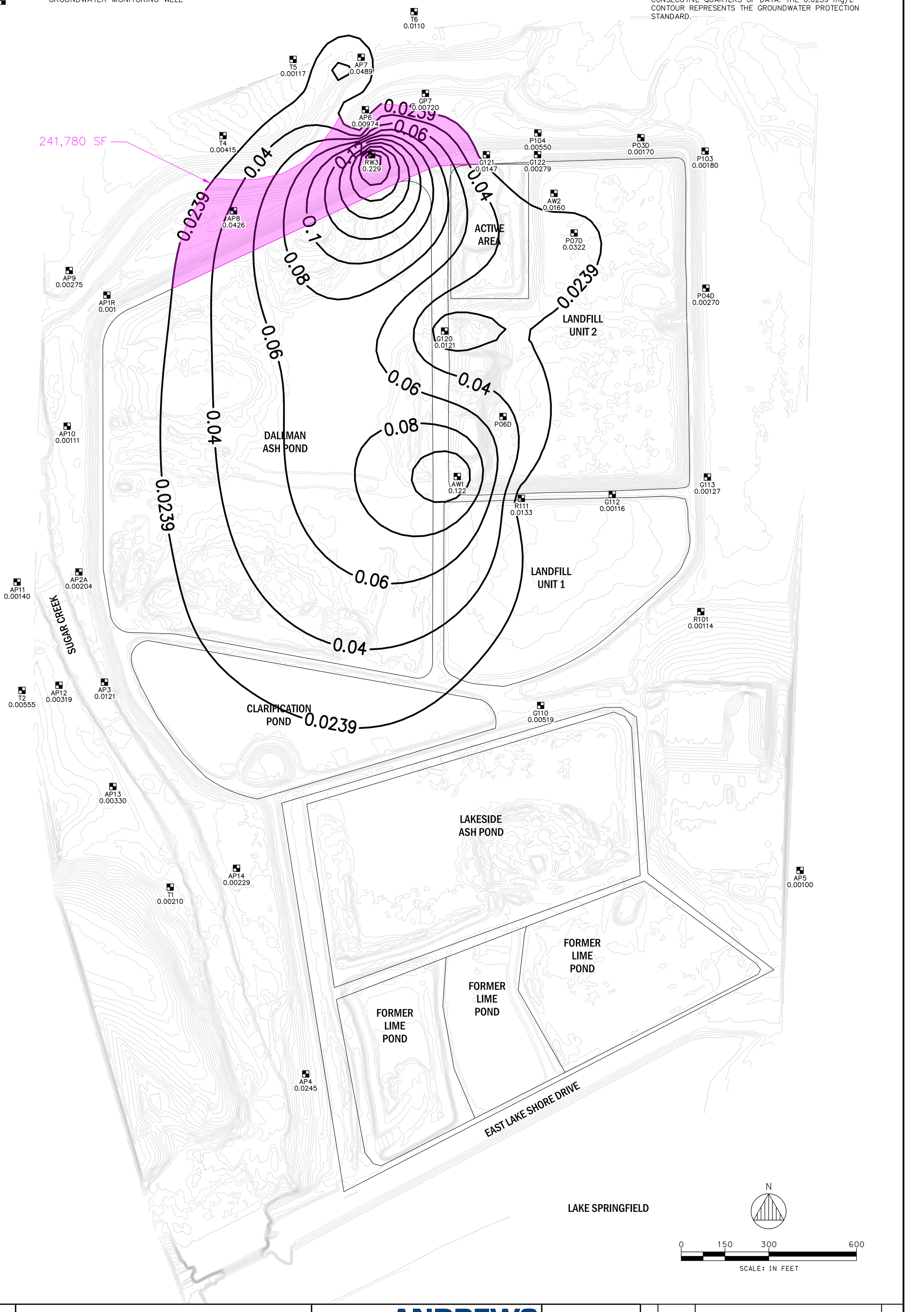
550 — EXISTING GROUND CONTOURS

100 — ARSENIC TOTAL CONTOURS (mg/L)

GROUNDWATER MONITORING WELL

## NOTES

1. FLIGHT DATE APRIL 2023.
2. PLUME CONTOUR INTERVAL SHOWN IS 0.02 mg/L.
3. ARSENIC TOTAL PLUME BASED ON AVERAGE OF 8 CONSECUTIVE QUARTERS OF DATA. THE 0.0239 mg/L CONTOUR REPRESENTS THE GROUNDWATER PROTECTION STANDARD.




3

SHEET NUMBER:

PROJECT ID: 240336/0014

DATE: SEPTEMBER 2025

EXTENT OF TOTAL ARSENIC EXCEEDANCES

PREPARED FOR

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| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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# FIGURE 4:
## Extent of Total Cobalt Exceedances

## LEGEND

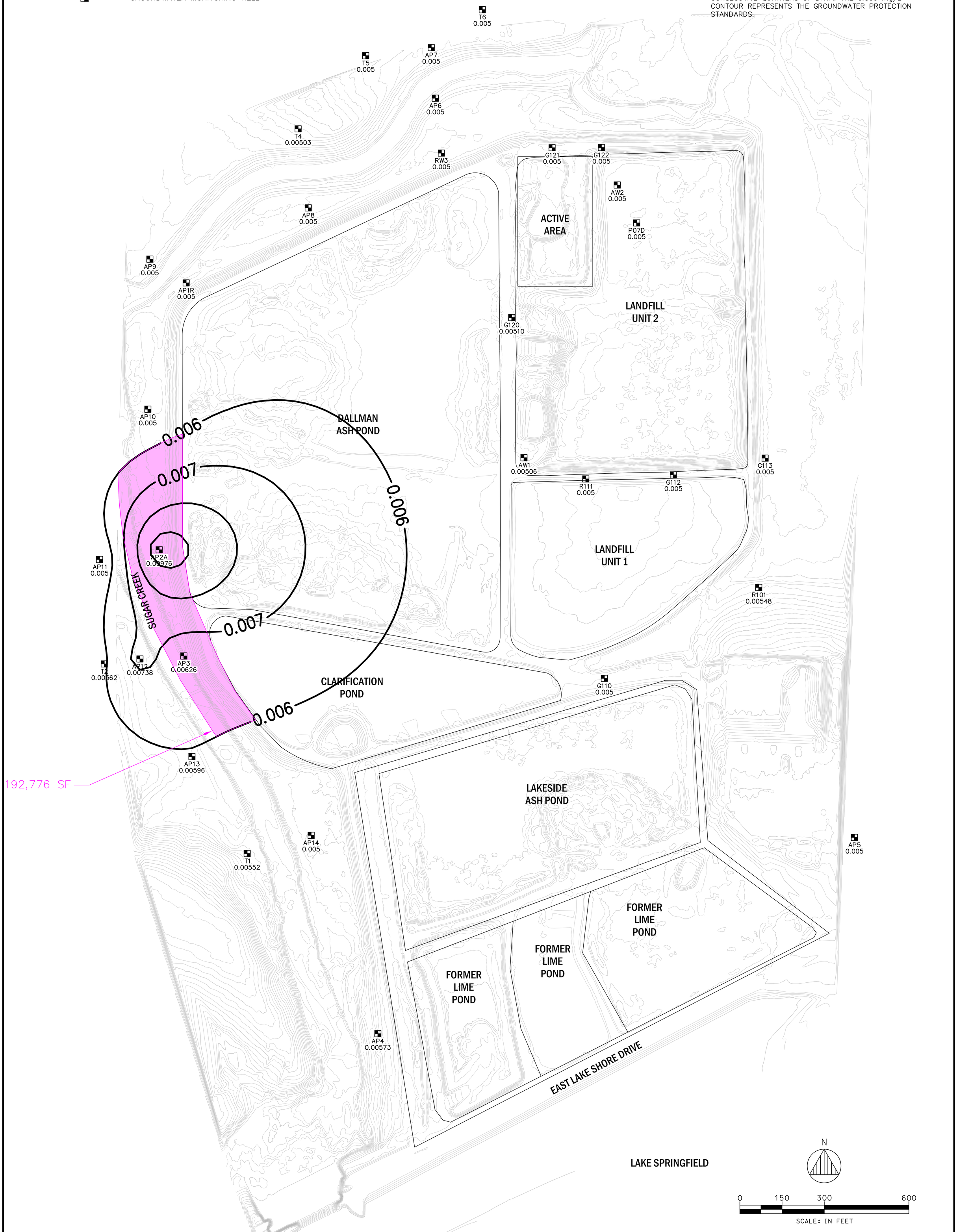
550 — EXISTING GROUND CONTOURS

10 — COBALT TOTAL CONTOURS (mg/L)

GROUNDWATER MONITORING WELL

## NOTES

1. FLIGHT DATE APRIL 2023.
2. PLUME CONTOUR INTERVAL SHOWN IS 0.001 mg/L.
3. COBALT TOTAL PLUME BASED ON AVERAGES OF 8 CONSECUTIVE QUARTERS OF DATA. THE 0.006 mg/L CONTOUR REPRESENTS THE GROUNDWATER PROTECTION STANDARDS.




EXTENT OF TOTAL COBALT EXCEENDANCES

PREPARED FOR

CITY WATER, LIGHT, AND POWER

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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: MPN

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|---|---|---|---|

SHEET NUMBER: 4

PROJECT ID: 240338/0014

DATE: SEPTEMBER 2025

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# APPENDICES


Appendix A: Boring Logs/Well Completion Reports: T-1, T-2, T-4, T-5 and T-6

Appendix B: Potentiometric Surface Maps

Appendix C: Slug Test Results and Boring Logs for P-6R/P-7R

Appendix D: Analytical Summary

Appendix E: Exceedance parameter Trend Graphs

Appendix F: Cross Sections

Appendix G: Laboratory Analytical Reports

Appendix H: Boring Log and Well Completion Report for P06D

Appendix I: Boring Log/Well Completion Report and Laboratory Report for GP-7

# APPENDIX A:

## Boring Logs/Well Completion Reports: T-1, T-2, T-4, T-5 and T-6

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1128150.33
Easting: 2455538.81

Weather: Sunny 66 F

**Boring Information:**
Boring No: B1
Well No: T1
Surf Elev.: 535.33

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 05/01/2024
Finish: 05/01/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 535.3 |
| 0 | | | | | | | Dark brown silty CLAY (topsoil); Sample CS1A | |
| | 1 | | 4.0/5 | | 0.25 | | Dark brown silty CLAY; moist | |
| 5 | | | | | | | | 530.0 |
| | 2 | | 5.0/5 | | 0.25 | | Sample CS2 7.0-7.5'; saturated 7.5' | |
| 10 | | | | | | | Free water 9.5' | |
| | 3 | | 5.0/5 | | 2.0<br>2.75 | | Light brown silty CLAY; gray mottling; Sample CS3A 11.0-11.3'<br>Sample CS3B 13.0-13.5' | 525.0 |
| 15 | | | | | 1.75 | | | |
| | 4 | | 3.0/4.5 | | 0.5 | | Sample CS4A 15.5-16.0'<br>Brown SAND and GRAVEL; fine to coarse grained; silty clay matrix | 520.0 |
| | | | | | | | Gray SANDSTONE; weathered | |
| | | | | | | | Greenish gray SANDSTONE; fine grained | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1128803.76
Easting: 2455006.85

Weather: Sunny 66 F

**Boring Information:**
Boring No: B2
Well No: T2
Surf Elev.: 547.22

**Depth Information:**
Total: 35.0'
Auger: 35.0'
Core: -

**Dates:**
Start: 05/01/2024
Finish: 05/01/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 547.2 |
| 0 | | | | | | | Dark brown silty CLAY (topsoil); Sample CS1A 0-0.5 | |
| | | | | | | | Brown silty CLAY; moist; Sample CS1B 2.5-3.0 | |
| | 1 | | 4.3/5 | | 3.0<br>3.0 | | | 545.0 |
| 5 | | | | | | | Brown clayey SILT; greenish gray mottling; moist | |
| | 2 | | 4.0/5 | | | | | 540.0 |
| | | | | | 2.25 | | Sample CS2A 8.0-8.5' | |
| 10 | | | | | | | Sample CS3A 11.0-11.5 | |
| | | | | | | | Dark brown CONCRETIONS; Sample CS3B 12.1-12.3' | 535.0 |
| | 3 | | 5.0/5 | | | | Brown silty CLAY; Sample CS3C | |
| | | | | | 1.5 | | | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B2** Boring No: B2 Well No: T2

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample CS4 | |
| | 4 | | 5.0/5 | | 4.75 | | | 530.0 |
| 20 | 5 | | 2.0/2 | | | | | |
| | | | | | | | Gray clayey SILT; brown mottling; moist; trace black organics | 525.0 |
| | 6 | | 3.0/3 | | 3.25 | | Sample CS6A 23-23.5' | |
| 25 | | | | | 1.25 | | Increasing black organics; Sample CS7A 25.5-26 | |
| | | | | | | | Gray silty CLAY; brown mottling; moist; trace organics | 520.0 |
| | 7 | | 5.0/5 | | 1.75 | | Sample CS7B 27.0-28.0' | |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B2** Boring No: B2 Well No: T2

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample CS8A | |
| | | | | | | | Gray to brownish gray SHALE; weathered; wet; Sample CS8B | 515.0 |
| | 8 | | 5.0/5 | | | | Gray SHALE; Sample CS8C 32.25-33.0' | |
| 35 | | | | | | | End of Boring = 35 Feet | 510.0 |
| 40 | | | | | | | | 505.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1130726.70
Easting: 2455622.14

Weather: Cloudy 50 F

**Boring Information:**
Boring No: B4
Well No: T4
Surf Elev.: 546.56

**Depth Information:**
Total: 35.0'
Auger: 35.0'
Core: -

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

**Dates:**
Start: 04/26/2024
Finish: 04/26/2024

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 546.6 |
| 0 | 1 | | 4.7/5 | | 0.5 | | Brown silty CLAY; moist; organics | 545.0 |
| 5 | 2 | | 5.0/5 | | 3.5<br>>5 | | Brown clayey SILT; moist; trace organics; becoming more dense with depth | 540.0 |
| 10 | 3 | | 5.0/5 | | 0.5 | | Black organics; Sample CS3A | 535.0 |
| | | | | | 0.25 | | Brown silty CLAY; Sample CS3B | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B4** Boring No: B4 Well No: T4

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Brown clayey SILT; moist | |
| | | | | | 0.25 | | | 530.0 |
| | 4 | | 3.6/5 | | | | Brown silty CLAY; moist; medium to fine coarse gravel | |
| | | | | | 0.5 | | | |
| | | | | | | | Gray SHALE; weathered | |
| | | | | | | | Gray SHALE; weathered; moist | |
| 20 | | | | | | | | |
| | 5 | | 3.6/5 | | | | | 525.0 |
| 25 | | | | | | | End of Boring = 25 Feet | |
| | | | | | | | | 520.0 |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1130996.32
Easting: 2455852.04

Weather: Sunny 43 F

**Boring Information:**
Boring No: B5
Well No: T5
Surf Elev.: 538.15

**Depth Information:**
Total: 20.0'
Auger: 20.0'
Core: -

**Dates:**
Start: 04/25/2024
Finish: 04/25/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 538.2 |
| 0 | | | | | | | Brown SILT; moist | |
| | | | | | 0.25 | | | |
| | | | | | | | Dark brown silty CLAY; moist | |
| | 1 | | 4.6/5 | | 2.0 | | | 535.0 |
| | | | | | | | Dark brown silty CLAY; brown/tan mottling; moist | |
| | | | | | 2.25 | | Olive green to brown silty CLAY; mottling; moist | |
| 5 | | | | | | | | |
| | 2 | | 4.8/5 | | 2.25 | | 8.0' Free water | 530.0 |
| 10 | | | | | | | Brown SAND; fine grained; with silt; saturated | |
| | | | | | | | Olive green clayey SILT; brown mottling | |
| | | | | | >5.0 | | | |
| | 3 | | 3.8/5 | | | | Gray SHALE; weathered | 525.0 |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B5** Boring No: B5 Well No: T5

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 4 | | 1.6/5 | | | | Black SHALE; saturated | 520.0 |
| 20 | | | | | | | End of Boring = 20 Feet | 515.0 |
| 25 | | | | | | | | 510.0 |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1131175.15
Easting: 2456259.47

Weather: Sunny 43 F

**Boring Information:**
Boring No: B6
Well No: T6
Surf Elev.: 535.96

**Depth Information:**
Total: 42.2'
Auger: 42.2'
Core: -

**Dates:**
Start: 04/25/2024
Finish: 04/25/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 536.0 |
| 0 | | | | | | | Dark brown silty CLAY (topsoil) | |
| | | | | | 1.5 | | | 535.0 |
| | 1 | | 4.1/5 | | | | Greenish brown silty CLAY; moist; trace organics | |
| 5 | | | | | | | Greenish brown silty CLAY; gray mottling; trace organics | |
| | 2 | | 4.2/5 | | 2.0 | | | 530.0 |
| 10 | | | | | | | Gray/brown clayey SILT; greenish mottling; moist | |
| | 3 | | 5.0/5 | | 4.5 | | | 525.0 |
| | | | | | | | 14.0' Wet | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B6** Boring No: B6 Well No: T6

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Gray silty CLAY; trace brown mottling; organics | 520.0 |
| | 4 | | 5.0/5 | | 1.75 | | 18.0' Saturated | |
| 20 | | | | | | | Gray CLAY; saturated; soft | |
| | | | | | 0.25 | | | 515.0 |
| | 5 | | 5.0/5 | | | | Dark gray SILT; saturated | |
| 25 | | | | | | | Dark gray silty CLAY; saturated; small gravel | |
| | | | | | | | | 510.0 |
| | 6 | | 4.7/5 | | | | | |
| | | | | | 0.5 | | | |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B6** Boring No: B6 Well No: T6

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Dark gray SILT; saturated; trace white clasts | 505.0 |
| | 7 | | 5.0/5 | | 0.5 | | | |
| 35 | | | | | 0.5 | | | 500.0 |
| | 8 | | 3.5/5 | | | | Gray SILT to silty SAND; fine to coarse grained | |
| 40 | | | | | | | Gray SHALE (bedrock) | |
| | 9 | | 1.5/5 | | | | | 495.0 |
| | | | | | | | End of Boring = 42.2 Feet | |
| 45 | | | | | | | | |

Notes:

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T1

Site Name: CWLP Borehole #: B1

Coordinates: X 1128150.33 Y 2455538.81 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 05/01/2024 Date Well Finished: 05/01/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite chips

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

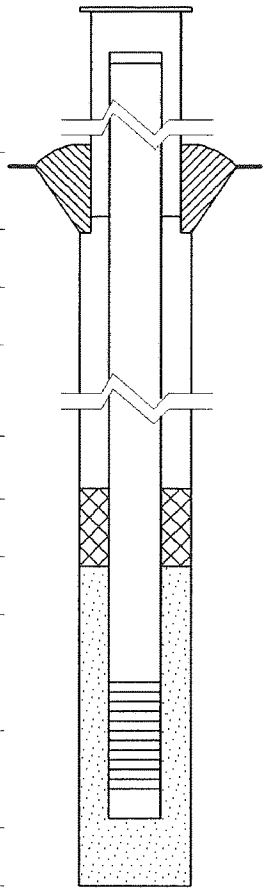
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 536.10 | -2.45 | Top of Protective Casing |
| 535.65 | -2.00 | Top of Riser Pipe |
| 533.65 | 0 | Ground Surface |
| 531.83 | 3.50 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 529.83 | 5.50 | Top of Seal |
| 527.29 | 8.04 | Top of Sandpack |
| 525.77 | 9.56 | Top of Screen |
| 516.27 | 19.06 | Bottom of Screen |
| 515.83 | 19.50 | Bottom of Well |
| 515.83 | 19.50 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 9.88 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length (1st slot to last slot) (ft) | 9.50 |
| Total Length of Casing (ft) | 19.82 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T2

Site Name: CWLP Borehole #: B2

Coordinates: X 1128803.76 Y 2455006.85 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 05/01/2024 Date Well Finished: 05/01/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

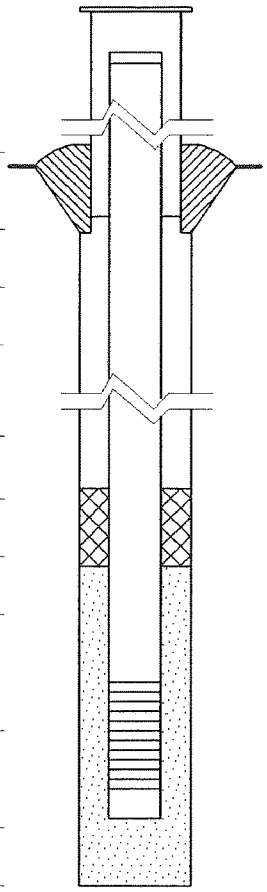
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 549.86 | -2.64 | Top of Protective Casing |
| 549.62 | -2.4 | Top of Riser Pipe |
| 547.22 | 0 | Ground Surface |
| 544.22 | 3.00 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 526.12 | 21.10 | Top of Seal |
| 524.02 | 23.20 | Top of Sandpack |
| 522.46 | 24.76 | Top of Screen |
| 512.96 | 34.26 | Bottom of Screen |
| 512.22 | 35.00 | Bottom of Well |
| 512.22 | 35.00 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 27.16 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length (1st slot to last slot) (ft) | 9.50 |
| Total Length of Casing (ft) | 37.40 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T4

Site Name: CWLP Borehole #: B4

Coordinates: X 1130726.70 Y 2455622.14 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 04/26/2024 Date Well Finished: 04/26/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

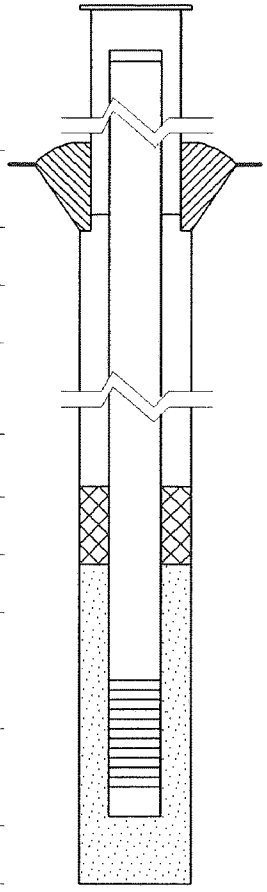
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 549.43 | -2.87 | Top of Protective Casing |
| 548.94 | -2.38 | Top of Riser Pipe |
| 546.56 | 0 | Ground Surface |
| 543.56 | 3.00 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 534.76 | 11.80 | Top of Seal |
| 532.66 | 13.90 | Top of Sandpack |
| 531.43 | 15.13 | Top of Screen |
| 521.94 | 24.62 | Bottom of Screen |
| 521.56 | 25.00 | Bottom of Well |
| 521.56 | 25.00 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 17.51 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length (1st slot to last slot) (ft) | 9.49 |
| Total Length of Casing (ft) | 27.38 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: T4S

Site Name: FGDS Development Borehole #: T4S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 36 ' 3 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB, 2 ' split spoon Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/20/2025 Date Well Finished: 5/20/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

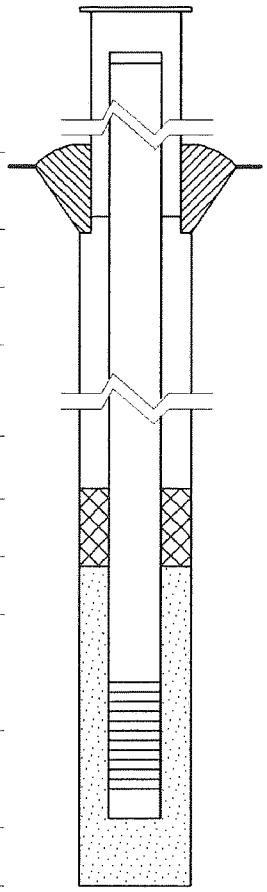
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | 549.25 | -2.5 |
| Top of Riser Pipe | 549.04 | -2.29 |
| Ground Surface | 546.75 | 0.0 |
| Top of Annular Sealant | | |
| Static Water Level Measured on (after completion) | | |
| Top of Seal | 544.75 | 2.0 |
| Top of Sandpack | 538.85 | 7.9 |
| Top of Screen | 536.83 | 9.93 |
| Bottom of Screen | 532.15 | 14.6 |
| Bottom of Well | 531.75 | 15.0 |
| Bottom of Borehole | 531.75 | 15.0 |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 12.21 |
| Bottom of Screen to End Cap (ft) | 0.4 |
| Screen Length (1st slot to last slot) (ft) | 4.68 |
| Total Length of Casing (ft) | 17.29 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T5

Site Name: CWLP Borehole #: B5

Coordinates: X 1130996.32 Y 2455852.04 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 04/25/2024 Date Well Finished: 04/25/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

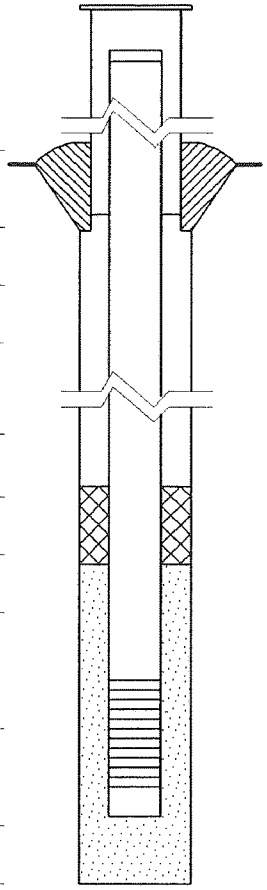
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 541.00 | -2.85 | Top of Protective Casing |
| 540.66 | -2.51 | Top of Riser Pipe |
| 538.15 | 0 | Ground Surface |
| 535.15 | 3.00 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 531.55 | 6.60 | Top of Seal |
| 529.35 | 8.80 | Top of Sandpack |
| 528.22 | 9.93 | Top of Screen |
| 518.72 | 19.43 | Bottom of Screen |
| 518.29 | 19.86 | Bottom of Well |
| 518.29 | 19.86 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 12.44 |
| Bottom of Screen to End Cap (ft) | 0.43 |
| Screen Length (1st slot to last slot) (ft) | 9.50 |
| Total Length of Casing (ft) | 22.37 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T6

Site Name: CWLP Borehole #: B6

Coordinates: X 1131175.15 Y 2456259.47 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 04/25/2024 Date Well Finished: 04/25/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

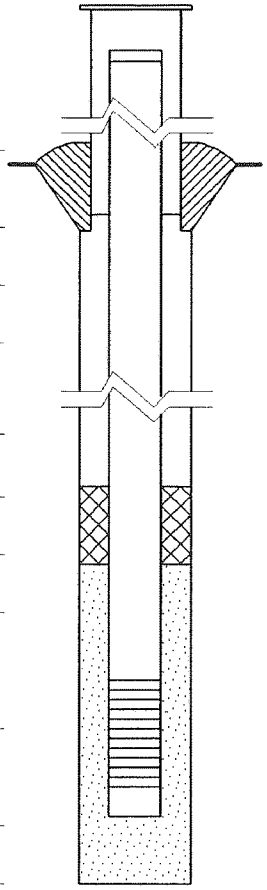
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| | ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 538.32 | -2.36 |
| Ground Surface | 535.96 | 0 |
| Top of Annular Sealant | 532.96 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 507.96 | 28.00 |
| Top of Sandpack | 505.76 | 30.20 |
| Top of Screen | 503.92 | 32.04 |
| Bottom of Screen | 494.20 | 41.76 |
| Bottom of Well | 493.85 | 42.11 |
| Bottom of Borehole | 493.85 | 42.11 |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 32.85 |
| Bottom of Screen to End Cap (ft) | 0.35 |
| Screen Length (1st slot to last slot) (ft) | 9.72 |
| Total Length of Casing (ft) | 42.92 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

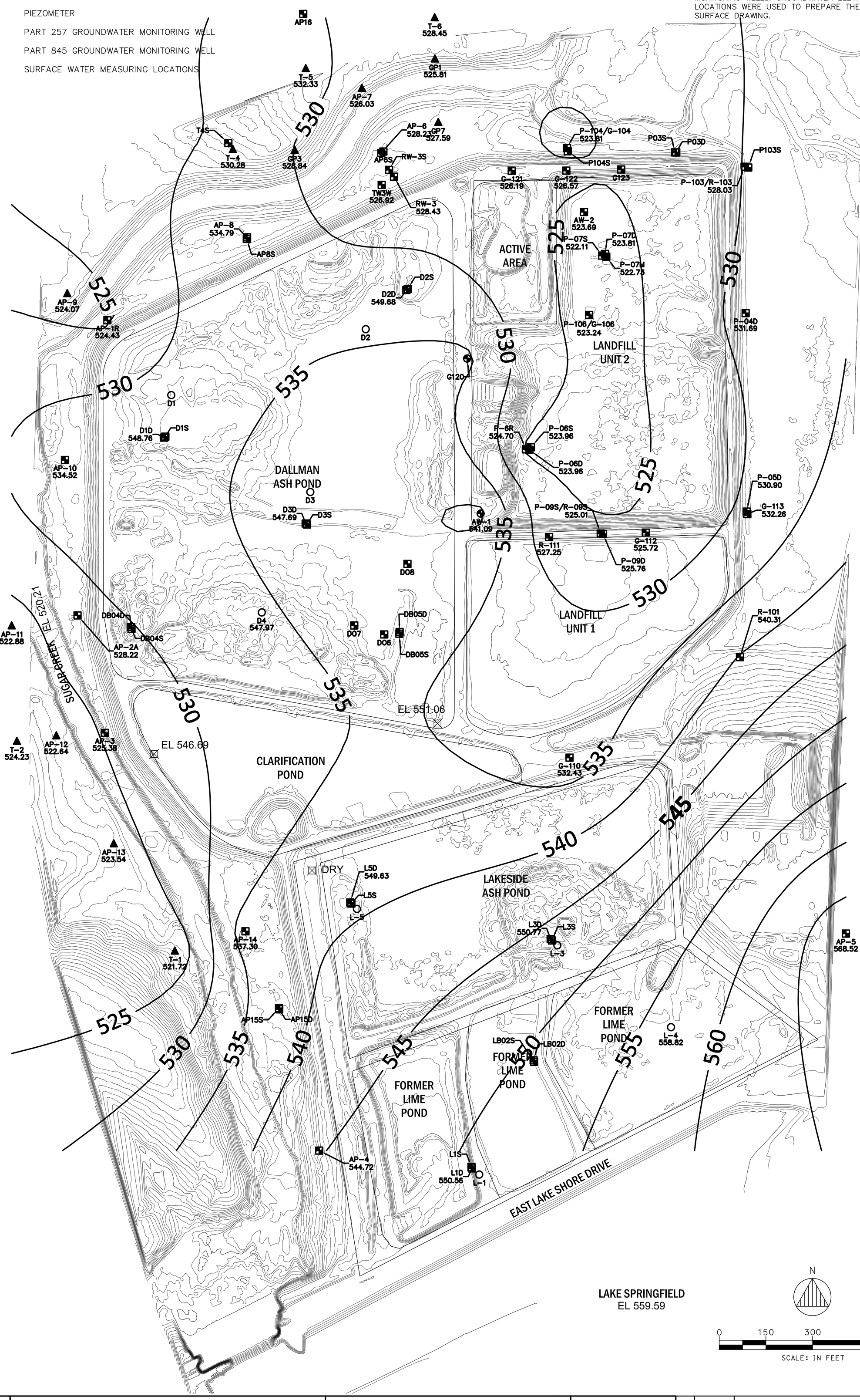
# APPENDIX B:
## Potentiometric Surface Maps

## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◔ PART 257 GROUNDWATER MONITORING WELL
- ◪ PART 845 GROUNDWATER MONITORING WELL
- ☒ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.




LAKE SPRINGFIELD
EL 559.59

N

0 150 300 600
SCALE: IN FEET

FIG. 1

POTENTIOMETRIC SURFACE MAP
JANUARY 27, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: AUGUST 2025
PROJECT ID: 240338/0014
SHEET NUMBER:

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◕ PART 257 GROUNDWATER MONITORING WELL
- ▪ PART 845 GROUNDWATER MONITORING WELL
- ☒ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
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3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.

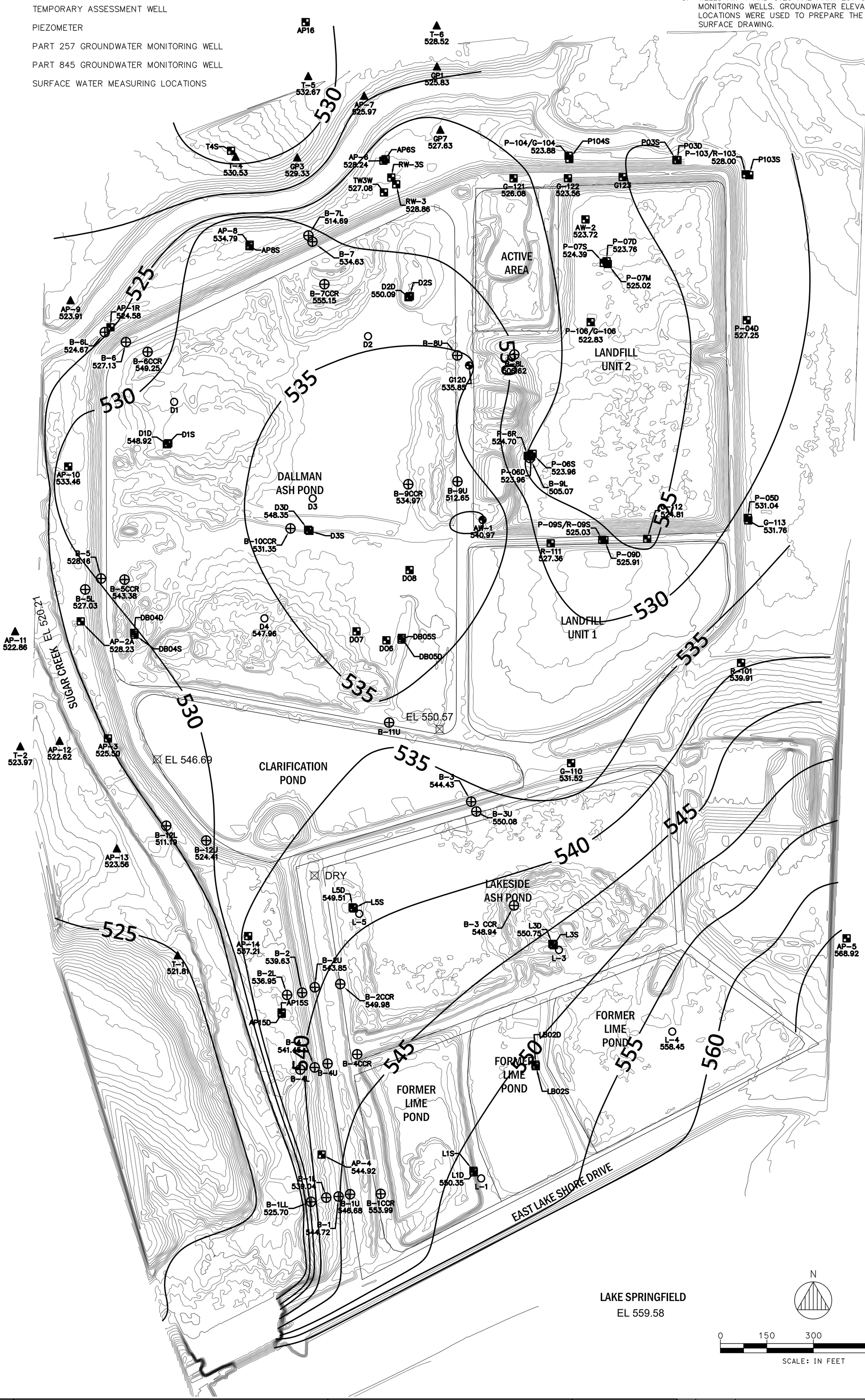


FIG. 2

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: AUGUST 2025

POTENTIOMETRIC SURFACE MAP
FEBRUARY 25, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◔ PART 257 GROUNDWATER MONITORING WELL
- ▪ PART 845 GROUNDWATER MONITORING WELL
- ⊠ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
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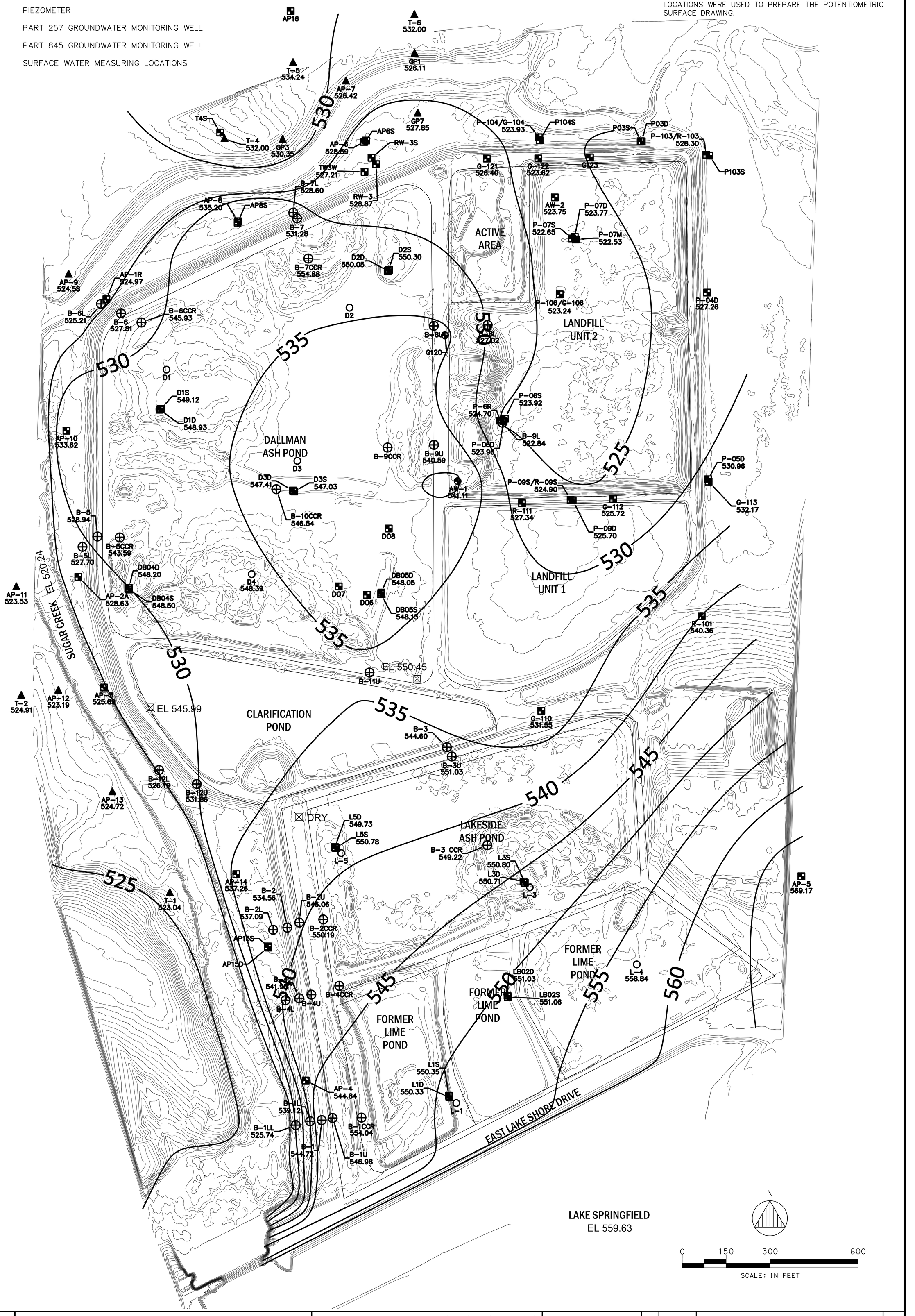


**LAKE SPRINGFIELD**
EL 559.63

N

0 150 300 600
SCALE: IN FEET

FIG. 3

POTENTIOMETRIC SURFACE MAP
MARCH 28, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: AUGUST 2025

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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- 540 — GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◕ PART 257 GROUNDWATER MONITORING WELL
- ■ PART 845 GROUNDWATER MONITORING WELL
- ☒ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
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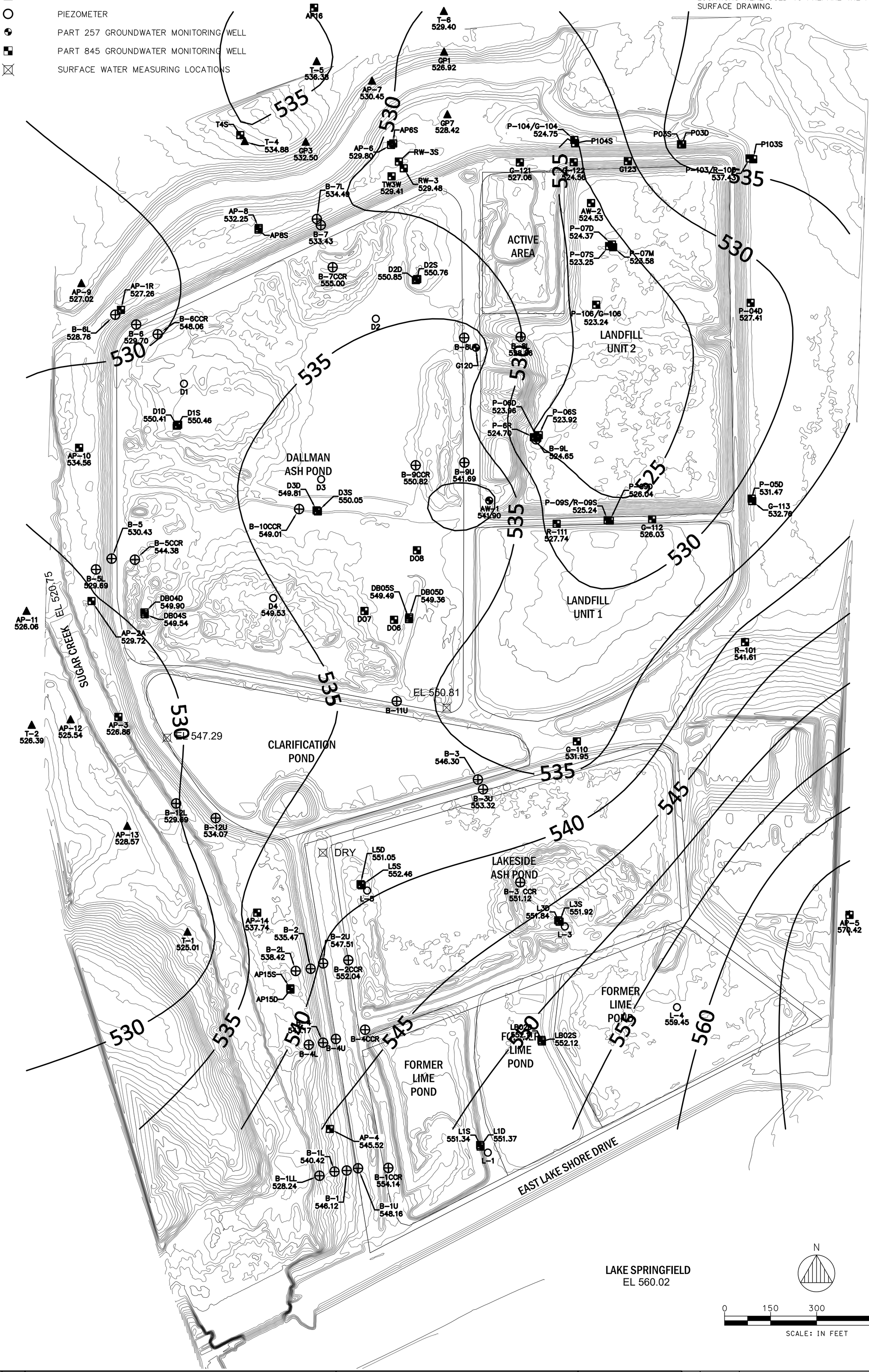


LAKE SPRINGFIELD
EL 560.02

N

0 150 300 600
SCALE: IN FEET

FIG. 4

POTENTIOMETRIC SURFACE MAP
APRIL 20, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: AUGUST 2025
PROJECT ID: 240338/0014
SHEET NUMBER:

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- 540 — GROUNDWATER CONTOURS
- TEMPORARY ASSESSMENT WELL
- PIEZOMETER
- PART 257 GROUNDWATER MONITORING WELL
- PART 845 GROUNDWATER MONITORING WELL
- SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.

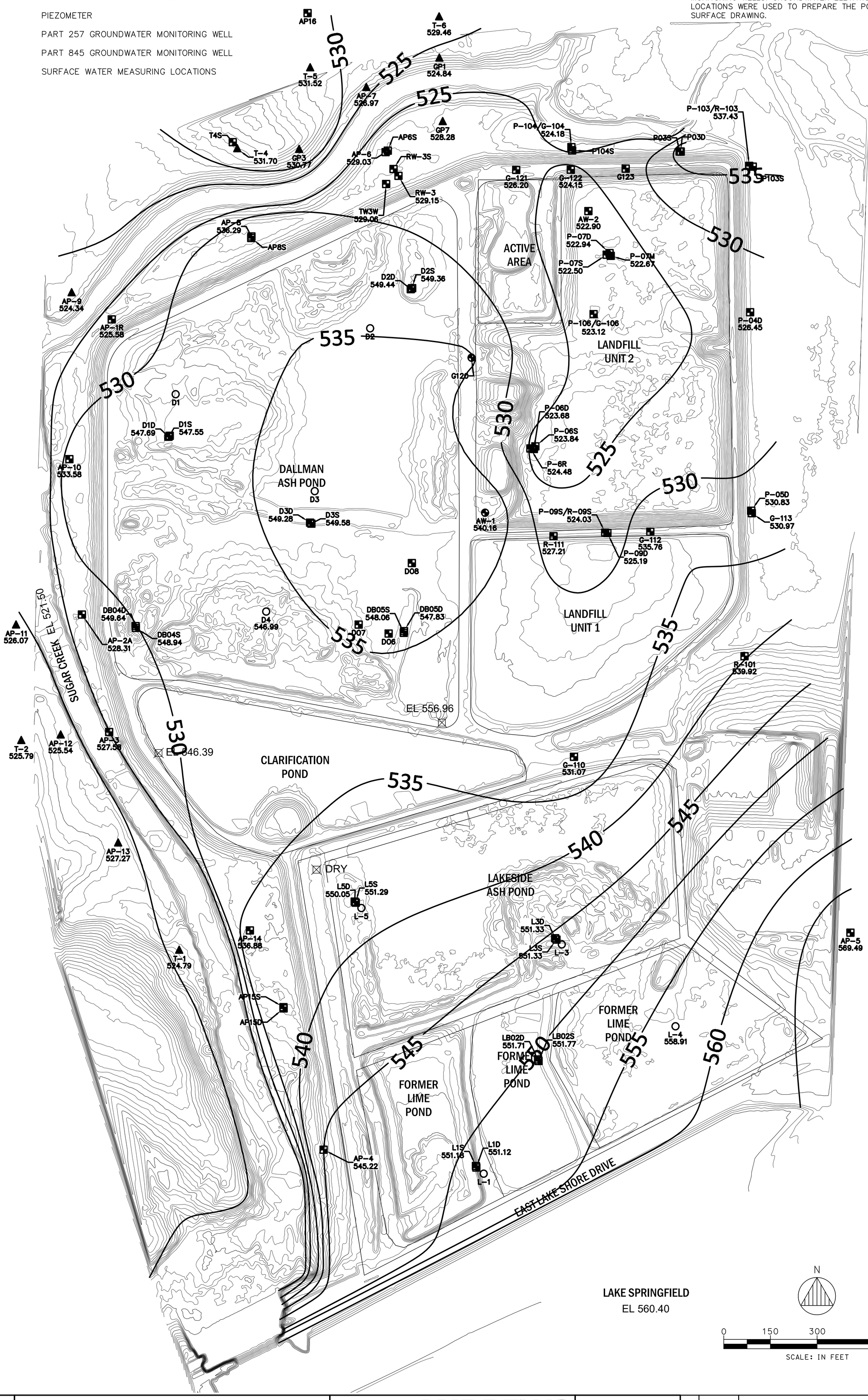


FIG. 5

POTENTIOMETRIC SURFACE MAP
MAY 29, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: AUGUST 2025

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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◔ PART 257 GROUNDWATER MONITORING WELL
- ◪ PART 845 GROUNDWATER MONITORING WELL
- ⊠ SURFACE WATER MEASURING LOCATIONS

## NOTES

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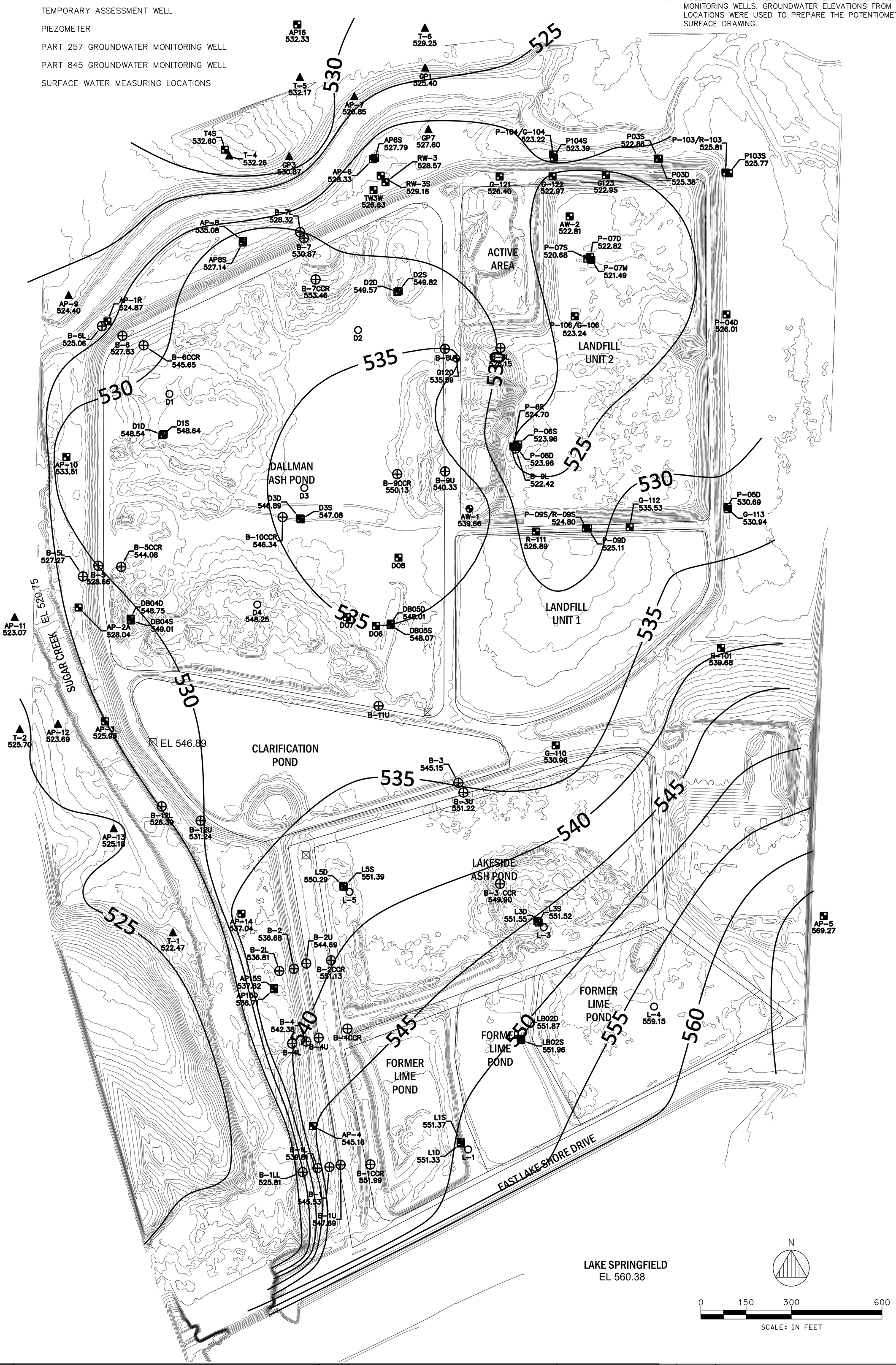


LAKE SPRINGFIELD
EL 560.38

N

0 150 300 600
SCALE: IN FEET

FIG. 6

POTENTIOMETRIC SURFACE MAP
JUNE 25, 2025

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

SHEET NUMBER:
PROJECT ID: 240338/0014
DATE: AUGUST 2025

ANDREWS ENGINEERING
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SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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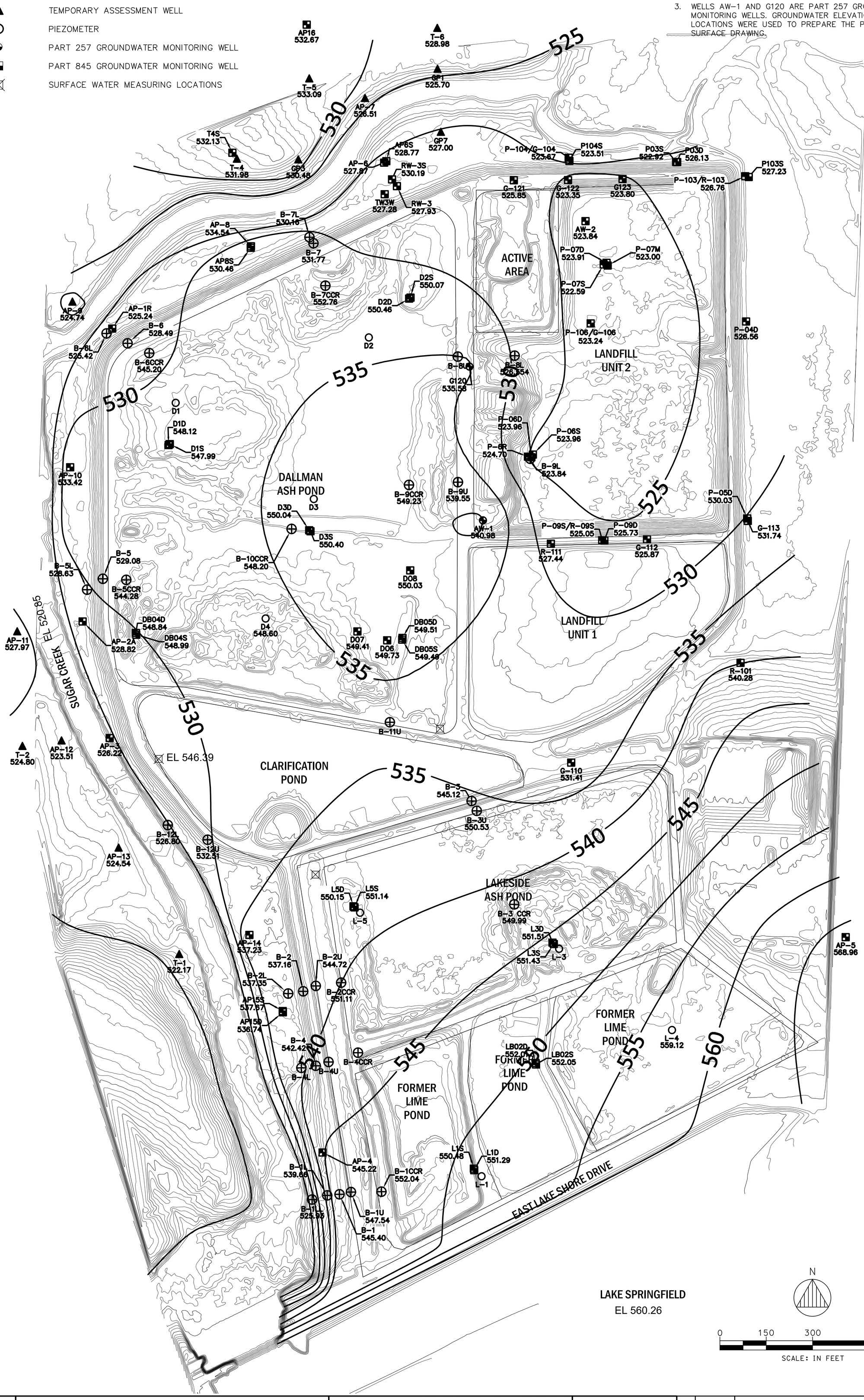
Tab: 7-21-2025 Last Saved: September 10, 2025, by Ben Karpus Plotted: Wednesday, September 10, 2025 2:57:45 PM
J:\S\Springfield CWLP\CWLP Ash Pond\DWG\PMAPS\2025\2025 Monthly PMAPS.dwg

## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◕ PART 257 GROUNDWATER MONITORING WELL
- ■ PART 845 GROUNDWATER MONITORING WELL
- ⊠ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.




LAKE SPRINGFIELD
EL 560.26

N

0 150 300 600
SCALE: IN FEET

FIG. 7

POTENTIOMETRIC SURFACE MAP
JULY 21, 2025

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: AUGUST 2025
PROJECT ID: 240338/0014
SHEET NUMBER:

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- 540 — GROUNDWATER CONTOURS
- TEMPORARY ASSESSMENT WELL
- PIEZOMETER
- PART 257 GROUNDWATER MONITORING WELL
- PART 845 GROUNDWATER MONITORING WELL
- SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.

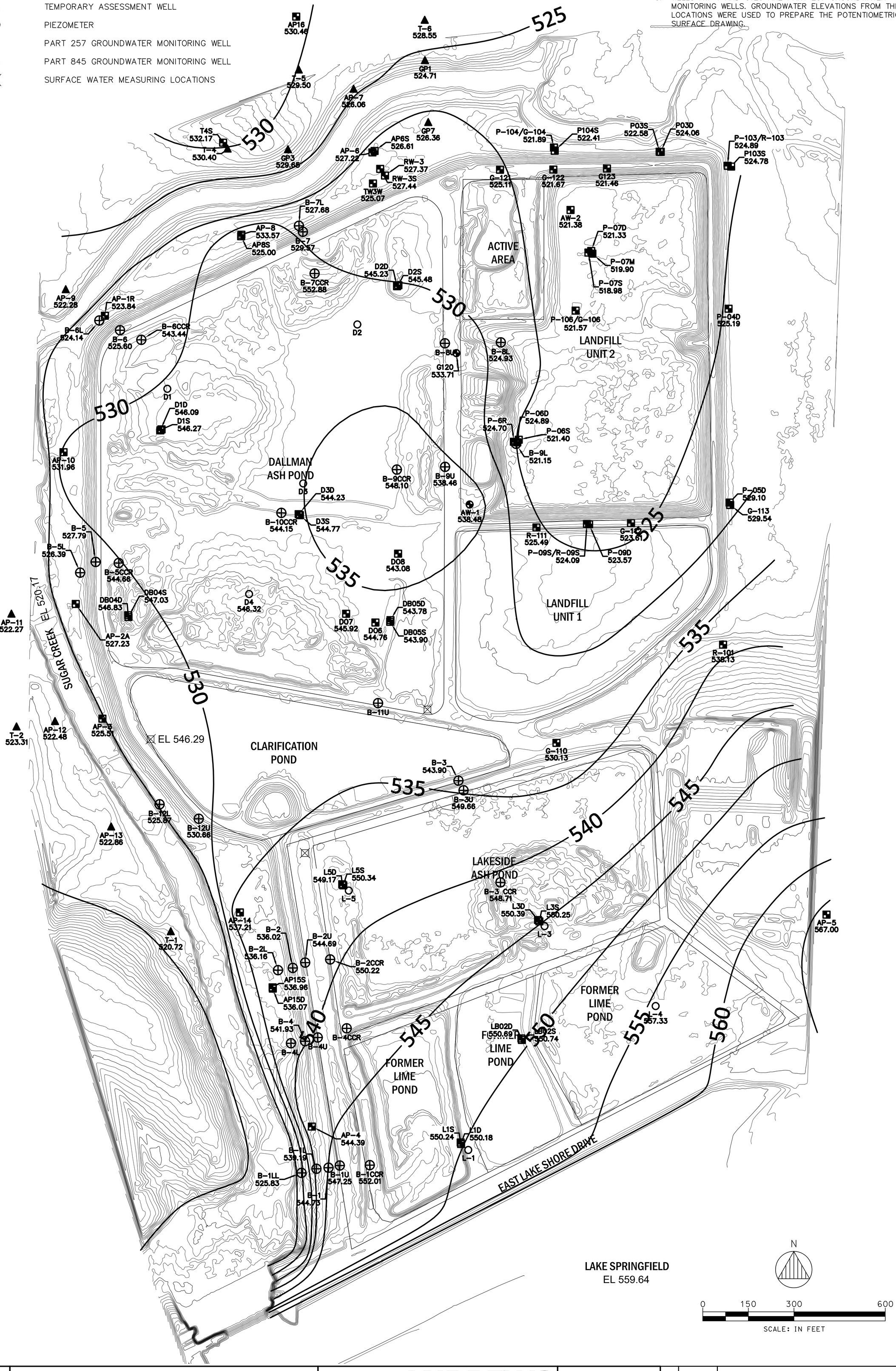


FIG. 8

POTENTIOMETRIC SURFACE MAP
AUGUST 21, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: AUGUST 2025

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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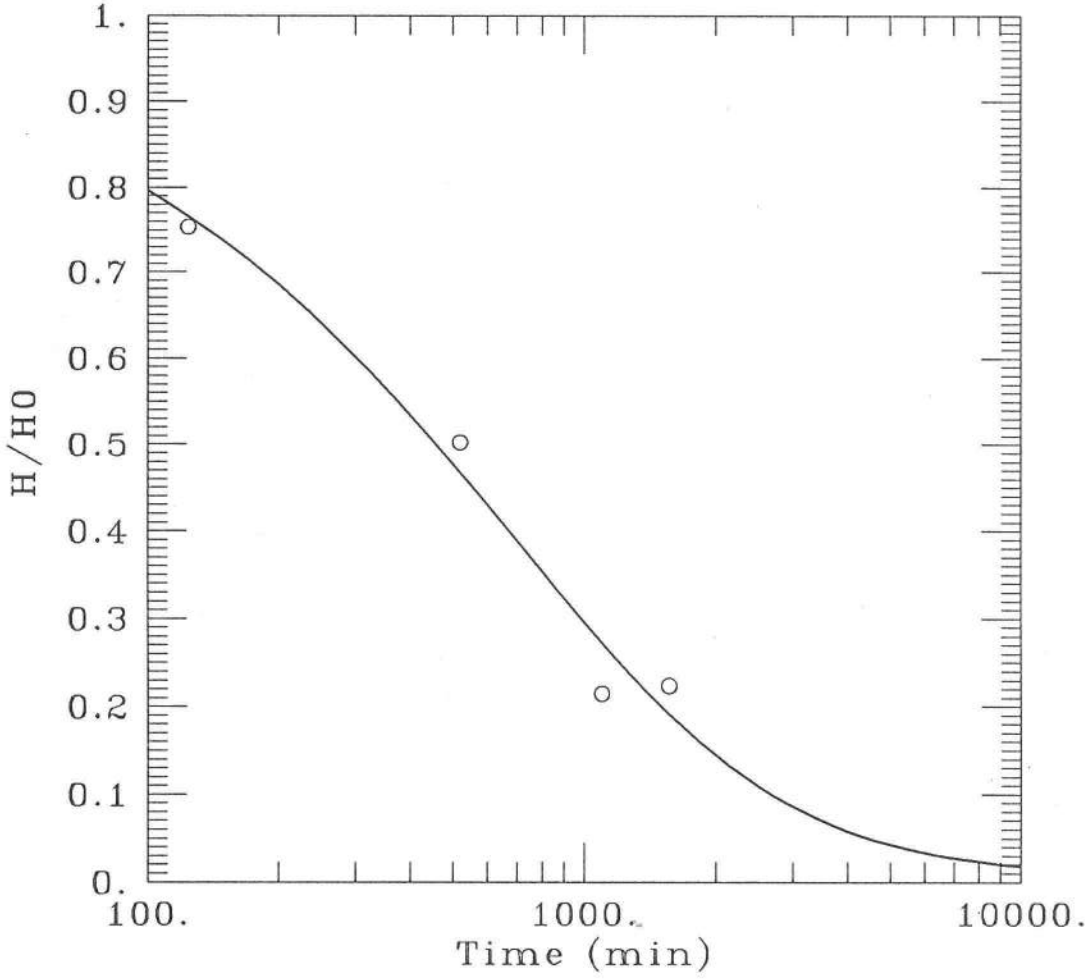
# APPENDIX C:

## Slug Test Results and Boring Logs for P-6R/P-7R

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-6R DRAWDOWN




DATA SET:
P-6R-D.AQT
06/18/93

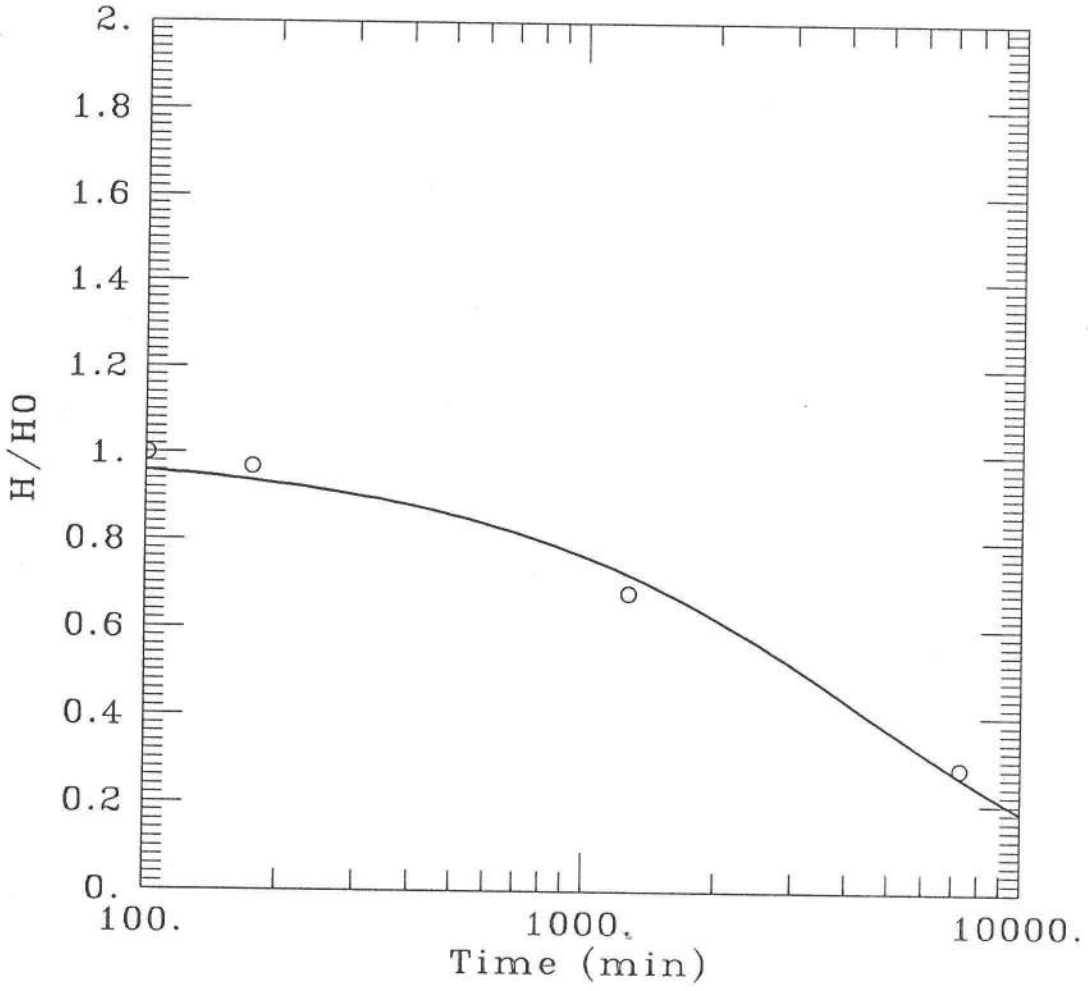
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
5/11/93

ESTIMATED PARAMETERS:
T = 1.2595E-05 $ft^2/min$
S = 0.0006438

TEST DATA:
H0 = 2.19 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-7R DRAWDOWN




DATA SET:
P-7R-D.AQT
03/22/93

AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
10/05/92

ESTIMATED PARAMETERS:
T = 2.7658E-06 $ft^2/min$
S = 6.6124E-05

TEST DATA:
H0 = 2.56 ft
rc = 0.083 ft
rw = 0.344 ft

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6D** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,717.0 E 2,186.8**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.8 | 0.0 | | Brown silty clay, trace to little fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | | 22.2 | |
| | | | Mottled at 2.0' | SS-2 2.0-4.0 18"R | 2 1 2 3 | ✳ 21.2 | |
| | | | | SS-3 4.0-6.0 20"R | 1 1 2 2 | ✳ 21.7 | |
| 518.3 | 6.5 | | | SS-4AB 6.0-8.0 18"R | 1 2 2 2 | ✳ 22.0 | |
| 517.3 | 7.5 | | Brown, clayey, fine sand, little to some silt, loose, poorly graded, saturated SC | | | 25.4 | Water level at 6.0' during drilling. |
| | | | Brown mottled silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-5 8.0-10.0 10"R | 1 1 2 2 | ✳ 21.7 | Wood fragments in SS-5. |
| 514.8 | 10.0 | | Gray silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | SS-6 10.0-12.0 20"R | 3 1 1 1 | ✳ 29.8 | |
| | | | | SS-7 12.0-14.0 20"R | 2 2 2 2 | ✳ 28.3 | |
| | | | | SS-8 14.0-16.0 22"R | 1 2 4 3 | ✳ 24.1 | |
| | | | | SS-9 16.0-18.0 24"R | 2 2 2 2 | ✳ 24.7 | |
| | | | | 3T-10 18.0-20.0 24"R | | ✳ | |
| 504.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

REMARKS
**WOH = Weight of Hammer**

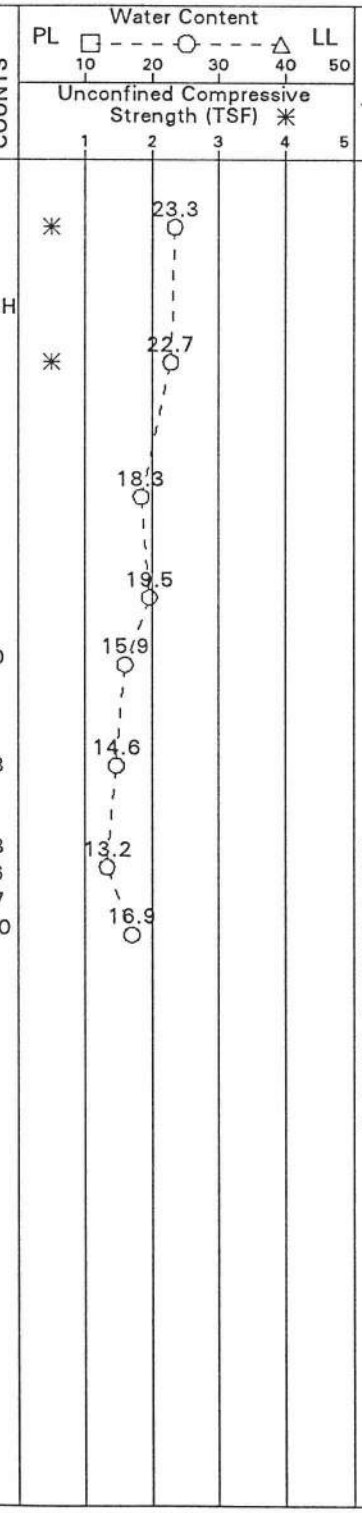
WATER LEVEL (ft.)
▽ **6.0'** during drilling
▼ **1.0'** after drilling

# PATRICK ENGINEERING INC.

BORING NUMBER **P-6D** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 4,717.0 E 2,186.8**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 504.8 | 20.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | 1 2 2 1 |
| | | | | SS-12 22.0-24.0 24"R | WOH 1 2 1 |
| 501.8 | 23.0 | | Little fine sand in SS-12 Gray clayey silt, trace fine sand, loose, wet to saturated CL-ML/ML | SS-13 24.0-26.0 24"R | 2 3 4 4 |
| | | | | SS-14AB 26.0-28.0 24"R | 4 4 7 10 |
| 497.3 | 27.5 | | | | |
| 496.8 | 28.0 | | Gray fine sand, trace coarse to medium sand, some silt, medium dense, poorly graded, saturated SM | SS-15 28.0-30.0 24"R | 7 7 18 9 |
| | | | Gray coarse to fine sand, trace coarse to fine gravel, some silt, medium dense, well graded, saturated SM | SS-16AB 30.0-32.0 22"R | 13 16 17 100 + |
| 493.3 | 31.5 | | | | |
| 492.8 | 32.0 | | Gray shale | | |
| | | | End of Boring at 32.0' | | |




NOTES & TEST RESULTS

Water level at 1.0' immediately after drilling.
Piezometer was installed immediatley after completion of drilling.
Refer to As-Built Diagram P-6D for more information.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **6.0'** during drilling.
▼ **1.0'** after drilling.

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6R** SHEET **1** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,719.5 E 2,175.7**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.8 | 0.0 | | Drilled to top of bedrock at 32.5 feet without sampling. Refer to Boring Log P-6D for soil conditions above top of bedrock. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/5/92** ENDED **8/6/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6R** SHEET **2** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,719.5 E 2,175.7**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 504.8 | 20.0 | | Drilled to top of bedrock at 32.5 feet without sampling. Refer to Boring Log P-6D for soil conditions above top of bedrock. | | | | |
| | | | | | | | Ceased drilling at 32.5' on 8/5/92. Switched to PQ coring and cored on 8/6/92. |
| 492.3 | 32.5 | | Gray shale, massive, excellent | PQ-1 32.5-38.5 72"R | | | RQD = 100% |
| | | | | PQ-2 38.5-42.5 48"R | | | RQD = 100% |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/5/92** ENDED **8/6/92**

REMARKS

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6R** SHEET **3** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,719.5 E 2,175.7**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 484.8 | 40.0 | | Gray shale, massive, excellent | | | | |
| 482.3 | 42.5 | | End of Boring at 42.5'. | | | | Piezometer P-6R was installed immediately after completion of drilling. Refer to as-built diagram P-6R for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/5/92** ENDED **8/6/92**

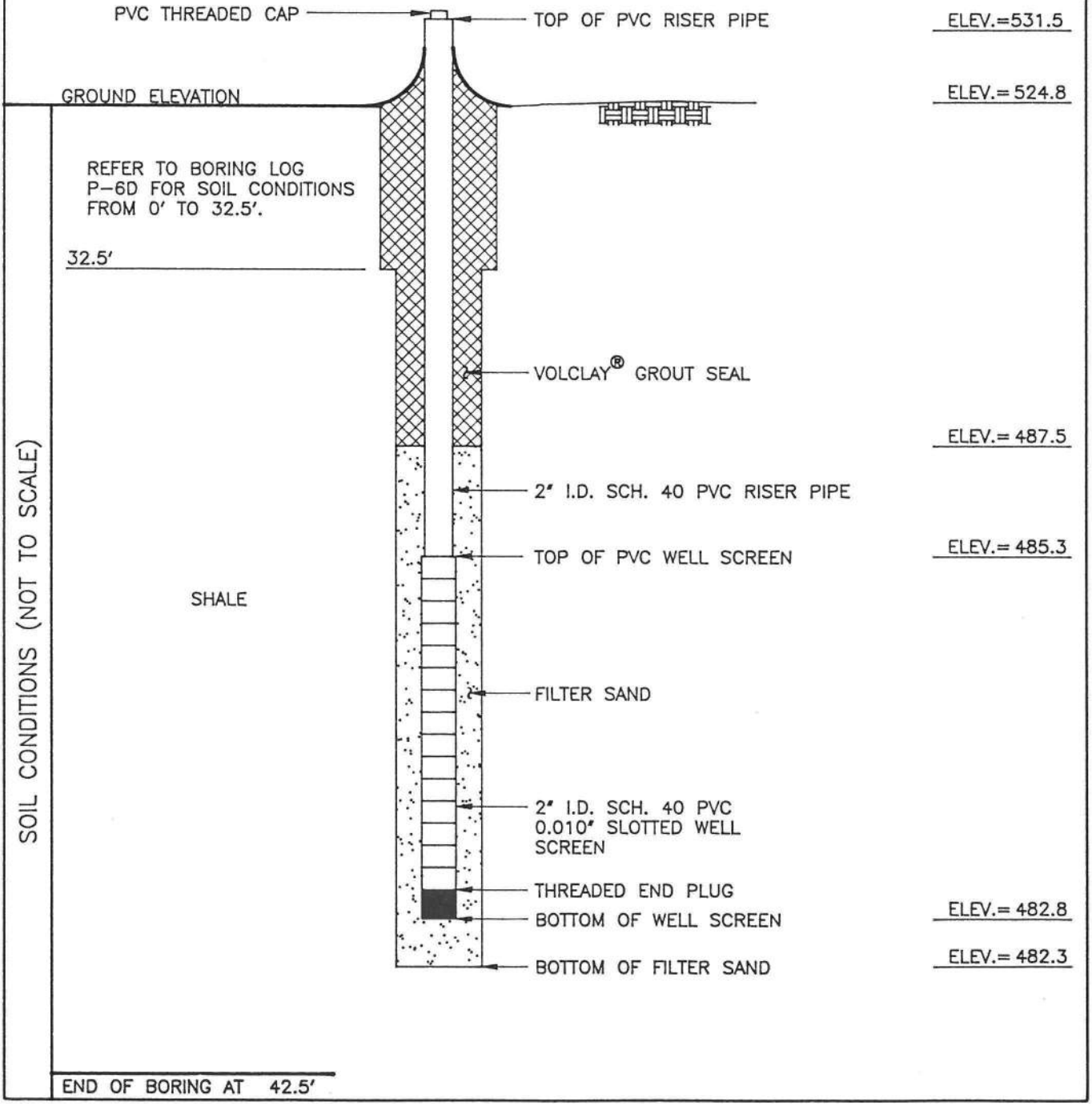
REMARKS

WATER LEVEL (ft.)
▽
▽
▽

| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-6R<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

BORING NO. P-6R
LOCATION N 4719.5
E 2175.7
INSTALLATION DATE 8/6/92
WEATHER SUNNY, 70'S



# PATRICK ENGINEERING INC.

BORING NUMBER **P-7D** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 5,342.8 E 2,432.5**

LOGGED BY **KRR**
GROUND ELEVATION **526.5**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 526.5 | 0.0 | | Brown silty clay, trace fine sand, stiff to very stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 19.2 ○ | |
| | | | Mottled from 2.0'. | SS-2 2.0-4.0 24"R | 3 3 4 5 | ✳ 17.6 ○ | SS-3: LL=33 PL=19 PI=14 |
| | | | | SS-3 4.0-6.0 24"R | 2 3 4 4 | ✳ 21.7 ○ | |
| | | | | SS-4 6.0-8.0 24"R | 5 5 5 6 | ✳ 25.3 ○ | SS-4: CEC = 16.5 meq/100g |
| | | | | 3T-5 8.0-10.0 24"R | | ✳ 22.6 ○ | 3T-5: Dry dens=101pcf k=2.0 E-07 cm/s |
| | | | | SS-6AB 10.0-12.0 24"R | 2 1 2 2 | ✳ 24.8 ○ | SS-6B: Gravel = 0% Sand = 52% Silt or Clay = 48% |
| 515.0 | 11.5 | | | | | | |
| 514.5 | 12.0 | | Brown clayey fine sand, little silt, loose, poorly graded, moist SC | | | | |
| | | | | SS-7 12.0-14.0 24"R | 2 2 3 3 | ✳ 23.1 ○ 28.9 ○ | |
| | | | Gray silty clay, trace fine sand, soft to stiff, low to medium plasticity, wet CL | SS-8 14.0-16.0 24"R | WOH 1 1 1 | ✳ 26.9 □-○-△ | SS-8: LL = 29 PL = 22 PI = 7 |
| | | | | SS-9 16.0-18.0 24"R | 2 2 2 2 | ✳ 25.1 ○ | |
| | | | | SS-10 18.0-20.0 24"R | WOH 1 1 1 | ✳ 23.6 ○ | |
| 506.5 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/30/92** ENDED **7/30/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **20.0'** during drilling.
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER **P-7D** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 5,342.8 E 2,432.5**

LOGGED BY **KRR**
GROUND ELEVATION **526.5**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 506.5 | 20.0 | | Gray silty clay, trace fine sand, soft, low to medium plasticity, wet CL | SS-11 20.0-22.0 24"R | WOH 1 1 1 | ✳ 22.6 | Water level at 20.0' during drilling. |
| | | | | 3T-12 22.0-24.0 20"R | | ✳ | |
| 502.5 | 24.0 | | Gray clayey silt, some fine sand, loose, poorly graded, saturated CL-ML | SS-13 24.0-26.0 24"R | 1 2 1 3 | 24.3 | SS-13: Gravel = 0% Sand = 34% Silt or Clay = 66% |
| 500.5 | 26.0 | | Gray fine sand, some silt, very loose, poorly graded, saturated SM | SS-14 26.0-28.0 18"R | 1 1 1 1 | 19.1 | |
| | | | | SS-15 28.0-30.0 20"R | 1 1 1 3 | 10.9 | |
| 497.5 | 29.0 | | Gray coarse to fine sand, some coarse to fine gravel, little silt, loose, well graded, saturated SW-SM/SM | SS-16 30.0-32.0 20"R | 2 2 4 11 | ✳ 24.2 | SS-16: Gravel = 27% Sand = 59% Silt or clay = 14% |
| 495.5 | 31.0 | | Gray silty clay to clay, trace fine sand, very stiff to hard, medium to high plasticity, moist CL/CH | SS-17 32.0-34.0 15"R | 28 115 200+ /3" | ✳ 13.3 | |
| 494.0 | 32.5 | | | | | | |
| 493.3 | 33.2 | | Gray shale | | | | |
| | | | End of Boring at 33.2'. | | | | Piezometer was installed immediately after completion of drilling. Refer to as-built diagram P-7D for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/30/92** ENDED **7/30/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **20.0'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7M** SHEET **1** OF **1**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,337.0 E 2,432.8**

LOGGED BY **KRR**
GROUND ELEVATION **525.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.9 | 0.0 | | Drilled to 16.0' without sampling. Refer to Boring Log P-6D for soil conditions from 0' to 16'. | | | | Soil conditions from 0' to 16' were consistent with soil conditions in P-6D based on soil cuttings. |
| | | | | | | | 3T-2: Dry dens. = 101 pcf k = 1.5 E-07 cm/s |
| 509.9 | 16.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-1 16.0-18.0 24"R | 1 1 1 2 | ✳ | Piezometer P-7M was installed immediately after completion of drilling. Refer to as-built diagram P-7M for more details. |
| | | | | 3T-2 18.0-20.0 20"R | | ✳ | |
| 505.9 | 20.0 | | End of Boring at 20.0'. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/30/92** ENDED **7/30/92**

REMARKS

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7R** SHEET **1** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,326.9 E 2,424.5**

LOGGED BY **KRR**
GROUND ELEVATION **525.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.4 | 0.0 | | Drilled to 34.0' (auger refusal) without sampling. Refer to Boring Log P-7D for soil conditions from 0' to 34'. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/31/92** ENDED **7/31/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7R** SHEET **2** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,326.9 E 2,424.5**

LOGGED BY **KRR**
GROUND ELEVATION **525.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 505.4 | 20.0 | | Drilled to 34.0' (auger refusal ) without sampling. Refer to Boring Log P-7D for soil conditions from 0' to 34'. | | | | Soil conditions are consistent with soil conditions encountered at P-7D based on soil cuttings. |
| 491.4 | 34.0 | | Gray shale, massive, strongly cemented, excellent | PQ-1 34.0-39.0 60"R | | | Changed to PQ coring from 34.0'. RQD = 100% |
| | | | | PQ-2 39.0-44.0 | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/31/92** ENDED **7/31/92**

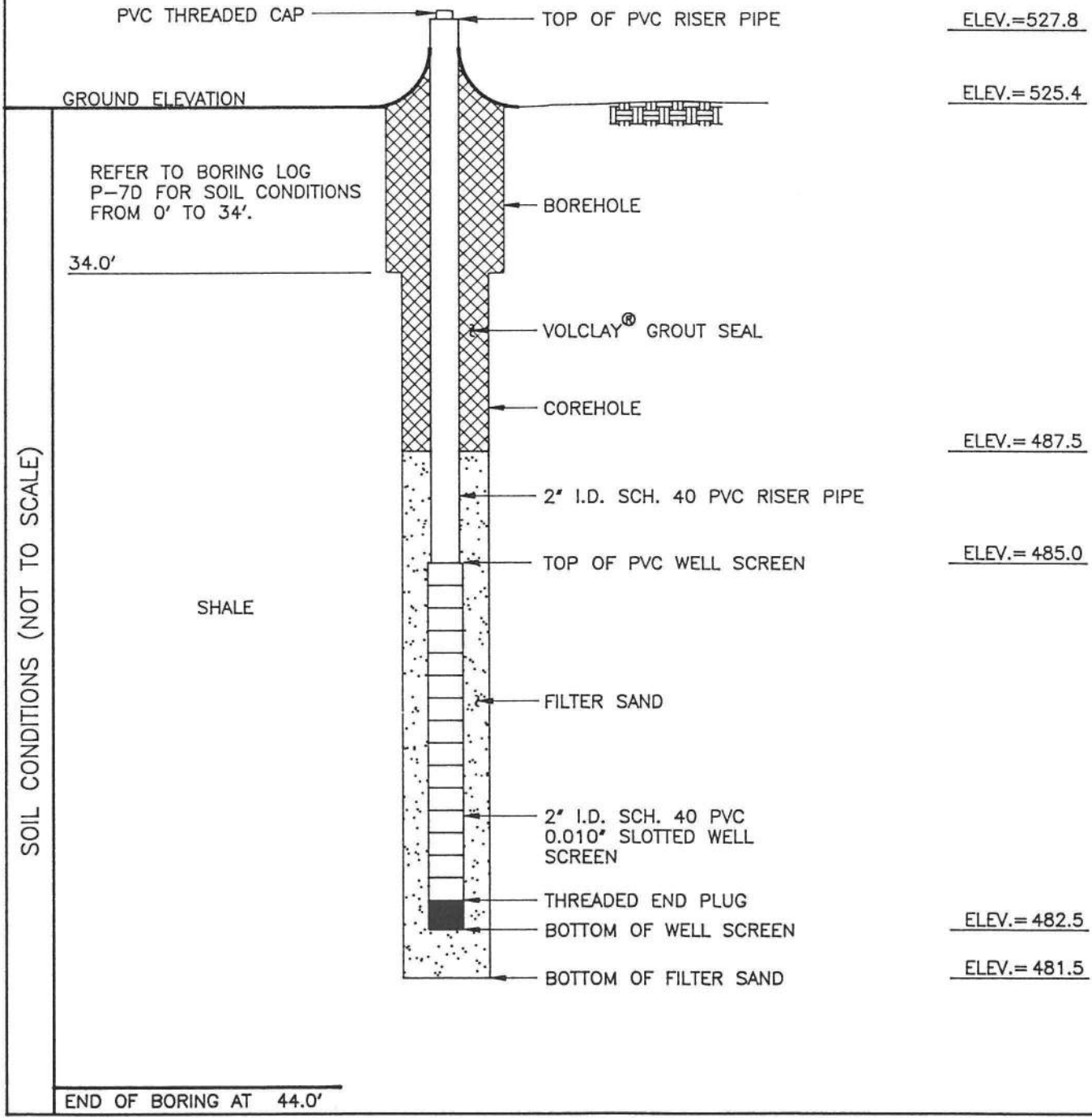
REMARKS

WATER LEVEL (ft.)

| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-7R<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

BORING NO. P-7R
LOCATION N 5326.9
E 2424.5
INSTALLATION DATE 7/31/92
WEATHER CLOUDY, DRIZZLE, 70'S



# APPENDIX D:
## Analytical Summary

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Appendix III** | | | | | | | | | | | | | | | | | | |
| AP-1 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 22.3 | 23.1 | 22.1 | 21.4 | 23.2 | 21.2 | 22.5 | 21.7 | 23.5 | 22.7 | 22.9 | 23.6 |
| AP-2 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 4.68 | 4.25 | 4.32 | 4.08 | 3.94 | 3.7 | 3.73 | 3.23 | 3.38 | 3.43 | 3.1 | 3.52 |
| AP-3 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 15.8 | 14.7 | 14.8 | 14.6 | 14.5 | 14.3 | 14 | 15.2 | 14.8 | 14.5 | 14.6 | 14.9 |
| AP-4 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.0954 | 0.0968 | 0.0927 | 0.102 | 0.0918 | 0.101 | 0.0845 | 0.0841 | 0.0871 | 0.0834 | 0.0825 | 0.082 |
| AP-5 | Boron, total | mg/L | 0.14973 | | | **0.14973** | < 0.02 | 0.0341 | < 0.02 | 0.045 | 0.0353 | 0.0311 | 0.0323 | 0.0455 | 0.0434 | 0.0269 | 0.0339 | 0.0326 |
| AP-6 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.247 | 0.275 | 0.0716 | 0.166 | 0.13 | 0.174 | 0.0753 | 0.214 | 0.171 | 0.238 | 0.25 | 0.248 |
| AP-7 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.381 | 0.339 | 0.204 | 0.26 | 0.18 | 0.391 | 0.141 | 0.331 | 0.173 | 0.0978 | 0.244 | 0.332 |
| AP-8 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.125 | 0.0877 | 0.0839 | 0.0927 | 0.0849 | 0.11 | 0.0932 | 0.0896 | 0.0866 | 0.0877 | 0.0855 | 0.084 |
| AP-9 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.0491 | 0.122 | 0.092 | 0.11 | 0.0973 | 0.102 | 0.0807 | 0.0956 | 0.0932 | 0.0988 | 0.0979 | 0.0995 |
| AP-10 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | 3.58 | 3.52 | 3.35 | 3.32 | 3.76 | 3.81 | 3.6 | 3.71 | 3.92 | 3.9 | 3.95 |
| AP-11 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.276 | 0.271 | 0.0533 | 0.261 | 0.282 | 0.241 | 0.24 | 0.256 | 0.232 | 0.0555 | 0.211 | 0.261 |
| AP-12 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.0244 | < 0.02 | 0.0213 | 0.0294 | 0.0277 | < 0.02 | < 0.02 | 0.038 | 0.021 | < 0.02 | 0.0241 | < 0.02 |
| AP-13 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.0403 | 0.0375 | 0.268 | 0.044 | 0.0485 | 0.0328 | 0.0235 | 0.0386 | 0.0356 | 0.0343 | 0.0357 | < 0.02 |
| AP-14 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 23.1 | 23.3 | 21.8 | 21.3 | 21.3 | 23 | 22.6 | 22.1 | 21.6 | 22.3 | 20 | 21 |
| AW-1 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | 8.24 | 7.78 | | | 8.39 | | 8.66 | 8.24 | 9.44 | 9.19 | 8.91 |
| RW-3 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 0.179 | 0.196 | 0.177 | 0.192 | 0.175 | 0.186 | 0.0595 | 0.117 | 0.116 | 0.154 | 0.122 | 0.137 |
| R111 | Boron, total | mg/L | 0.14973 | | | **0.14973** | 4.19 | | 0.104 | | | 4.64 | 3.89 | 0.102 | < 0.02 | 0.901 | 3.5 | 4.19 |
| G120 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | 6.19 | 5.85 | | | 6.92 | | 7.15 | 7.12 | 7.43 | 7.71 | 7.5 |
| T-1 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.227 | 0.141 | 0.15 |
| T-2 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.189 | 0.0718 | 0.0507 |
| T-4 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.0304 | 0.0537 | 0.0565 |
| T-5 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.0639 | 0.0843 | 0.0791 |
| T-6 | Boron, total | mg/L | 0.14973 | | | **0.14973** | | | | | | | | | | 0.201 | 0.214 | 0.21 |
| AP-1 | Calcium, total | mg/L | 181.6 | | | **181.6** | 245 | 243 | 239 | 242 | 230 | 242 | 285 | 229 | 250 | 248 | 244 | 237 |
| AP-2 | Calcium, total | mg/L | 181.6 | | | **181.6** | 265 | 236 | 241 | 248 | 217 | 210 | 244 | 204 | 210 | 194 | 206 | 222 |
| AP-3 | Calcium, total | mg/L | 181.6 | | | **181.6** | 150 | 152 | 157 | 160 | 161 | 168 | 189 | 181 | 177 | 176 | 175 | 185 |
| AP-4 | Calcium, total | mg/L | 181.6 | | | **181.6** | 123 | 122 | 116 | 121 | 115 | 125 | 132 | 118 | 119 | 123 | 118 | < 0.1 |
| AP-5 | Calcium, total | mg/L | 181.6 | | | **181.6** | 87.2 | 74.3 | 102 | 80.2 | 78.3 | 80.4 | 96.3 | 90.7 | 96.7 | 94.1 | 96.3 | 92.6 |
| AP-6 | Calcium, total | mg/L | 181.6 | | | **181.6** | 69.2 | 66.2 | 43 | 57.8 | 52.4 | 60.9 | 49 | 65.8 | 61.4 | 65.8 | 65.6 | 66 |
| AP-7 | Calcium, total | mg/L | 181.6 | | | **181.6** | 62.9 | 64.9 | 46.4 | 44.8 | 49.3 | 53.6 | 49.6 | 50.6 | 55.6 | 52.3 | 59.5 | 61.9 |
| AP-8 | Calcium, total | mg/L | 181.6 | | | **181.6** | 100 | 96.5 | 96.1 | 100 | 95.1 | 99.1 | 107 | 101 | 99.3 | 99.4 | 89.5 | 98.4 |
| AP-9 | Calcium, total | mg/L | 181.6 | | | **181.6** | 46.5 | 112 | 102 | 104 | 105 | 108 | 86.1 | 97.8 | 97.9 | 101 | 103 | 104 |
| AP-10 | Calcium, total | mg/L | 181.6 | | | **181.6** | | 141 | 140 | 142 | 139 | 144 | 138 | 138 | 141 | 141 | 133 | 140 |
| AP-11 | Calcium, total | mg/L | 181.6 | | | **181.6** | 127 | 149 | 102 | 141 | 169 | 145 | 118 | 134 | 150 | 217 | 126 | 124 |
| AP-12 | Calcium, total | mg/L | 181.6 | | | **181.6** | 201 | 287 | 266 | 260 | 265 | 269 | 271 | 268 | 228 | 240 | 258 | 203 |
| AP-13 | Calcium, total | mg/L | 181.6 | | | **181.6** | 106 | 105 | 138 | 112 | 107 | 105 | 106 | 122 | 101 | 109 | 106 | 103 |
| AP-14 | Calcium, total | mg/L | 181.6 | | | **181.6** | 225 | 215 | 217 | 236 | 209 | 233 | 235 | 278 | 263 | 245 | 237 | 253 |
| AW-1 | Calcium, total | mg/L | 181.6 | | | **181.6** | | 195 | | | | 191 | | 197 | 203 | 200 | 186 | 193 |
| RW-3 | Calcium, total | mg/L | 181.6 | | | **181.6** | 72.7 | 75.6 | 72.3 | 72.7 | 67.8 | 70.5 | 52.8 | 58.7 | 63.4 | 65.6 | 63.2 | 67.2 |
| R111 | Calcium, total | mg/L | 181.6 | | | **181.6** | 169 | | 40.2 | | | 181 | | 15.1 | 11 | 93.5 | 163 | 169 |
| G120 | Calcium, total | mg/L | 181.6 | | | **181.6** | | 263 | | | | 274 | | 257 | 265 | 259 | 240 | 263 |
| T-1 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 105 | 183 | 172 |
| T-2 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 150 | 218 | 211 |
| T-4 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 62.7 | 77.3 | 96.8 |
| T-5 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 65.4 | 64.6 | 70.3 |
| T-6 | Calcium, total | mg/L | 181.6 | | | **181.6** | | | | | | | | | | 91.3 | 84.3 | 91.4 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Chloride, total | mg/L | 12.3 | | | **12.3** | 55 | 59 | 44 | 61 | 58 | 60 | 36 | 53 | 54 | 29 | 59 | 52.1 |
| AP-2 | Chloride, total | mg/L | 12.3 | | | **12.3** | 36 | 35 | 34 | 34 | 36 | 37 | 54 | 40 | 39 | 36 | 39 | 35.1 |
| AP-3 | Chloride, total | mg/L | 12.3 | | | **12.3** | 42 | 42 | 47 | 55 | 60 | 59 | 51 | 57 | 54 | 53 | 55.9 | 59.5 |
| AP-4 | Chloride, total | mg/L | 12.3 | | | **12.3** | 12 | 16 | 13 | 14 | 14 | 14 | 13 | 14 | 13 | 13 | 15 | 12.3 |
| AP-5 | Chloride, total | mg/L | 12.3 | | | **12.3** | < 4 | 2 | 6 | < 4 | 3 | 4 | 4 | 5 | 8 | 8 | 8 | 7.59 |
| AP-6 | Chloride, total | mg/L | 12.3 | | | **12.3** | 35 | 38 | 25 | 31 | 27 | 31 | 28 | 33 | 30 | 33 | 37 | 34.5 |
| AP-7 | Chloride, total | mg/L | 12.3 | | | **12.3** | 64 | 66 | 36 | 58 | 45 | 70 | 39 | 60 | 42 | 43 | 50 | 62.1 |
| AP-8 | Chloride, total | mg/L | 12.3 | | | **12.3** | 26 | 28 | 27 | 26 | 26 | 26 | 25 | 25 | 24 | 26 | 35 | 23.2 |
| AP-9 | Chloride, total | mg/L | 12.3 | | | **12.3** | 24 | 64 | 30 | 27 | 36 | 60 | 28 | 26 | 25 | 39 | 29 | 23.6 |
| AP-10 | Chloride, total | mg/L | 12.3 | | | **12.3** | | 29 | 28 | 28 | 27 | 28 | 28 | 27 | 27 | 27 | 30 | 25.7 |
| AP-11 | Chloride, total | mg/L | 12.3 | | | **12.3** | 83 | 119 | 29 | 105 | 140 | 123 | 79 | 90 | 122 | 429 | 90 | 91 |
| AP-12 | Chloride, total | mg/L | 12.3 | | | **12.3** | 113 | 162 | 143 | 147 | 140 | 142 | 139 | 124 | 115 | 121 | 136 | 120 |
| AP-13 | Chloride, total | mg/L | 12.3 | | | **12.3** | 35 | 27 | 103 | 26 | 29 | 26 | 26 | 27 | 27 | 26 | 27 | 25.8 |
| AP-14 | Chloride, total | mg/L | 12.3 | | | **12.3** | 49 | 52 | 59 | 65 | 59 | 71 | 73 | 89 | 82 | 83 | 92 | 94 |
| AW-1 | Chloride, total | mg/L | 12.3 | | | **12.3** | | 40 | | | | 41 | | 40 | 40 | 40 | 41 | 37.3 |
| RW-3 | Chloride, total | mg/L | 12.3 | | | **12.3** | 29 | 31 | 31 | 30 | 29 | 32 | 28 | 31 | 27 | 28 | 29 | 25.1 |
| R111 | Chloride, total | mg/L | 12.3 | | | **12.3** | 202 | | 25 | | | 219 | | < 4 | 6 | 22 | 185 | 202 |
| G120 | Chloride, total | mg/L | 12.3 | | | **12.3** | | 40 | | | | 40 | | 40 | 39 | 39 | 41 | 37.4 |
| T-1 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | 49 | 259 | 233 |
| T-2 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | 173 | 447 | 509 |
| T-4 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | < 4 | < 4 | < 5 |
| T-5 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | < 4 | < 4 | < 5 |
| T-6 | Chloride, total | mg/L | 12.3 | | | **12.3** | | | | | | | | | | 21 | 24 | 19.4 |
| AP-1 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.2 | 0.21 | 0.2 | 0.18 | 0.2 | 0.27 | 0.24 | 0.26 | 0.18 | 0.19 | 0.2 | < 0.5 |
| AP-2 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.24 | 0.24 | 0.24 | 0.22 | 0.24 | 0.22 | 0.2 | 0.27 | 0.21 | 0.23 | 0.25 | < 0.5 |
| AP-3 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.21 | 0.24 | 0.23 | 0.21 | 0.22 | 0.22 | 0.21 | 0.25 | 0.17 | 0.19 | < 0.5 | < 0.5 |
| AP-4 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.14 | 0.15 | 0.15 | 0.13 | 0.14 | 0.14 | 0.14 | 0.16 | 0.16 | 0.13 | 0.15 | < 0.5 |
| AP-5 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.33 | 0.38 | 0.29 | 0.31 | 0.34 | 0.32 | 0.31 | 0.37 | 0.28 | 0.29 | 0.32 | < 0.5 |
| AP-6 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.49 | 0.55 | 0.31 | 0.4 | 0.38 | 0.51 | 0.26 | 0.5 | 0.37 | 0.48 | 0.56 | < 0.5 |
| AP-7 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.55 | 0.56 | 0.37 | 0.39 | 0.36 | 0.53 | 0.34 | 0.53 | 0.44 | 0.38 | 0.46 | < 0.5 |
| AP-8 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.29 | 0.31 | 0.3 | 0.27 | 0.3 | 0.33 | 0.29 | 0.31 | 0.26 | 0.28 | 0.33 | < 0.5 |
| AP-9 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.25 | 0.23 | 0.25 | 0.22 | 0.22 | 0.2 | 0.23 | 0.29 | 0.26 | 0.21 | 0.26 | < 0.5 |
| AP-10 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | 0.35 | 0.34 | 0.3 | 0.3 | 0.36 | 0.32 | 0.35 | 0.29 | 0.28 | 0.32 | < 0.5 |
| AP-11 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.21 | 0.22 | 0.22 | 0.2 | 0.18 | 0.2 | 0.21 | 0.65 | 0.22 | 0.22 | 0.21 | < 0.5 |
| AP-12 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.17 | 0.19 | 0.18 | 0.17 | 0.17 | 0.18 | 0.18 | 0.2 | 0.19 | 0.16 | 0.19 | < 0.5 |
| AP-13 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.23 | 0.24 | 0.22 | 0.21 | 0.2 | 0.23 | 0.22 | 0.24 | 0.24 | 0.2 | 0.22 | < 0.5 |
| AP-14 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.28 | 0.3 | 0.29 | 0.26 | 0.25 | 0.28 | 0.27 | 0.29 | 0.3 | 0.24 | 0.28 | < 0.5 |
| AW-1 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | < 0.1 | | | | < 0.1 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.5 |
| RW-3 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | 0.47 | 0.49 | 0.48 | 0.43 | 0.46 | 0.52 | 0.27 | 0.44 | 0.37 | 0.4 | 0.43 | < 0.5 |
| R111 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | < 0.5 | | 0.11 | | | 0.16 | | < 0.1 | < 0.1 | < 0.1 | 0.14 | < 0.5 |
| G120 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | 0.18 | | | | 0.19 | | 0.18 | 0.17 | 0.16 | 0.16 | < 0.5 |
| T-1 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | | | | | | | | | 0.2 | 0.22 | < 0.5 |
| T-2 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | | | | | | | | | 0.24 | 0.23 | < 0.5 |
| T-4 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | | | | | | | | | 0.26 | 0.32 | < 0.5 |
| T-5 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | | | | | | | | | 0.18 | 0.22 | < 0.5 |
| T-6 | Fluoride, total | mg/L | 0.5 | 4 | | **4** | | | | | | | | | | 0.28 | 0.32 | < 0.5 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.57 | 6.58 | 6.65 | 6.68 | 6.6 | 6.52 | 6.51 | 6.71 | 6.51 | 6.31 | 6.7 | 6.54 |
| AP-2 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.43 | 6.43 | 6.45 | 6.52 | 6.46 | 6.44 | 6.4 | 6.57 | 6.41 | 6.21 | 6.58 | 6.41 |
| AP-3 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.6 | 6.58 | 6.6 | 6.65 | 6.58 | 6.64 | 6.53 | 6.69 | 6.55 | 6.36 | 6.2 | 6.48 |
| AP-4 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.92 | 6.86 | 6.89 | 6.95 | 6.99 | 6.82 | 6.86 | 6.99 | 6.86 | 6.83 | 6.97 | 6.82 |
| AP-5 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.01 | 7.17 | 7.16 | 7.16 | 7.06 | 7.08 | 7.16 | 7.17 | 7.01 | 6.99 | 7.07 | 6.9 |
| AP-6 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.18 | 7.11 | 7.2 | 7.14 | 7.07 | 7.02 | 7.06 | 7.17 | 6.97 | 7.27 | 7.16 | 7 |
| AP-7 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.2 | 6.92 | 7.12 | 7.17 | 7.2 | 7.11 | 7.28 | 7.15 | 7.15 | 7.15 | 7.2 | 7.17 |
| AP-8 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.91 | 6.9 | 6.76 | 6.99 | 6.86 | 6.77 | 6.75 | 7.01 | 6.83 | 7.03 | 7.03 | 6.78 |
| AP-9 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.47 | 6.63 | 6.92 | 6.83 | 6.85 | 6.69 | 6.88 | 6.81 | 6.82 | 6.75 | 6.89 | 6.8 |
| AP-10 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | 6.69 | 6.7 | 6.76 | 6.58 | 6.68 | 6.57 | 6.82 | 6.65 | 6.54 | 6.53 | 6.73 |
| AP-11 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.57 | 6.51 | 6.61 | 6.64 | 6.42 | 6.45 | 6.64 | 6.6 | 6.45 | 6.75 | 6.44 | 6.66 |
| AP-12 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.53 | 6.44 | 6.56 | 6.6 | 6.47 | 6.43 | 6.57 | 6.62 | 6.53 | 6.52 | 6.43 | 6.59 |
| AP-13 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.71 | 6.59 | 6.76 | 6.79 | 6.62 | 6.54 | 6.66 | 6.74 | 6.73 | 6.7 | 6.59 | 6.67 |
| AP-14 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.93 | 6.95 | 6.94 | 7.05 | 6.69 | 6.97 | 6.93 | 7.06 | 6.93 | 6.95 | 6.76 | 6.93 |
| AW-1 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.67 | 6.66 | 6.64 | 6.83 | 6.54 | 6.47 | 6.51 | 6.54 | 6.55 | 6.58 | 6.58 | 6.56 |
| RW-3 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 7.27 | 7.2 | 7.11 | 7.21 | 6.15 | 7.06 | 7.13 | 7.31 | 7.1 | 6.7 | 7.23 | 7.13 |
| R111 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 5.96 | 6.86 | 6.92 | 6.81 | 7.69 | 6.97 | 6.91 | 6.42 | 6.14 | 6.01 | 6.84 | 5.96 |
| G120 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | 6.77 | 6.73 | 6.7 | 6.7 | 6.62 | 6.54 | 6.79 | 6.78 | 6.47 | 6.65 | 6.81 | 6.55 |
| T-1 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.57 | 6.51 | 6.57 |
| T-2 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.51 | 6.37 | 6.54 |
| T-4 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.31 | 6.68 | 6.65 |
| T-5 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.62 | 6.86 | 6.82 |
| T-6 | pH | s.u. | 6.7 - 7.87 | | | **7.87** | | | | | | | | | | 6.56 | 6.77 | 6.97 |
| AP-1 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 732 | 791 | 753 | 777 | 56.8 | 768 | 443 | 740 | 790 | 805 | 836 | 849 |
| AP-2 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 583 | 532 | 545 | 643 | 485 | 462 | 795 | 380 | 393 | 411 | 417 | 440 |
| AP-3 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 410 | 408 | 384 | 444 | 461 | 483 | 467 | 495 | 512 | 493 | 554 | 558 |
| AP-4 | Sulfate, total | mg/L | 55.5 | | | **55.5** | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | 11 | < 10 | < 10 | < 10 |
| AP-5 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 57 | 35 | 66 | 36 | 37 | 44 | 43 | 45 | 50 | 43 | 63 | 59.2 |
| AP-6 | Sulfate, total | mg/L | 55.5 | | | **55.5** | < 10 | < 10 | 15 | 13 | 12 | 11 | 22 | 13 | 14 | < 10 | 11 | < 10 |
| AP-7 | Sulfate, total | mg/L | 55.5 | | | **55.5** | < 10 | < 10 | 15 | 13 | 16 | < 10 | 20 | 15 | 17 | 11 | 14 | < 10 |
| AP-8 | Sulfate, total | mg/L | 55.5 | | | **55.5** | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | 11 | < 10 |
| AP-9 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 23 | 57 | 27 | 28 | 38 | 64 | 24 | 23 | 23 | 22 | 25 | 17.7 |
| AP-10 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | 86 | 87 | 96 | 96 | 100 | 100 | 91 | 96 | 100 | 108 | 89.4 |
| AP-11 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 67 | 88 | 120 | 89 | 105 | 89 | 65 | 81 | 89 | 134 | 77 | 63.4 |
| AP-12 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 402 | 678 | 607 | 691 | 641 | 659 | 632 | 563 | 460 | 499 | 612 | 457 |
| AP-13 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 134 | 135 | 64 | 142 | 133 | 146 | 139 | 151 | 118 | 140 | 135 | 121 |
| AP-14 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 670 | 681 | 639 | 736 | 699 | 707 | 714 | 806 | 679 | 740 | 821 | 909 |
| AW-1 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | 344 | | | | 399 | | 384 | 369 | 401 | 406 | 388 |
| RW-3 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 10 | < 10 | < 10 | < 10 | < 10 | < 10 | 22 | 16 | 14 | < 10 | 14 | < 10 |
| R111 | Sulfate, total | mg/L | 55.5 | | | **55.5** | 33.3 | | < 10 | | | 38 | | < 10 | < 10 | 11 | 32 | 33.3 |
| G120 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | 464 | | | | 500 | | 555 | 503 | 535 | 534 | 565 |
| T-1 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 36 | 236 | 224 |
| T-2 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 135 | 181 | 142 |
| T-4 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 87 | 100 | 104 |
| T-5 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | 27 | 40 | 40.4 |
| T-6 | Sulfate, total | mg/L | 55.5 | | | **55.5** | | | | | | | | | | < 10 | 11 | < 10 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1490 | 1550 | 1550 | 1540 | 7.4 | 1540 | 1190 | 1360 | 1400 | 1490 | 1530 | 1640 |
| AP-2 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1310 | 1270 | 1360 | 1310 | 1180 | 1100 | 1600 | 1020 | 1020 | 1040 | 1110 | 1160 |
| AP-3 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 882 | 942 | 1030 | 920 | 1040 | 984 | 990 | 1080 | 935 | 1040 | 1170 | 1160 |
| AP-4 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 496 | 516 | 540 | 495 | 515 | 534 | 560 | 420 | 520 | 500 | 510 | 565 |
| AP-5 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 406 | 354 | 488 | 358 | 374 | 404 | 400 | 396 | 434 | 405 | 422 | 470 |
| AP-6 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 374 | 458 | 246 | 348 | 322 | 380 | 268 | 322 | 380 | 390 | 396 | 445 |
| AP-7 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 440 | 480 | 290 | 348 | 328 | 444 | 300 | 352 | 330 | 340 | 386 | 470 |
| AP-8 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 502 | 552 | 540 | 505 | 555 | 544 | 555 | 430 | 520 | 590 | 526 | 530 |
| AP-9 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 224 | 618 | 565 | 595 | 586 | 638 | 515 | 524 | 530 | 535 | 558 | 740 |
| AP-10 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | 752 | 755 | 730 | 778 | 756 | 725 | 732 | 745 | 720 | 796 | 790 |
| AP-11 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 606 | 778 | 550 | 625 | 820 | 726 | 670 | 640 | 665 | 1780 | 596 | 686 |
| AP-12 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 998 | 1600 | 1540 | 1440 | 1440 | 1580 | 1640 | 1320 | 1290 | 1620 | 1670 | 1300 |
| AP-13 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 486 | 530 | 690 | 525 | 495 | 538 | 530 | 465 | 500 | 910 | 560 | 655 |
| AP-14 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1240 | 1340 | 1390 | 1380 | 1280 | 1330 | 1480 | 1440 | 1510 | 1480 | 1610 | 1840 |
| AW-1 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1080 | 1060 | 1090 | 1100 | 1150 | | | 1220 | 1120 | 1010 | 1190 | 1100 |
| RW-3 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1030 | 428 | 428 | 425 | 420 | | 290 | 340 | 335 | 345 | 344 | 470 |
| R111 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 875 | 135 | 805 | 118 | 110 | | | 68 | 78 | 525 | 832 | 875 |
| G120 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | 1360 | 1440 | 1420 | 1400 | 1450 | | | 1390 | 1320 | 1320 | 1450 | 1430 |
| T-1 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 700 | 1020 | 1060 |
| T-2 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 1060 | 1430 | 1580 |
| T-4 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 255 | 382 | 695 |
| T-5 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 280 | 338 | 382 |
| T-6 | Total Dissolved Solids | mg/L | 609.21 | | | **609.21** | | | | | | | | | | 475 | 494 | 595 |
| **Appendix IV** | | | | | | | | | | | | | | | | | | |
| AP-1 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-2 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0021 | < 0.001 | < 0.001 |
| AP-3 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-4 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-5 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-6 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0021 |
| AP-7 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0016 | < 0.001 |
| AP-8 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-9 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | 0.0025 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0017 | < 0.001 |
| AP-10 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0014 | < 0.001 | < 0.001 |
| AP-11 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-12 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0015 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0018 | < 0.001 | < 0.001 |
| AP-13 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-14 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AW-1 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | < 0.001 | | | | < 0.001 | | < 0.001 | < 0.001 | < 0.001 | 0.0016 | < 0.001 |
| RW-3 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| R111 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | < 0.001 | | < 0.001 | | | < 0.001 | | < 0.001 | < 0.001 | < 0.001 | 0.0014 | < 0.001 |
| G120 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | < 0.001 | | | | < 0.001 | | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| T-1 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | | | | | | | | | < 0.001 | < 0.001 | < 0.001 |
| T-2 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | | | | | | | | | < 0.001 | < 0.001 | < 0.001 |
| T-4 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | | | | | | | | | 0.0013 | < 0.001 | < 0.001 |
| T-5 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | | | | | | | | | < 0.001 | < 0.001 | < 0.001 |
| T-6 | Antimony, total | mg/L | 0.001 | 0.006 | | **0.006** | | | | | | | | | | < 0.001 | < 0.001 | < 0.001 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-2 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.002 | 0.002 | 0.0027 | 0.002 | 0.0031 | 0.0016 |
| AP-3 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.0109 | 0.0182 | 0.0101 | 0.0021 | 0.008 | 0.0182 |
| AP-4 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.0306 | < 0.025 | 0.0309 | 0.027 | < 0.025 | 0.025 | 0.0239 | 0.0225 | 0.0375 | 0.0229 | 0.0207 | 0.0246 |
| AP-5 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-6 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.004 | 0.0183 | 0.0068 | 0.0121 | 0.0074 | 0.0108 |
| AP-7 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | 0.0468 | 0.0376 | < 0.025 | < 0.025 | 0.0462 | 0.0412 | 0.075 | 0.0555 | 0.0395 | 0.0438 | 0.0947 |
| AP-8 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.0319 | 0.0352 | 0.0377 | 0.034 | 0.0336 | 0.0348 | 0.0513 | 0.0395 | 0.0426 | 0.0461 | 0.0414 | 0.0386 |
| AP-9 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.0114 | 0.0062 | 0.0037 | 0.0024 | 0.0028 | 0.0019 |
| AP-10 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.0013 | < 0.001 | 0.0011 | < 0.001 | < 0.001 | 0.0011 |
| AP-11 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.001 | < 0.001 | < 0.001 | 0.0037 | < 0.001 | < 0.001 |
| AP-12 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.001 | 0.0149 | 0.0013 | 0.0038 | 0.0015 | < 0.001 |
| AP-13 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.0031 | 0.0075 | 0.0028 | 0.0032 | 0.0029 | 0.0038 |
| AP-14 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | < 0.025 | 0.0018 | 0.0036 | 0.0039 | 0.0019 | 0.0016 | 0.0022 |
| AW-1 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | 0.148 | 0.192 | | | 0.152 | | 0.208 | 0.16 | 0.153 | 0.129 | 0.168 |
| RW-3 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.178 | 0.109 | 0.11 | 0.142 | 0.169 | 0.185 | 0.0831 | 0.74 | 0.306 | 0.188 | 0.107 | 0.214 |
| R111 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | 0.0185 | | 0.0111 | 0.0031 | | 0.021 | 0.0212 | 0.0019 | 0.0015 | 0.0175 | 0.0166 | 0.0185 |
| G120 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | 0.012 | | | | 0.0138 | | 0.0162 | 0.0116 | 0.0121 | 0.0104 | 0.0119 |
| T-1 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | | | | | | | | | < 0.001 | 0.0048 | 0.0019 |
| T-2 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | | | | | | | | | 0.0023 | 0.0053 | 0.006 |
| T-4 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | | | | | | | | | 0.0013 | 0.0055 | 0.0055 |
| T-5 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | | | | | | | | | < 0.001 | < 0.001 | 0.0016 |
| T-6 | Arsenic, total | mg/L | 0.0239 | 0.01 | | **0.0239** | | | | | | | | | | 0.0076 | 0.0108 | 0.0158 |
| AP-1 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.277 | 0.309 | 0.246 | 0.285 | 0.236 | 0.329 | 0.271 | 0.262 | 0.292 | 0.3 | 0.269 | 0.269 |
| AP-2 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.0721 | 0.073 | 0.0751 | 0.0734 | 0.0744 | 0.0656 | 0.0719 | 0.0716 | 0.0678 | 0.0607 | 0.0751 | 0.0727 |
| AP-3 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.08019999 | 0.0849 | 0.0883 | 0.0951 | 0.111 | 0.103 | 0.0993 | 0.113 | 0.095 | 0.077 | 0.102 | 0.132 |
| AP-4 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.413 | 0.422 | 0.392 | 0.399 | 0.39 | 0.404 | 0.396 | 0.381 | 0.39 | 0.407 | 0.374 | 0.39 |
| AP-5 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.0505 | 0.0345 | 0.0908 | 0.042 | 0.0408 | 0.0451 | 0.0461 | 0.0471 | 0.0515 | 0.051 | 0.0521 | 0.0525 |
| AP-6 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.119 | 0.141 | 0.066 | 0.135 | 0.0938 | 0.111 | 0.0844 | 0.16 | 0.119 | 0.147 | 0.152 | 0.154 |
| AP-7 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.125 | 0.13 | 0.119 | 0.13 | 0.111 | 0.162 | 0.106 | 0.158 | 0.118 | 0.0915 | 0.108 | 0.148 |
| AP-8 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.355 | 0.356 | 0.355 | 0.371 | 0.36 | 0.375 | 0.378 | 0.374 | 0.374 | 0.373 | 0.407 | 0.364 |
| AP-9 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.114 | 0.399 | 0.403 | 0.396 | 0.284 | 0.295 | 0.324 | 0.399 | 0.378 | 0.36 | 0.405 | 0.434 |
| AP-10 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | 0.571 | 0.553 | 0.57 | 0.509 | 0.602 | 0.596 | 0.583 | 0.613 | 0.605 | 0.638 | 0.628 |
| AP-11 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.108 | 0.152 | 0.176 | 0.184 | 0.37 | 0.161 | 0.113 | 0.126 | 0.154 | 0.238 | 0.11 | 0.122 |
| AP-12 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.171 | 0.101 | 0.153 | 0.0701 | 0.0794 | 0.0649 | 0.0481 | 0.138 | 0.0569 | 0.0707 | 0.0515 | 0.0458 |
| AP-13 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.119 | 0.161 | 0.307 | 0.26 | 0.175 | 0.128 | 0.121 | 0.177 | 0.116 | 0.131 | 0.127 | 0.12 |
| AP-14 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.0411 | 0.0343 | 0.0361 | 0.0438 | 0.0413 | 0.0389 | 0.0349 | 0.0636 | 0.0422 | 0.0329 | 0.0371 | 0.0413 |
| AW-1 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | 0.64 | | | | 0.622 | | 1.96 | 2.02 | 1.48 | 0.602 | 0.446 |
| RW-3 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.154 | 0.151 | 0.158 | 0.166 | 0.168 | 0.172 | 0.106 | 0.165 | 0.166 | 0.143 | 0.146 | 0.18 |
| R111 | Barium, total | mg/L | 0.51918 | 2 | | **2** | 0.686 | | 0.161 | | | 0.704 | | 0.0598 | 0.0139 | 0.369 | 0.639 | 0.686 |
| G120 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | 0.432 | | | | 0.972 | | 0.556 | 0.628 | 0.681 | 0.614 | 0.565 |
| T-1 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | | | | | | | | | 0.0862 | 0.118 | 0.0707 |
| T-2 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | | | | | | | | | 0.0771 | 0.246 | 0.225 |
| T-4 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | | | | | | | | | 0.0382 | 0.0562 | 0.0578 |
| T-5 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | | | | | | | | | 0.0478 | 0.0538 | 0.0564 |
| T-6 | Barium, total | mg/L | 0.51918 | 2 | | **2** | | | | | | | | | | 0.314 | 0.323 | 0.306 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-2 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-3 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-4 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-5 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-6 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-7 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-8 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-9 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | 0.0006 | 0.0011 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-10 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-11 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | 0.0005 | 0.0007 | 0.0009 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-12 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | 0.001 | 0.0005 | 0.0018 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | 0.0015 | 0.0006 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-13 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | 0.0016 | 0.0015 | < 0.0005 | < 0.0005 | < 0.0005 | 0.0009 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-14 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | 0.0009 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AW-1 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | < 0.0005 | | | | < 0.0005 | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| RW-3 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| R111 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | < 0.0005 | | < 0.0005 | | | < 0.0005 | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| G120 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | < 0.0005 | | | | < 0.0005 | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| T-1 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | | | | | | | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| T-2 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | | | | | | | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| T-4 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | | | | | | | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| T-5 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | | | | | | | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| T-6 | Beryllium, total | mg/L | 0.0025 | 0.004 | | **0.004** | | | | | | | | | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| AP-1 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-2 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-3 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-4 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-5 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-6 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-7 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-8 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-9 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-10 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-11 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-12 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-13 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-14 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AW-1 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | < 0.002 | | | | < 0.002 | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| RW-3 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| R111 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | < 0.002 | | < 0.002 | | | < 0.002 | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| G120 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | < 0.002 | | | | < 0.002 | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| T-1 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | | | | | | | | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| T-2 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | | | | | | | | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| T-4 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | | | | | | | | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| T-5 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | | | | | | | | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| T-6 | Cadmium, total | mg/L | 0.0025 | 0.005 | | **0.005** | | | | | | | | | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-2 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-3 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-4 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-5 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-6 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-7 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-8 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-9 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | 0.0098 | 0.0119 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-10 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-11 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | 0.0098 | 0.0158 | 0.0213 | < 0.005 | < 0.005 | < 0.005 | 0.0081 | < 0.005 | < 0.005 | < 0.005 |
| AP-12 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | 0.0253 | 0.0119 | 0.037 | 0.0073 | < 0.005 | < 0.005 | < 0.005 | 0.0332 | < 0.005 | 0.0053 | < 0.005 | < 0.005 |
| AP-13 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | 0.0369 | 0.0413 | 0.0059 | < 0.005 | < 0.005 | 0.019 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-14 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.0058 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AW-1 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | < 0.005 | | | | < 0.005 | | 0.0101 | 0.0087 | 0.0105 | < 0.005 | < 0.005 |
| RW-3 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| R111 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | < 0.005 | | < 0.005 | | | < 0.005 | | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| G120 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | < 0.005 | | | | < 0.005 | | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| T-1 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | | | | | | | | | < 0.005 | 0.0096 | < 0.005 |
| T-2 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | | | | | | | | | < 0.005 | < 0.005 | < 0.005 |
| T-4 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | | | | | | | | | < 0.005 | < 0.005 | < 0.005 |
| T-5 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | | | | | | | | | < 0.005 | < 0.005 | < 0.005 |
| T-6 | Chromium, total | mg/L | 0.0653 | 0.1 | | **0.1** | | | | | | | | | | < 0.005 | < 0.005 | < 0.005 |
| AP-1 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-2 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | 0.0102 | 0.0089 | 0.0115 | 0.0111 | 0.0091 | 0.0102 | 0.0085 | 0.0091 | 0.0068 | 0.0102 | 0.0073 | 0.0085 |
| AP-3 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | 0.0054 | < 0.005 | 0.0054 | < 0.005 | 0.0051 | < 0.005 | 0.0065 | 0.0071 | < 0.005 |
| AP-4 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-5 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-6 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-7 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-8 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-9 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | 0.0053 | 0.0056 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-10 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-11 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | 0.005 | 0.0061 | 0.011 | < 0.005 | 0.0055 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-12 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | 0.0143 | 0.0077 | 0.0219 | 0.007 | < 0.005 | < 0.005 | < 0.005 | 0.0236 | < 0.005 | 0.0054 | < 0.005 | < 0.005 |
| AP-13 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | 0.0215 | 0.021 | < 0.005 | < 0.005 | < 0.005 | 0.0127 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AP-14 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.0051 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| AW-1 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | < 0.005 | | | | < 0.005 | | < 0.005 | 0.0055 | < 0.005 | < 0.005 | < 0.005 |
| RW-3 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| R111 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | < 0.005 | | < 0.005 | | | < 0.005 | | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| G120 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | < 0.005 | | | | < 0.005 | | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| T-1 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | < 0.005 | 0.0063 | < 0.005 |
| T-2 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | 0.0075 | < 0.005 | < 0.005 |
| T-4 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | < 0.005 | 0.005 | < 0.005 |
| T-5 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | < 0.005 | < 0.005 | < 0.005 |
| T-6 | Cobalt, total | mg/L | 0.0052 | | 0.006 | **0.006** | | | | | | | | | | < 0.005 | < 0.005 | < 0.005 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-2 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-3 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-4 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-5 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-6 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-7 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-8 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-9 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | 0.0168 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-10 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-11 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-12 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | 0.0225 | < 0.015 | 0.0228 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | 0.0161 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-13 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.015 | 0.0163 | 0.0177 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AP-14 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | 0.0189 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| AW-1 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | 0.0018 | | | | < 0.001 | | < 0.015 | < 0.015 | 0.0051 | < 0.0075 | < 0.0075 |
| RW-3 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.015 | < 0.001 | < 0.015 | < 0.015 | < 0.015 | < 0.001 | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.0075 | < 0.0075 |
| R111 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | < 0.0075 | | < 0.001 | | | 0.002 | | < 0.015 | < 0.015 | < 0.001 | < 0.0075 | < 0.0075 |
| G120 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | < 0.001 | | | | 0.0037 | | < 0.015 | < 0.015 | < 0.001 | < 0.0075 | < 0.0075 |
| T-1 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | | | | | | | | | < 0.015 | < 0.0075 | < 0.0075 |
| T-2 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | | | | | | | | | < 0.015 | < 0.0075 | < 0.0075 |
| T-4 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | | | | | | | | | < 0.015 | < 0.0075 | < 0.0075 |
| T-5 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | | | | | | | | | < 0.015 | < 0.0075 | < 0.0075 |
| T-6 | Lead, total | mg/L | 0.0075 | | 0.015 | **0.015** | | | | | | | | | | < 0.015 | < 0.0075 | < 0.0075 |
| AP-1 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0098 | 0.0096 | 0.0087 | < 0.05 | 0.0566 | < 0.005 | 0.0109 | 0.0085 | 0.0099 | < 0.05 | 0.0103 | 0.0094 |
| AP-2 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0057 | 0.0056 | 0.0055 | < 0.05 | 0.0476 | < 0.005 | 0.0063 | 0.0056 | 0.0059 | < 0.05 | 0.0081 | 0.0068 |
| AP-3 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0053 | < 0.005 | < 0.005 | < 0.05 | 0.0501 | < 0.005 | 0.0063 | 0.0051 | 0.0062 | < 0.05 | 0.0064 | 0.0062 |
| AP-4 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0092 | 0.0092 | 0.0077 | < 0.05 | 0.0196 | < 0.005 | 0.0078 | 0.0051 | 0.0076 | < 0.05 | 0.0072 | 0.0077 |
| AP-5 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0053 | < 0.005 | 0.0104 | < 0.05 | 0.0142 | 0.0074 | 0.0046 | < 0.005 | < 0.005 | < 0.05 | 0.0062 | 0.0043 |
| AP-6 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0071 | 0.0079 | < 0.005 | < 0.05 | 0.014 | < 0.005 | < 0.003 | < 0.005 | < 0.005 | < 0.05 | 0.0098 | 0.0104 |
| AP-7 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.009 | 0.0079 | < 0.005 | < 0.05 | < 0.005 | 0.0113 | 0.0047 | < 0.005 | < 0.005 | < 0.05 | 0.0063 | 0.0079 |
| AP-8 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0068 | 0.0065 | 0.0065 | < 0.05 | 0.0201 | < 0.005 | 0.0074 | < 0.005 | 0.0069 | < 0.05 | 0.0075 | 0.0069 |
| AP-9 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | < 0.005 | 0.0073 | 0.0114 | < 0.05 | < 0.005 | 0.0067 | 0.0054 | < 0.005 | 0.0059 | < 0.05 | 0.0069 | 0.0066 |
| AP-10 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | 0.01 | 0.0087 | < 0.05 | < 0.005 | < 0.005 | 0.01 | < 0.005 | 0.009 | < 0.05 | 0.0094 | 0.0101 |
| AP-11 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | < 0.005 | < 0.005 | 0.017 | < 0.05 | 0.0115 | 0.0068 | 0.0045 | < 0.005 | < 0.005 | < 0.05 | 0.0044 | 0.005 |
| AP-12 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0257 | 0.0141 | 0.0331 | < 0.05 | < 0.005 | 0.006 | 0.0072 | 0.0352 | 0.0064 | < 0.05 | 0.0077 | 0.0065 |
| AP-13 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0134 | 0.0114 | 0.0299 | < 0.05 | 0.0167 | 0.0152 | 0.0133 | 0.0237 | 0.0109 | < 0.05 | 0.0124 | 0.012 |
| AP-14 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0074 | 0.0066 | 0.0063 | < 0.05 | 0.0716 | < 0.005 | 0.0076 | < 0.005 | 0.0076 | < 0.05 | 0.0078 | 0.0072 |
| AW-1 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | 0.0739 | 0.0184 | < 0.05 | 0.0145 | 0.0113 |
| RW-3 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0066 | 0.0064 | 0.0064 | < 0.05 | 0.0179 | < 0.005 | < 0.003 | 0.0147 | < 0.005 | < 0.05 | 0.0038 | 0.0047 |
| R111 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | 0.0066 | | | | | | | 0.0185 | < 0.005 | < 0.05 | 0.007 | 0.0066 |
| G120 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | 0.0486 | 0.008 | < 0.05 | 0.0081 | 0.0086 |
| T-1 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | | | < 0.05 | 0.0266 | 0.0199 |
| T-2 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | | | < 0.05 | 0.0394 | 0.0345 |
| T-4 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | | | < 0.05 | 0.0164 | 0.0161 |
| T-5 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | | | < 0.05 | 0.0095 | 0.0109 |
| T-6 | Lithium | mg/L | 0.0124 | | 0.04 | **0.04** | | | | | | | | | | < 0.05 | 0.0149 | 0.0134 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-2 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-3 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-4 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-5 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-6 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-7 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-8 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-9 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-10 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-11 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.00021 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-12 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-13 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-14 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| AW-1 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | < 0.0002 | | | | < 0.0002 | | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| RW-3 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| R111 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | < 0.0002 | | < 0.0002 | | | < 0.0002 | | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| G120 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | < 0.0002 | | | | < 0.0002 | | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| T-1 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | | | | | | | | | < 0.0002 | < 0.0002 | < 0.0002 |
| T-2 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | | | | | | | | | < 0.0002 | < 0.0002 | < 0.0002 |
| T-4 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | | | | | | | | | < 0.0002 | < 0.0002 | < 0.0002 |
| T-5 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | | | | | | | | | < 0.0002 | < 0.0002 | < 0.0002 |
| T-6 | Mercury, total | mg/L | 0.0005 | 0.002 | | **0.002** | | | | | | | | | | < 0.0002 | < 0.0002 | < 0.0002 |
| AP-1 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-2 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-3 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-4 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-5 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-6 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-7 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-8 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-9 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-10 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-11 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-12 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-13 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AP-14 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| AW-1 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| RW-3 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | 0.0103 | 0.0106 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| R111 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | < 0.01 | | | | | | | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| G120 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| T-1 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | | | < 0.01 | < 0.01 | < 0.01 |
| T-2 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | | | < 0.01 | < 0.01 | < 0.01 |
| T-4 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | | | < 0.01 | < 0.01 | < 0.01 |
| T-5 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | | | < 0.01 | < 0.01 | < 0.01 |
| T-6 | Molybdenum, total | mg/L | 0.025 | | 0.1 | **0.1** | | | | | | | | | | < 0.01 | < 0.01 | < 0.01 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-2 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-3 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-4 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-5 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0011 | < 0.001 | < 0.001 | < 0.001 |
| AP-6 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.0022 |
| AP-7 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-8 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-9 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-10 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-11 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | 0.0056 | < 0.001 | < 0.001 | < 0.001 | 0.0018 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-12 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-13 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AP-14 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| AW-1 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | < 0.04 | | | | < 0.04 | | < 0.001 | < 0.001 | < 0.04 | < 0.001 | < 0.001 |
| RW-3 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | < 0.04 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| R111 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | < 0.001 | | < 0.04 | | | < 0.04 | | < 0.001 | < 0.001 | < 0.04 | < 0.001 | < 0.001 |
| G120 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | < 0.04 | | | | < 0.04 | | < 0.001 | < 0.001 | < 0.04 | < 0.001 | < 0.001 |
| T-1 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | | | | | | | | | 0.0042 | < 0.001 | < 0.001 |
| T-2 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | | | | | | | | | 0.0011 | < 0.001 | < 0.001 |
| T-4 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | | | | | | | | | 0.0012 | < 0.001 | < 0.001 |
| T-5 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | | | | | | | | | < 0.001 | < 0.001 | 0.0012 |
| T-6 | Selenium, total | mg/L | 0.025 | 0.05 | | **0.05** | | | | | | | | | | < 0.001 | < 0.001 | < 0.001 |
| AP-1 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | 1.52 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-2 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-3 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-4 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-5 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-6 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-7 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-8 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-9 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | 0.0032 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-10 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-11 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-12 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-13 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AP-14 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| AW-1 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | < 0.002 | | | | < 0.002 | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| RW-3 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| R111 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | < 0.002 | | < 0.002 | | | < 0.002 | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| G120 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | < 0.002 | | | | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| T-1 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | | | | | | | | | < 0.002 | < 0.002 | < 0.002 |
| T-2 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | | | | | | | | | < 0.002 | < 0.002 | < 0.002 |
| T-4 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | | | | | | | | | < 0.002 | < 0.002 | < 0.002 |
| T-5 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | | | | | | | | | < 0.002 | < 0.002 | < 0.002 |
| T-6 | Thallium, total | mg/L | 0.002 | 0.002 | | **0.002** | | | | | | | | | | < 0.002 | < 0.002 | < 0.002 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2022 - 2024 Groundwater Analytical Summary Data**

| Well | Parameter | Units | Background | 40 CFR 257 | MCL 40 CFR 141 | GPS | 2022-Q1 | 2022-Q2 | 2022-Q3 | 2022-Q4 | 2023-Q1 | 2023-Q2 | 2023-Q3 | 2023-Q4 | 2024-Q1 | 2024-Q2 | 2024-Q3 | 2024-Q4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2.36 | < 2 | < 2 | 0.714 | 1.38 | 1.4 | < 2 | 0.85 | < 2 | < 2 | < 2 | 1.23 |
| AP-2 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2 | 0.431 | 0.87 | 2.5 | < 2 | 0.42 | < 2 | < 2 | < 2 | < 2 |
| AP-3 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2 | < 0.5046 | 0.54 | 0.36 | < 2 | 0.65 | < 2 | < 2 | < 2 | < 2 |
| AP-4 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2.93 | < 2 | < 2 | 0.901 | 1.04 | 2.89 | 1.12 | 1.58 | < 2 | < 2 | < 4 | < 2 |
| AP-5 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2.45 | < 2 | < 0.1664 | 1.29 | 0.57 | < 2 | 1.26 | < 2 | < 2 | < 4 | < 2 |
| AP-6 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2.2 | < 2 | 2.138 | 0.47 | 1.29 | < 2 | 0.52 | < 2 | < 2 | < 4 | < 2 |
| AP-7 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2 | < 0.3621 | < 2 | 1.54 | < 2 | 0.8 | < 2 | < 2 | < 4 | < 2 |
| AP-8 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2.16 | < 2 | 1.955 | 1.98 | 2.88 | < 2 | 1.55 | < 2 | < 2 | < 4 | 2.57 |
| AP-9 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2 | 3.012 | < 2 | 0.15 | < 2 | 0.64 | < 2 | < 2 | < 4 | 1.01 |
| AP-10 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | < 2 | < 2 | 1.942 | 2.04 | 2.66 | 1.12 | 3.14 | < 2 | < 2 | < 4 | 1.61 |
| AP-11 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2 | < -2.1708 | < 2 | 0.47 | < 2 | 0.52 | < 2 | 1.28 | < 4 | < 2 |
| AP-12 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2.46 | 3.44 | 2.215 | < 2 | 1.07 | < 2 | 0.91 | < 2 | < 2 | < 4 | < 2 |
| AP-13 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2.17 | 2.719 | 1.22 | 0.24 | 2.54 | 0.69 | < 2 | < 2 | < 4 | < 2 |
| AP-14 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2.35 | < 2 | 0.264 | < 2 | 0.45 | < 2 | 0.86 | < 2 | < 2 | < 4 | < 2 |
| AW-1 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | 0.45 | 3.39 | 1.25 | < 2 | 1.17 |
| RW-3 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | < 2 | < 2 | < 2 | < 0.432 | -0.09 | 0.48 | < 2 | 2.46 | < 2 | < 2 | < 2 | 1.23 |
| R111 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | 1.12 | | | | | | | 0.56 | < 1 | < 2 | < 2 | < 2.12 |
| G120 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | 1.1 | < 2 | 1.03 | 1.22 | 3.52 |
| T-1 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | | | < 2 | < 4 | < 2 |
| T-2 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | | | < 2 | < 4 | < 2 |
| T-4 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | | | < 2 | < 4 | < 2 |
| T-5 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | | | < 2 | < 4 | < 2 |
| T-6 | Radium-226 + Radium-228 | pCi/L | 3.79 | 5 | | **5** | | | | | | | | | | < 2 | < 4 | 1.08 |

1. A shaded value indicates an exceedance of the Groundwater Protection Standard (GPS), which is higher of the MCL and the Background.

**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2024 TCLP & SPLP Analytical Results**

| Parameter | Units | D1 19.5-21.5 4/29/2024 3:00:00 PM Solid | D1 36.5-38.5 4/29/2024 3:30:00 PM Solid | D2 19.5-21.5 4/29/2024 9:30:00 AM Solid | D2 33.5-35.5 4/29/2024 10:00:00 AM Solid | D3 14.5-29.5 4/30/2024 10:15:00 AM Solid | D3 4.5-6.5 4/30/2024 10:15:00 AM Solid | D4 19.5-21.5 4/30/2024 2:45:00 PM Solid | D4 29.5-31.5 4/30/2024 3:00:00 PM Solid | L1 14.5-21.5 5/2/2024 2:50:00 PM Solid | L1 24.5-31.5 5/2/2024 3:30:00 PM Solid | L3 19.5-21.5 5/2/2024 11:15:00 AM Solid | L3 29.5-32.7 5/2/2024 11:00:00 AM Solid | L4 10ft-15.3ft 5/2/2024 8:15:00 AM Solid | L5 19.5-21.5 5/3/2024 8:30:00 AM Solid | L5 32.5-35.2 5/3/2024 9:00:00 AM Solid |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | S.U. | 10 | 9.64 | 9.25 | 9.18 | 9.38 | 9.93 | 9.63 | 10.2 | 8.13 | 9.14 | 8.14 | 8.79 | 8.49 | 8.14 | 8.27 |
| Chloride, Shake Extract | mg/L | J 1 | J 1 | 7 | 8 | < 4 | < 4 | J 2 | 11 | J 1 | 5 | J 4 | 13 | 25 | 6 | 11 |
| Fluoride, Shake Extract | mg/L | 0.13 | 0.19 | 0.2 | J 0.37 | 0.11 | J 0.08 | J 0.06 | 0.14 | 0.37 | 0.21 | 0.2 | 0.2 | 0.42 | 0.36 | J 0.08 |
| Sulfate, Shake Extract | mg/L | 65 | 45 | 226 | 158 | 31 | 45 | 70 | 102 | 103 | 139 | 224 | 574 | 149 | 67 | 73 |
| Antimony, SPLP | mg/L | 0.0035 | 0.0078 | 0.0141 | 0.0273 | 0.007 | 0.0029 | 0.0034 | 0.024 | 0.0114 | 0.0012 | 0.0054 | 0.0037 | J 0.0009 | 0.0067 | 0.0025 |
| Antimony, TCLP | mg/L | 0.017 | 0.0237 | 0.0163 | 0.0125 | 0.0197 | 0.0178 | 0.0395 | 0.0376 | 0.0019 | 0.0064 | 0.0066 | 0.0024 | 0.0012 | 0.0072 | 0.0017 |
| Arsenic, SPLP | mg/L | < 0.01 | 0.0471 | < 0.01 | 0.039 | 0.0173 | < 0.01 | < 0.01 | 0.0114 | 0.0276 | < 0.01 | 0.0195 | < 0.01 | < 0.01 | 0.0331 | < 0.01 |
| Arsenic, TCLP | mg/L | < 0.01 | 0.0528 | 0.0505 | 0.345 | 0.0155 | < 0.01 | < 0.01 | 0.0242 | < 0.01 | < 0.01 | 0.0279 | 0.0337 | < 0.01 | 0.0276 | < 0.01 |
| Barium, SPLP | mg/L | < 0.045 | < 0.045 | J 0.021 | < 0.045 | < 0.045 | < 0.045 | < 0.045 | < 0.045 | < 0.045 | J 0.026 | J 0.028 | J 0.025 | < 0.045 | 0.0596 | J 0.023 |
| Barium, TCLP | mg/L | 0.358 | 0.514 | 0.556 | 0.352 | 0.373 | 0.492 | 0.238 | 0.287 | 0.345 | 0.172 | 0.635 | 0.47 | 1.04 | 0.574 | 1.24 |
| Beryllium, SPLP | mg/L | < 0.001 | J 0.0002 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Beryllium, TCLP | mg/L | 0.0145 | 0.0085 | 0.0231 | J 0.0002 | 0.0113 | 0.0114 | 0.0056 | 0.0012 | J 0.0007 | 0.0015 | < 0.001 | 0.0054 | < 0.001 | 0.0049 | < 0.001 |
| Boron, SPLP | mg/L | 5.11 | 2.94 | 4.2 | 3.05 | 2.34 | 2.65 | 3.77 | 2.77 | < 1 | 2.69 | J 0.32 | J 0.6 | < 1 | 1.05 | 2.15 |
| Boron, TCLP | mg/L | 26.6 | 10.9 | 9.63 | 4.05 | 8.74 | 25.9 | S 26.9 | 6.25 | J 0.32 | 17.2 | J 0.69 | 1.23 | J 0.59 | 2.32 | 2.79 |
| Cadmium, SPLP | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Cadmium, TCLP | mg/L | 0.0293 | 0.0706 | 0.0638 | < 0.002 | 0.0475 | 0.0302 | 0.0422 | 0.0063 | 0.0045 | 0.0045 | 0.0154 | 0.0397 | < 0.002 | 0.149 | 0.0022 |
| Chromium, SPLP | mg/L | J 0.0049 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Chromium, TCLP | mg/L | 0.105 | 0.0707 | 0.116 | < 0.01 | 0.0438 | 0.0692 | 0.0151 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | 0.0185 | < 0.01 | J 0.0082 | < 0.01 |
| Cobalt, SPLP | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| Cobalt, TCLP | mg/L | 0.0145 | 0.0116 | 0.0182 | 0.013 | J 0.0054 | 0.0118 | 0.0107 | 0.0089 | J 0.0054 | J 0.0033 | 0.0065 | 0.0161 | 0.0077 | 0.0218 | J 0.0043 |
| Lead, SPLP | mg/L | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 |
| Lead, TCLP | mg/L | < 0.0075 | 0.0102 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | < 0.0075 | 0.0247 | < 0.0075 | < 0.0075 | < 0.0075 |
| Lithium, SPLP | mg/L | 0.0033 | 0.0112 | 0.0078 | 0.0065 | 0.0034 | 0.0033 | 0.0075 | 0.0059 | < 0.003 | J 0.003 | J 0.0015 | J 0.003 | < 0.003 | J 0.0027 | 0.0033 |
| Lithium, TCLP | mg/L | 0.0112 | 0.0367 | 0.0228 | 0.0707 | 0.01 | 0.0131 | 0.0192 | 0.0374 | 0.0036 | 0.0087 | 0.0053 | 0.0061 | 0.0034 | 0.0153 | 0.0183 |
| Mercury TCLP | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | 0.00029 | < 0.0002 | < 0.0002 | < 0.0002 | 0.00028 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Mercury, SPLP | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Molybdenum, SPLP | mg/L | 0.216 | 0.144 | 0.155 | 5.21 | 0.0355 | 0.0138 | 0.0495 | 0.134 | 0.0145 | < 0.01 | 0.0111 | 0.0169 | < 0.01 | J 0.0076 | 0.0904 |
| Molybdenum, TCLP | mg/L | 0.0402 | 0.0554 | 0.0571 | 1.27 | 0.0415 | 0.0375 | 0.105 | 0.179 | < 0.01 | 0.0118 | 0.0307 | < 0.01 | < 0.01 | J 0.0081 | 0.0375 |
| Selenium, SPLP | mg/L | J 0.03 | J 0.021 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | J 0.021 | J 0.019 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Selenium, TCLP | mg/L | J 0.017 | J 0.037 | J 0.017 | < 0.05 | J 0.03 | < 0.05 | < 0.05 | J 0.022 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Thallium, SPLP | mg/L | < 0.002 | J 0.001 | < 0.002 | J 0.0015 | J 0.0017 | < 0.002 | J 0.0017 | J 0.0013 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | J 0.0011 | < 0.002 | J 0.0019 |
| Thallium, TCLP | mg/L | 0.0229 | 0.0268 | 0.0257 | J 0.0018 | 0.0185 | 0.0252 | 0.0225 | 0.0243 | 0.0023 | 0.0041 | 0.0086 | 0.006 | J 0.0015 | 0.0199 | 0.0021 |
| Radium-226 + Radium-228 | pCi/g | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 3 | < 4.97 | < 5.32 |

**Qualifiers**
< - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside recovery limits

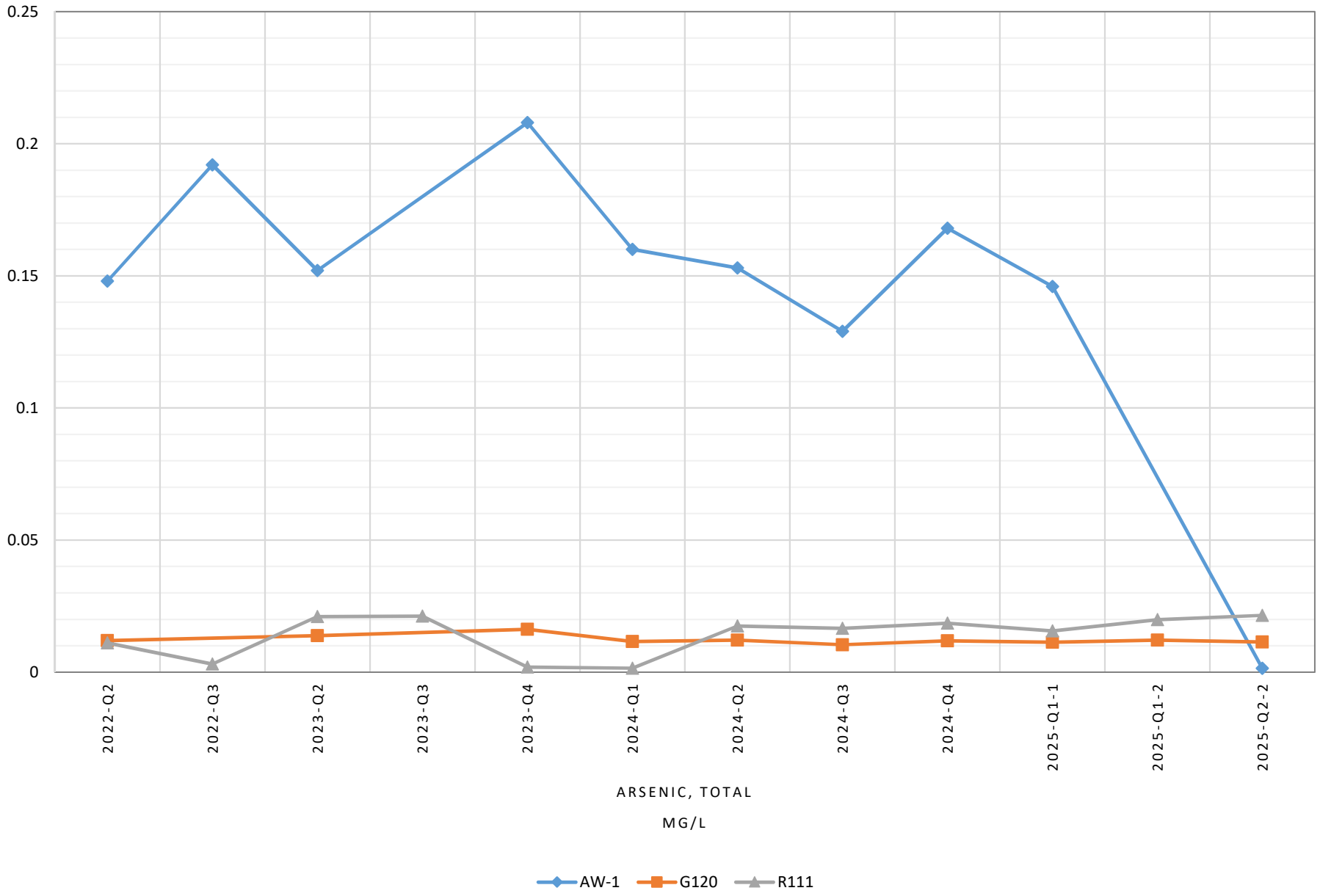
**City Water, Light and Power**
**CWLP CCR Surface Impoundments**
**2024 TCLP & SPLP Analytical Results**

| Parameter | Units | D-1 25ft. 4/29/2024 3:00:00 PM Aqueous | D-2 20ft. 4/29/2024 9:30:00 AM Aqueous | D-3 20ft. 4/30/2024 10:00:00 AM Aqueous | D-4 20ft. 4/30/2024 2:45:00 PM Aqueous | L1-20ft. 5/2/2024 2:50:00 PM Aqueous | L3-20ft. 5/2/2024 10:15:00 AM Aqueous | L4 18ft. 5/2/2024 8:40:00 AM Aqueous | L5 20ft. 5/3/2024 8:30:00 AM Aqueous |
|---|---|---|---|---|---|---|---|---|---|
| pH | S.U. | H 9.85 | H 9.27 | H 10.1 | H 9.1 | H 7.86 | H 8.1 | H 7.35 | H 7.62 |
| Chloride, Total | mg/L | 63 | 236 | 41 | 139 | 122 | 269 | 154 | 202 |
| Fluoride, Total | mg/L | 0.32 | 0.21 | 0.33 | 0.43 | 0.5 | 1.07 | 1.19 | 1.32 |
| Sulfate, Total | mg/L | 1740 | 1720 | 1000 | 2050 | 1080 | 2660 | 1050 | 2620 |
| Antimony, Total | mg/L | J 0.061 | J 0.024 | 0.23 | 0.0812 | BJ 0.027 | B 0.0655 | 0.002 | <B 0.1 |
| Arsenic, Total | mg/L | 1.17 | 0.279 | 2.33 | 0.378 | 0.717 | 2.43 | 0.0512 | 2.58 |
| Barium, Total | mg/L | 2.48 | 1.13 | 3.51 | 0.975 | 3.48 | 1.49 | 0.308 | 1.6 |
| Beryllium, Total | mg/L | 0.254 | 0.064 | 0.439 | 0.0674 | 0.0542 | 0.102 | 0.0024 | 0.0911 |
| Boron, Total | mg/L | 78.6 | 89 | 105 | 73.1 | 4.91 | 25.8 | 2.15 | 28.9 |
| Cadmium, Total | mg/L | 0.222 | 0.0541 | 0.492 | J 0.068 | 0.0776 | 0.26 | 0.0019 | 0.296 |
| Chromium, Total | mg/L | 3.91 | 0.902 | 6.25 | 1.03 | 0.993 | 2.08 | 0.0632 | 1.81 |
| Cobalt, Total | mg/L | 0.241 | 0.0579 | 0.323 | J 0.061 | 0.154 | 0.336 | 0.0213 | 0.296 |
| Lead, Total | mg/L | 1.04 | 0.199 | 1.46 | 0.266 | B 0.655 | B 3.4 | 0.0526 | 2.78 |
| Lithium, Total | mg/L | 0.428 | 0.154 | 0.571 | 0.228 | 0.172 | 0.621 | 0.0288 | 0.613 |
| Mercury, Total | mg/L | 0.00562 | 0.00046 | H 0.00685 | 0.00717 | 0.00198 | 0.00926 | 0.0005 | 0.00559 |
| Molybdenum, Total | mg/L | 15.7 | 8.04 | 2.61 | 2.3 | 0.161 | 0.218 | 0.0218 | 0.282 |
| Selenium, Total | mg/L | J 0.1 | < 0.05 | J 0.13 | J 0.09 | 0.0906 | 0.158 | 0.0066 | 0.205 |
| Thallium, Total | mg/L | J 0.13 | J 0.049 | 0.274 | J 0.066 | < 0.04 | 0.0433 | J 0.0012 | < 0.1 |
| Radium-226 + Radium-228 | pci/L | < 2.86 | 6.81 | < 5 | < 6.68 | < 2.5 | < 4.5 | < 2.05 | 17.74 |

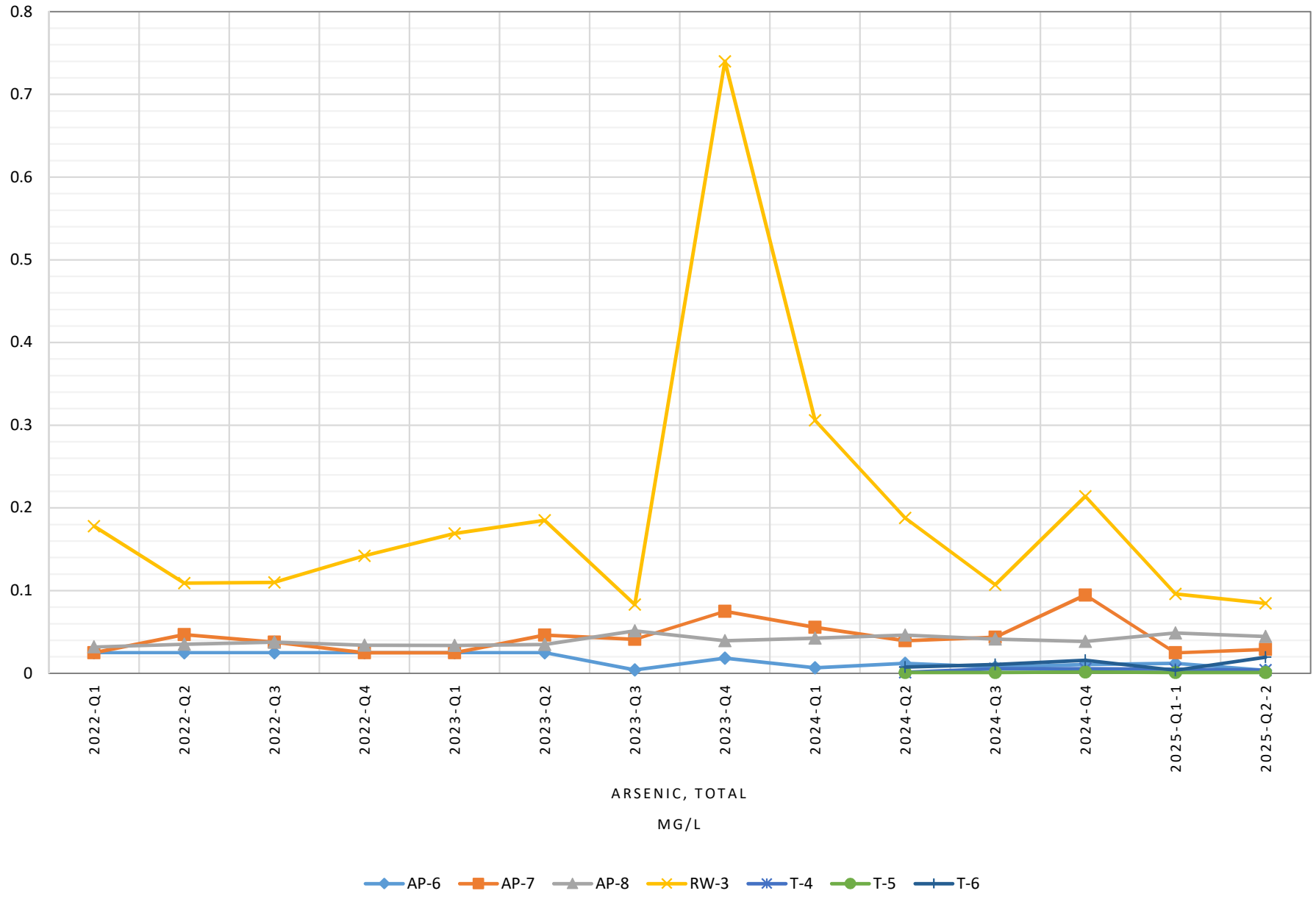
**Qualifiers**
< - Not Detected at the Reporting Limit
B - Analyte detected in associated Method Blank
H - Hold times exceeded
J - Analyte detected below quantitation limits

# Appendix E:
## Exceedance Parameter Trend Graphs

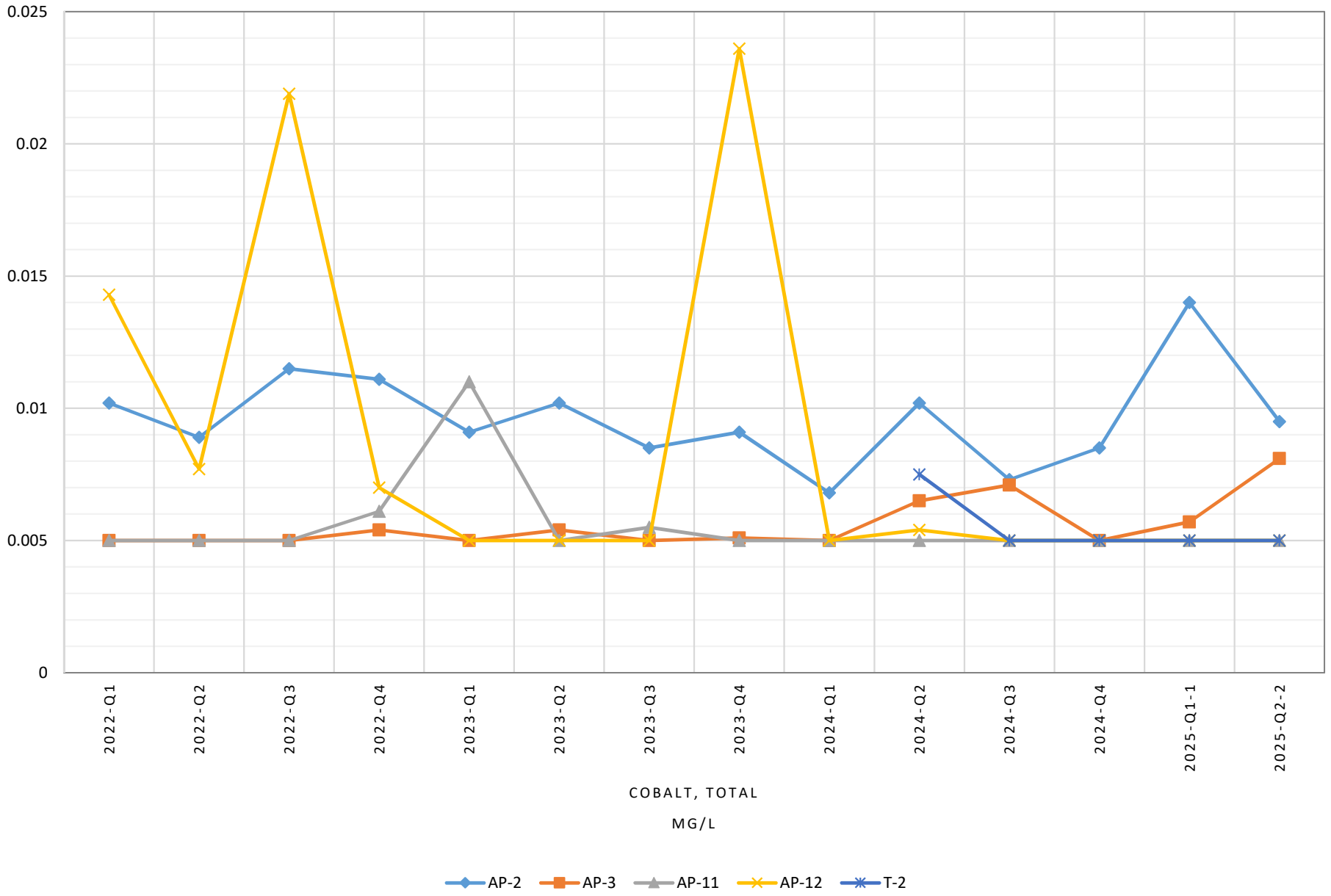
# CITY, WATER, LIGHT & POWER



# CITY, WATER, LIGHT & POWER



# CITY, WATER, LIGHT & POWER



# APPENDIX F:
## Cross-Sections

Tab: BORINGS IN X SECTIONS  Last Saved: September 15, 2025, by Ben Karpus  Plotted: Monday, September 15, 2025 4:06:20 PM
J:\S\Springfield CWLP\CWLP Ash Pond\DWG\2025\Cross Section\PROFILES.dwg

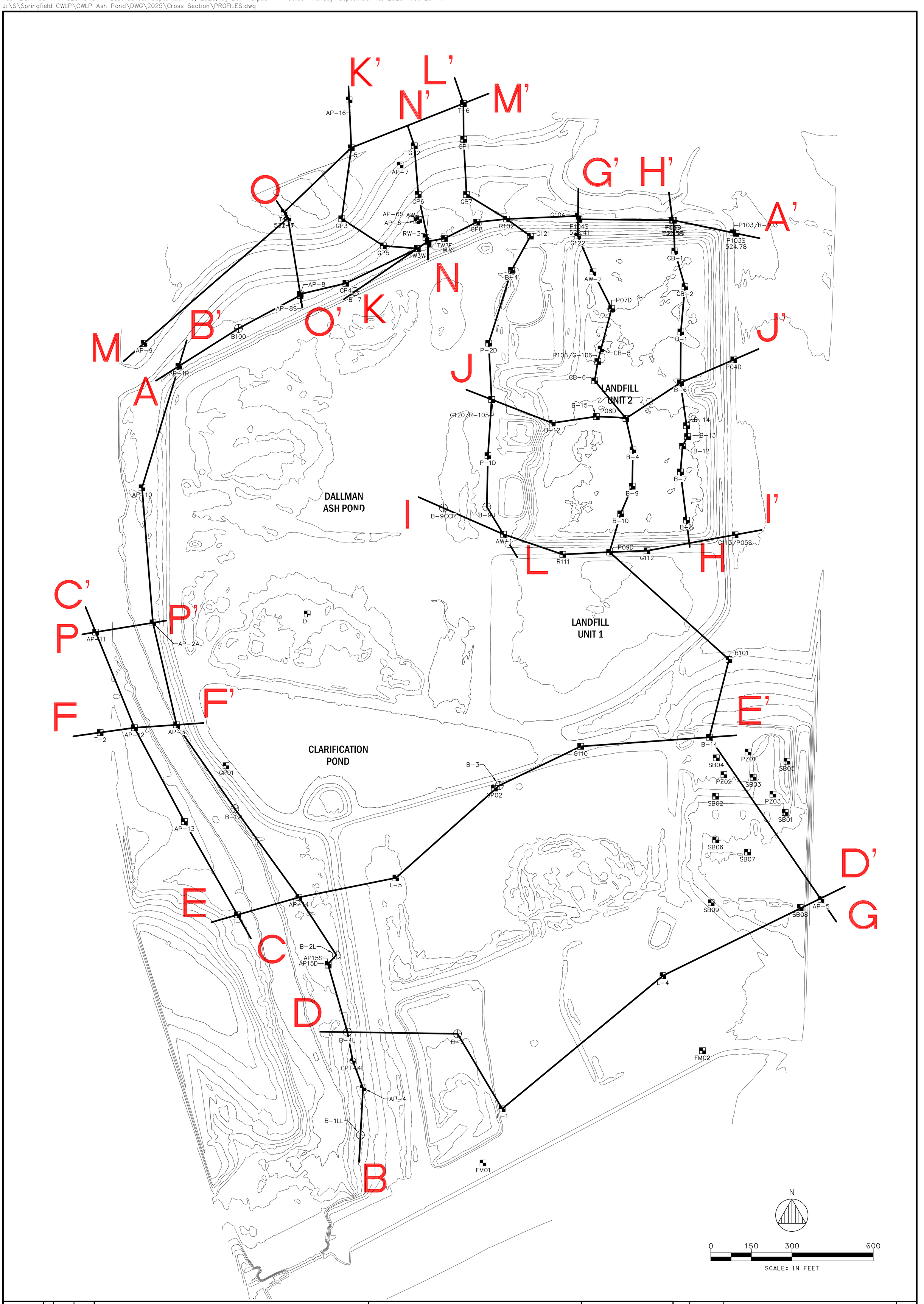



FIG. 1

GEOLOGIC CROSS-SECTION LOCATIONS MAP

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: AUGUST 2024

PROJECT ID: 240227/0010

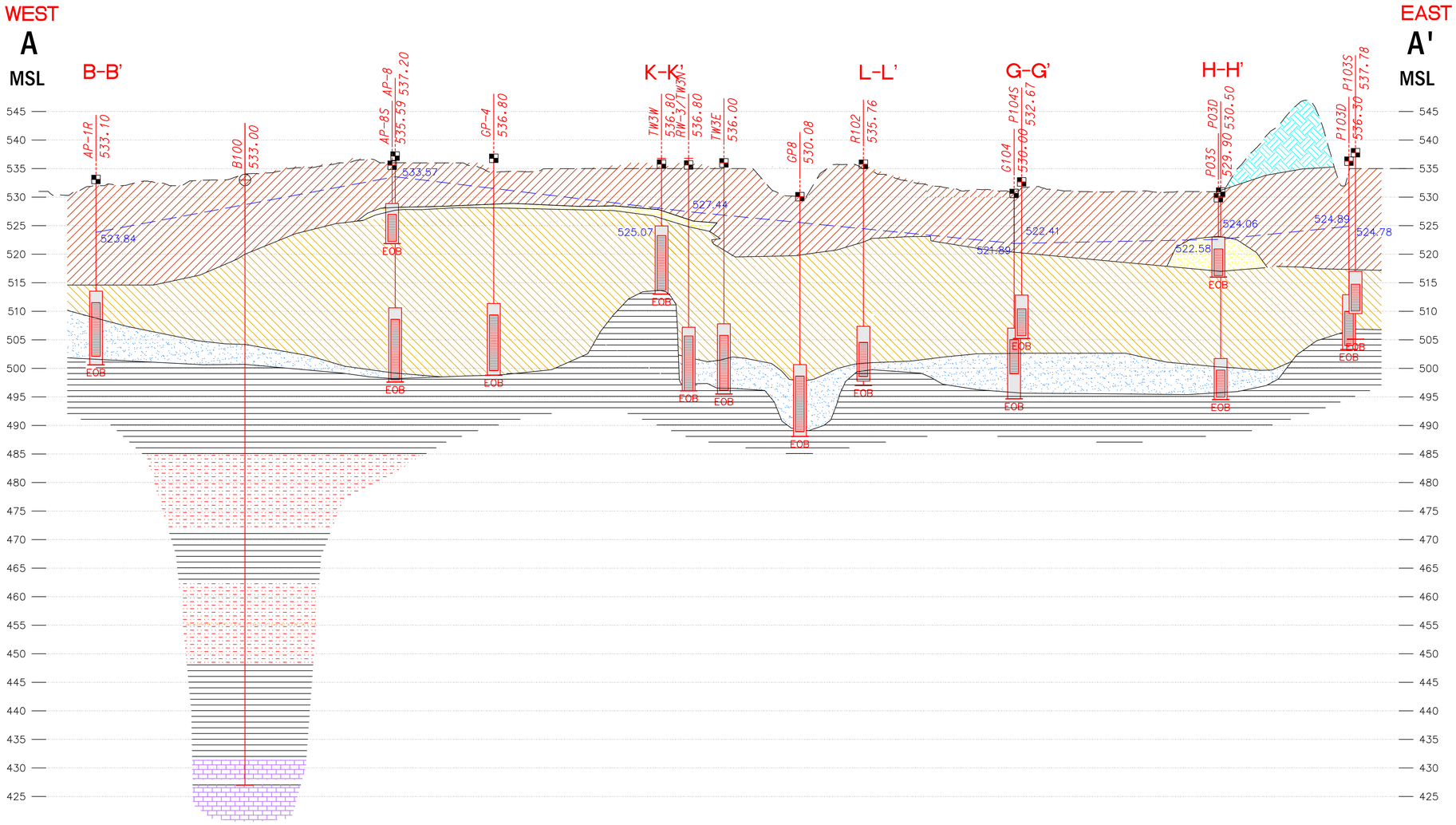
SHEET NUMBER:

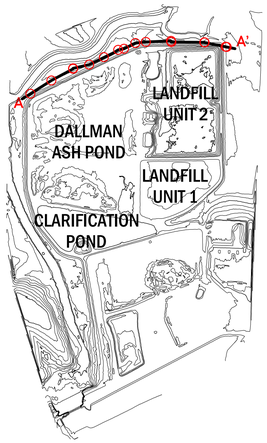

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334  WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO


APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

© 2025 Andrews Engineering, Inc.



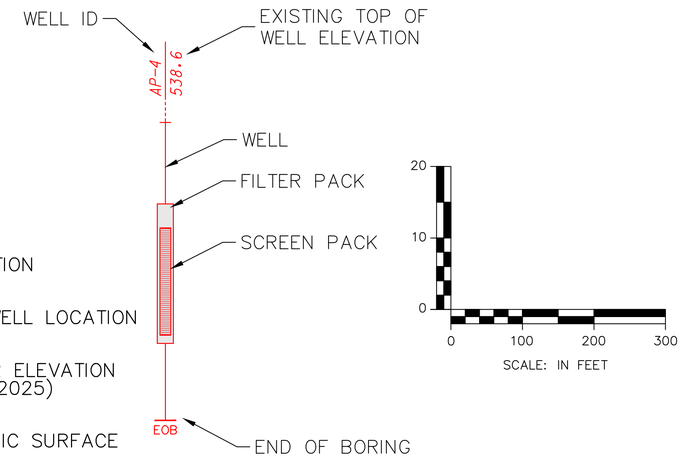




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- CLAYSTONE
- SANDSTONE
- LIMESTONE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

GEOLOGIC CROSS-SECTION A-A'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

A-A'

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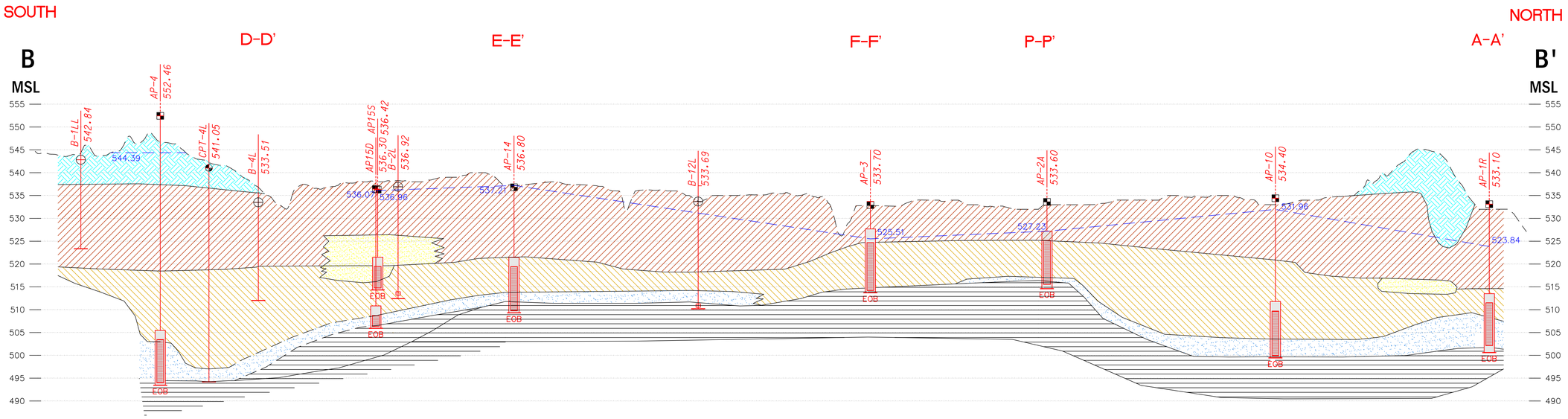
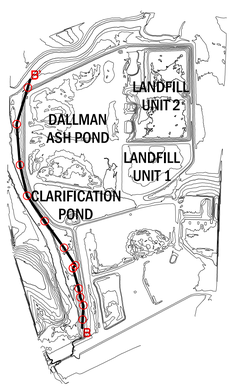


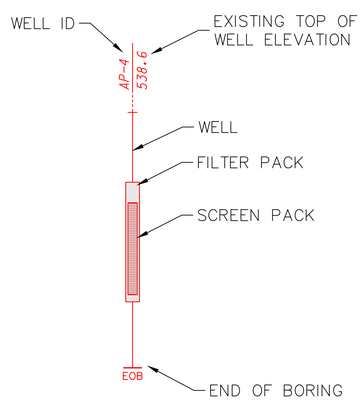



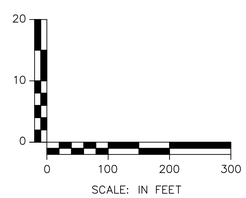

## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- SHALLOW SAND
- BORING LOCATION
- MONITORING WELL LOCATION
- CPT BORING LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION B-B'

PLANS PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

B-B'

Tab: BB Last Saved: September 23, 2025, by Mike Nguyen Plotted: Tuesday, September 23, 2025 10:34:25 AM
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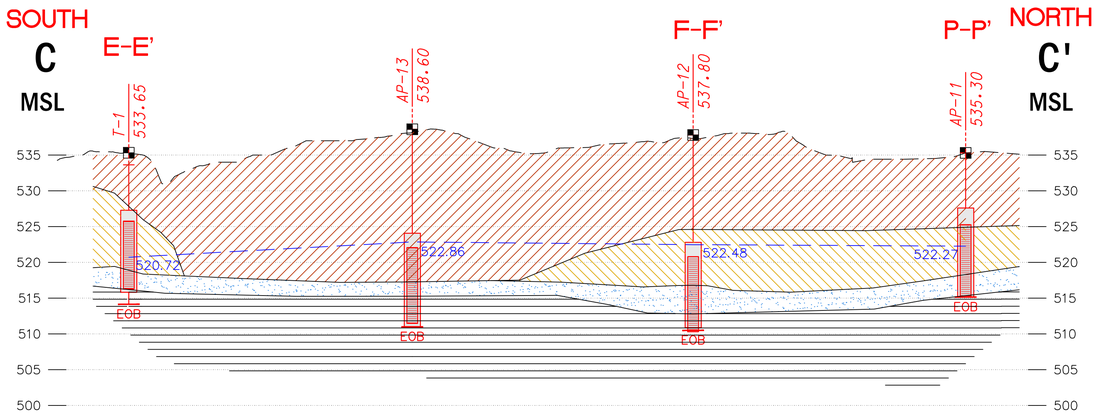


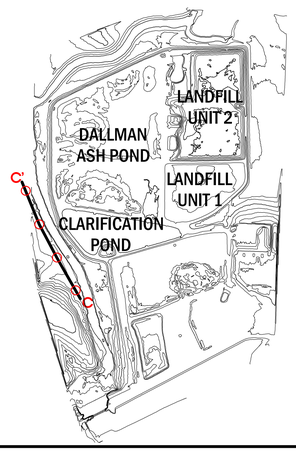


## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
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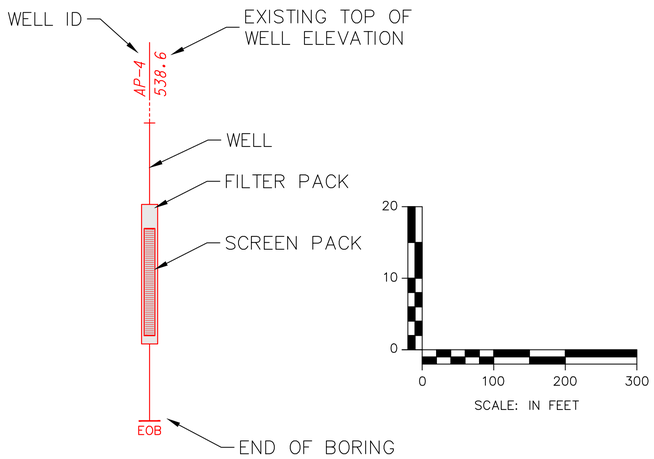
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION C-C'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER:
C-C'

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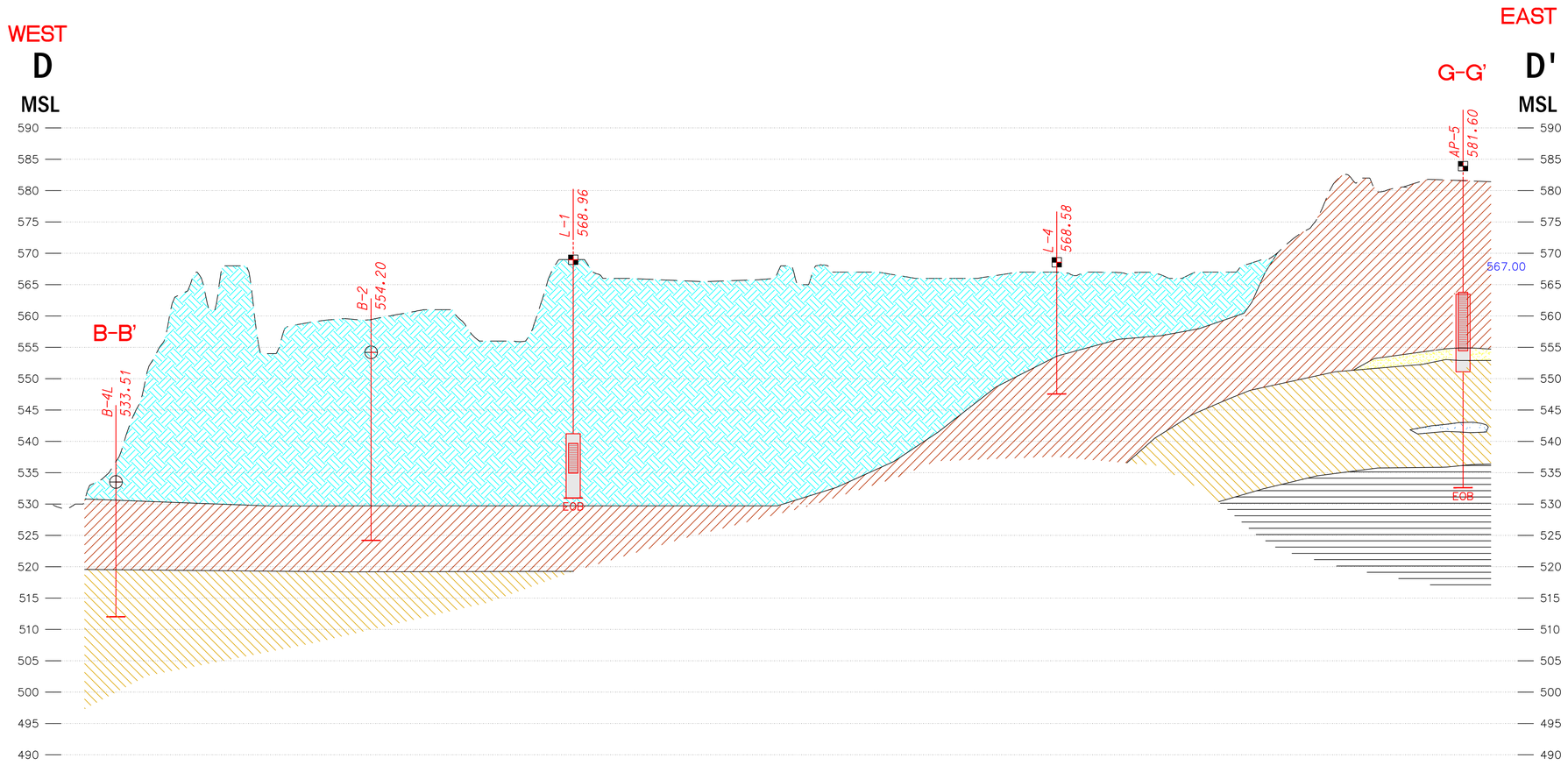
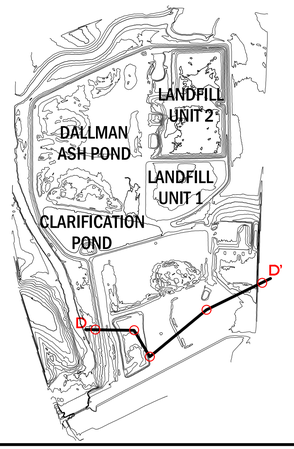


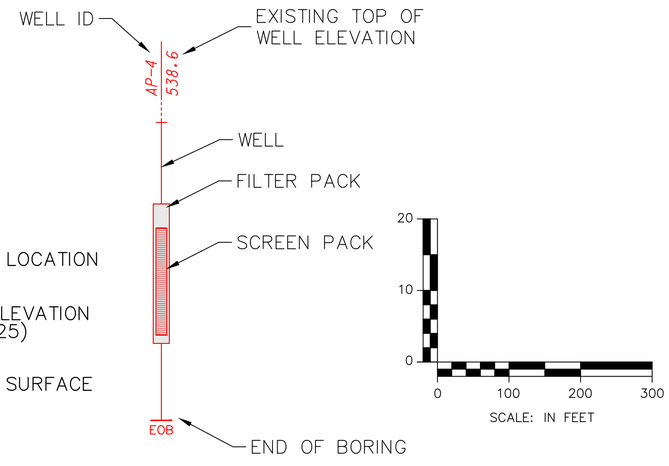




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION D-D'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

D-D'

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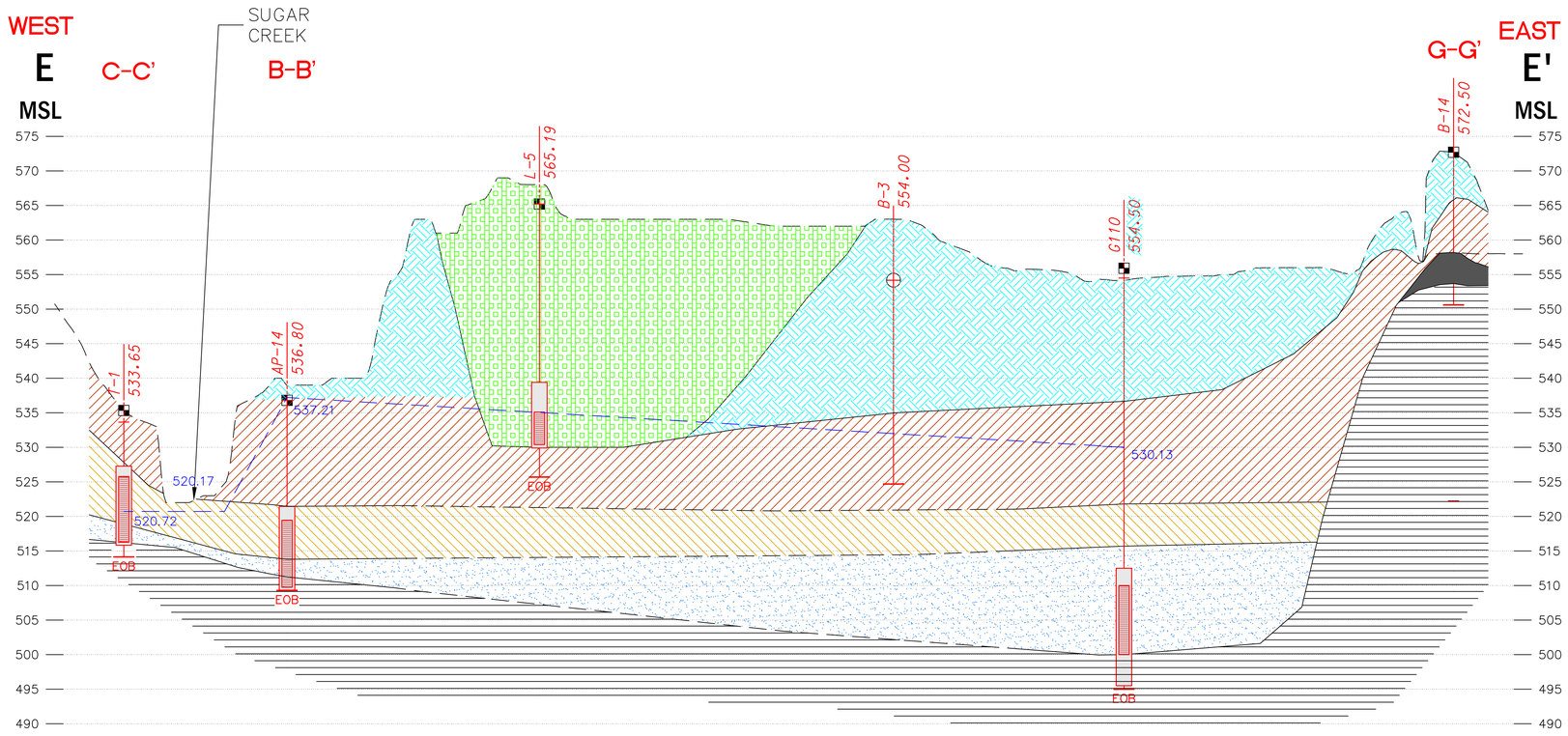
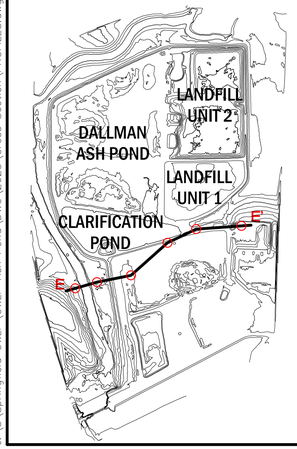


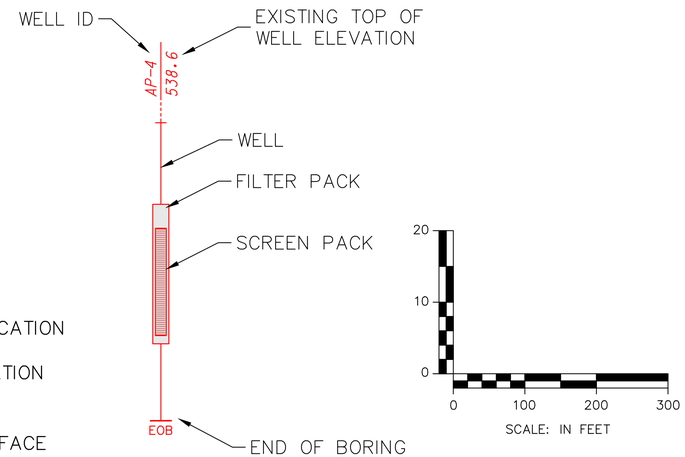




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- CCR ASH
- COAL
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION E-E'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

E-E'

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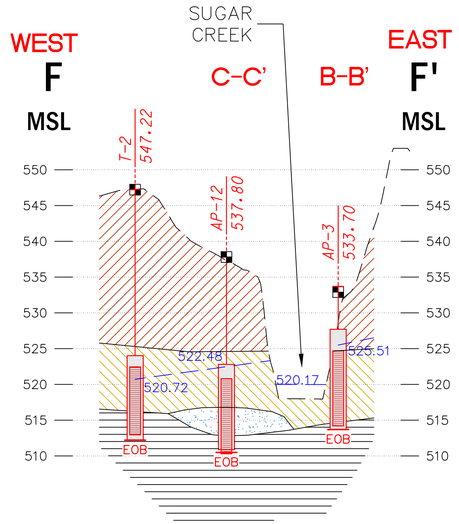
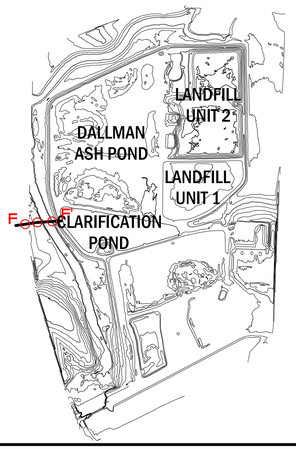


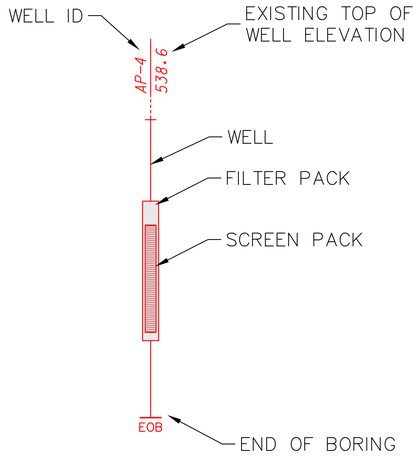



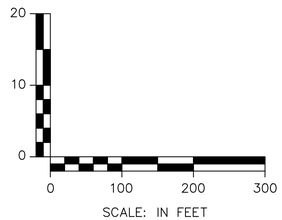

## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION F-F'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER: F-F'

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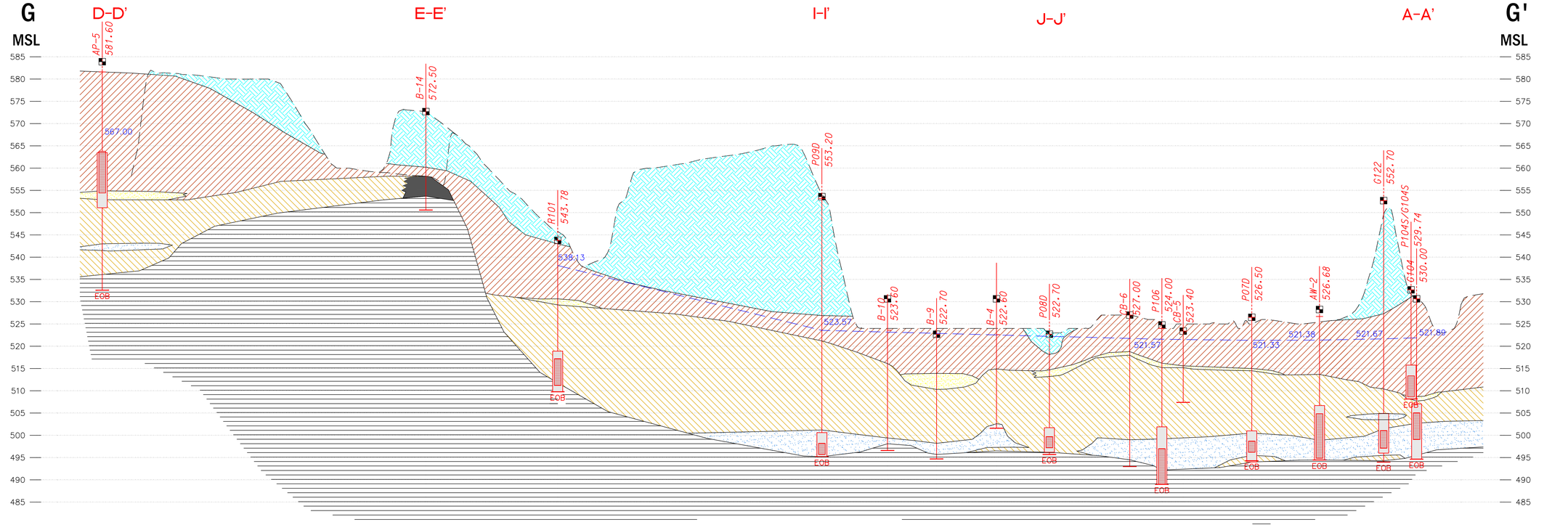
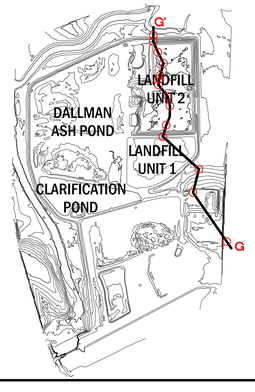



## NOTES

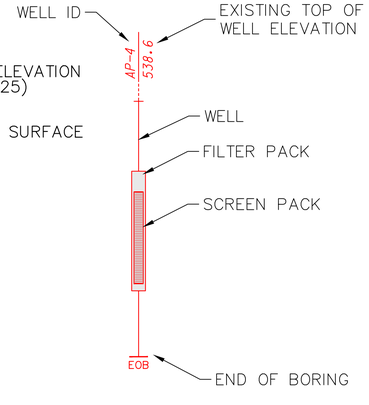
1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

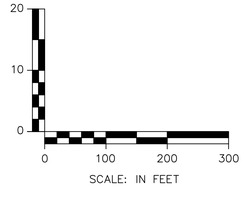
## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- COAL
- MONITORING WELL LOCATION

525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)

BASAL SAND POTENTIOMETRIC SURFACE

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APPROVED BY: MTH DESIGNED BY: MTH DRAWN BY: BCK

GEOLOGIC CROSS-SECTION G-G'

PLANS PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER: G-G'

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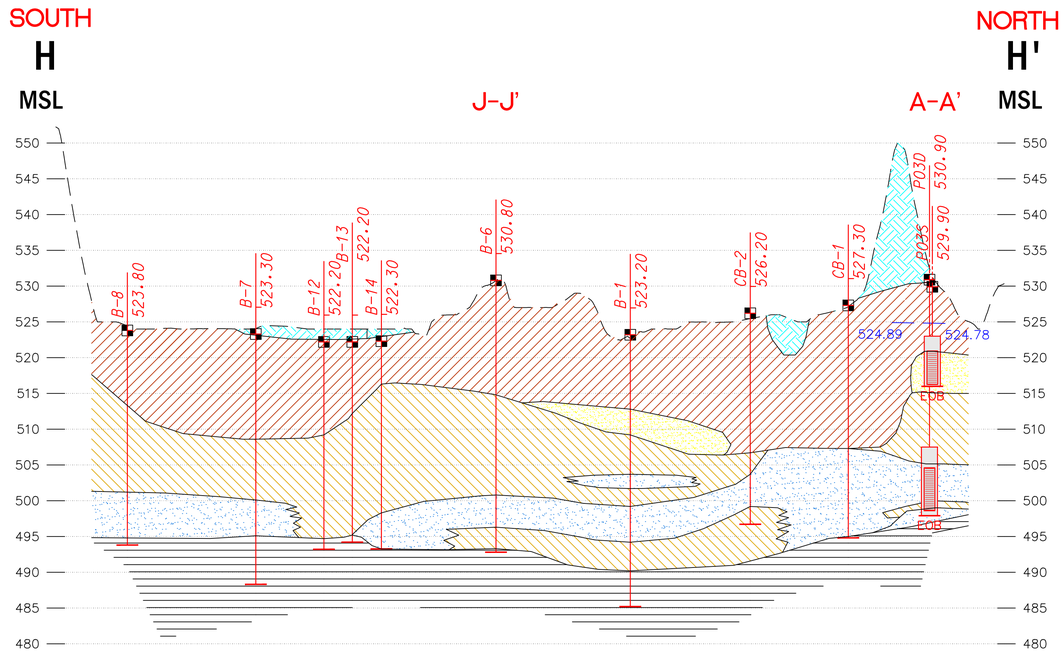


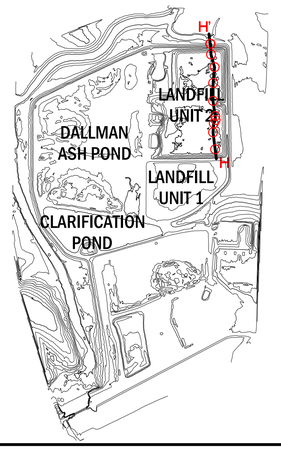


## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
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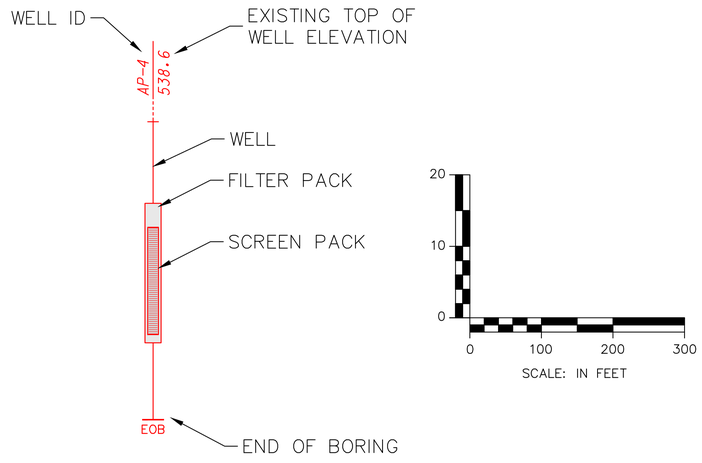
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION H-H'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER: H-H'

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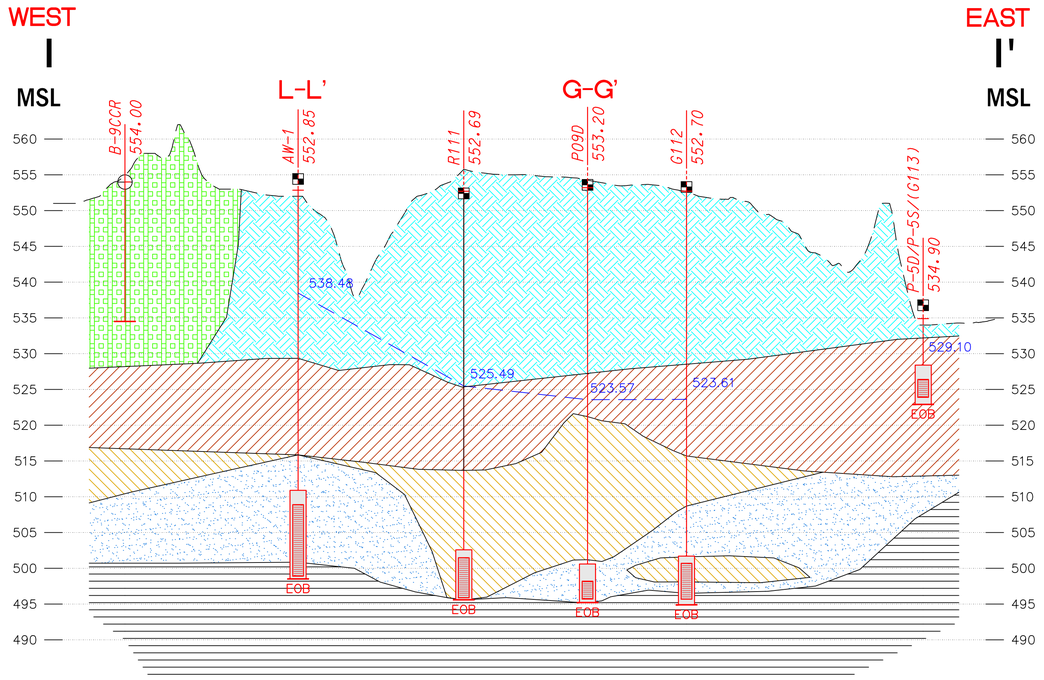


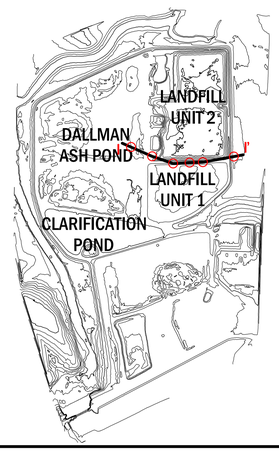


## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
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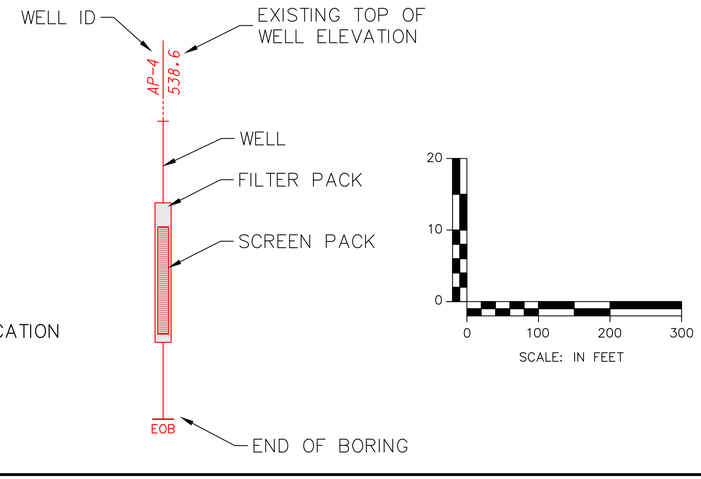
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE
- BASAL SAND
- SHALE
- CCR ASH
- BORING LOCATION
- MONITORING WELL LOCATION

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION I-I'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER: I-I'

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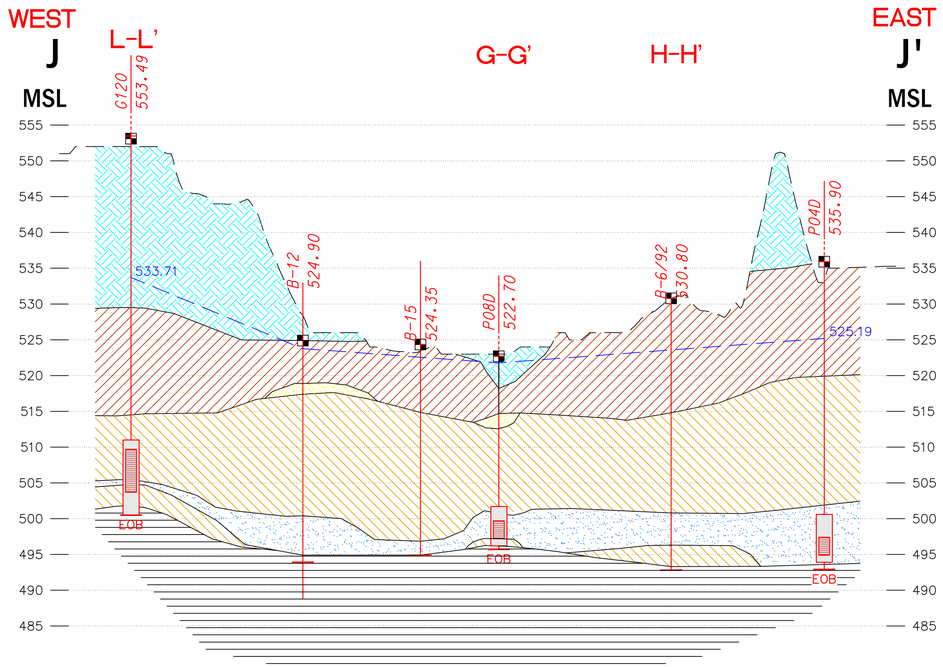


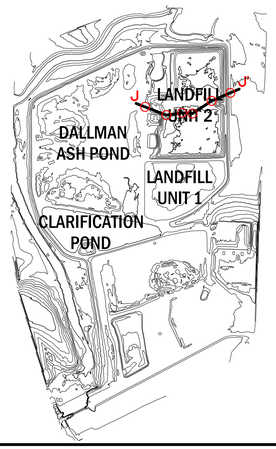


## NOTES

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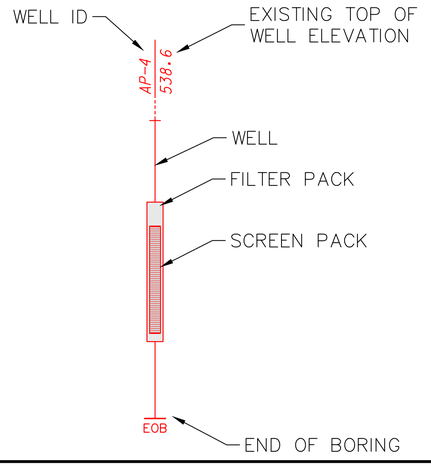
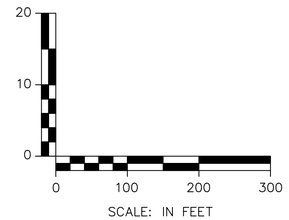
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION J-J'

PREPARED FOR
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SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

J-J'

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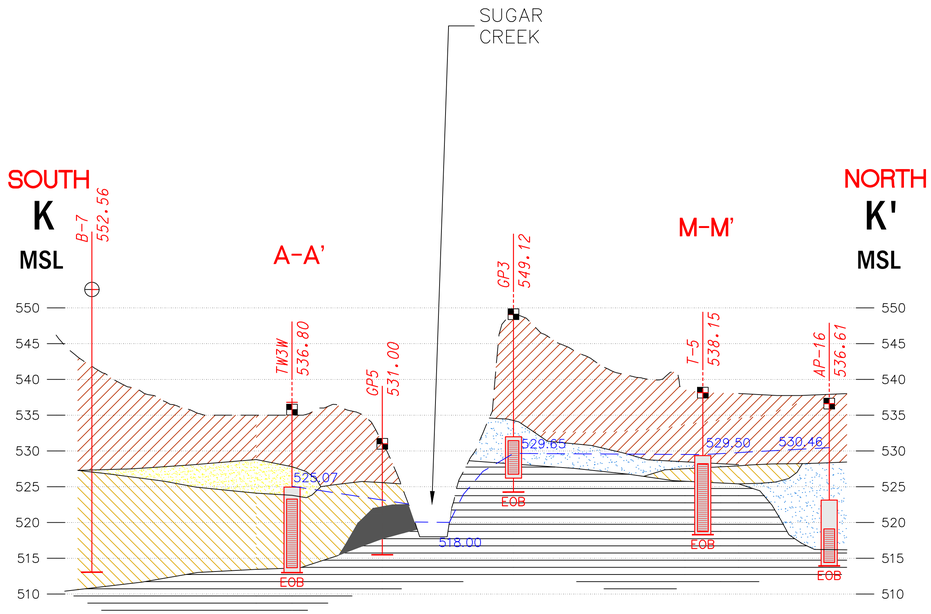


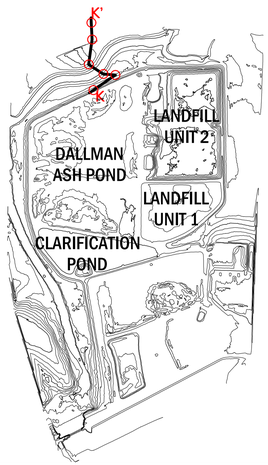


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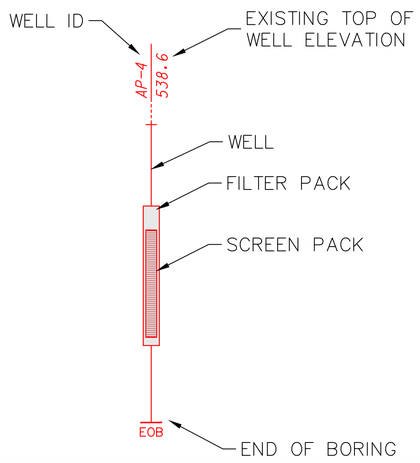
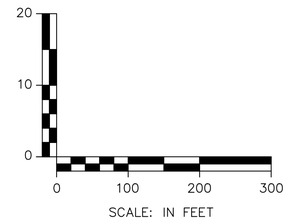
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- COAL
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION K-K'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER:

K-K'

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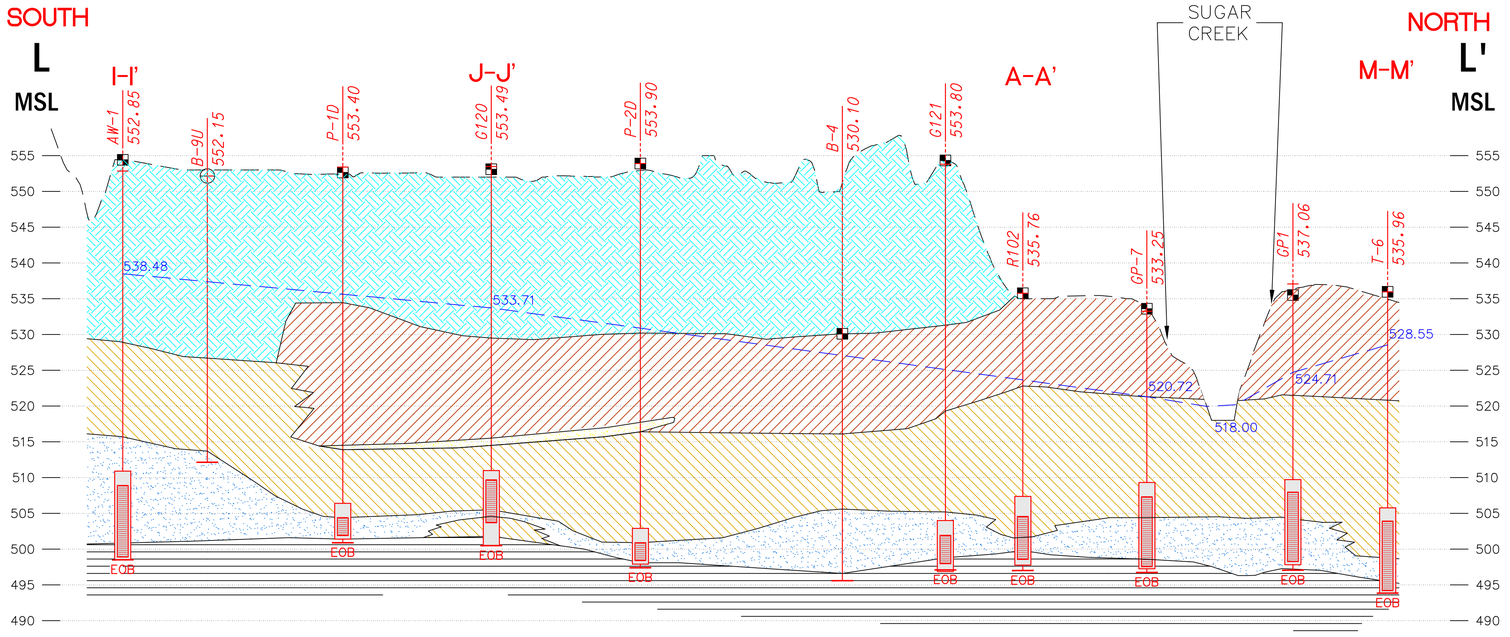
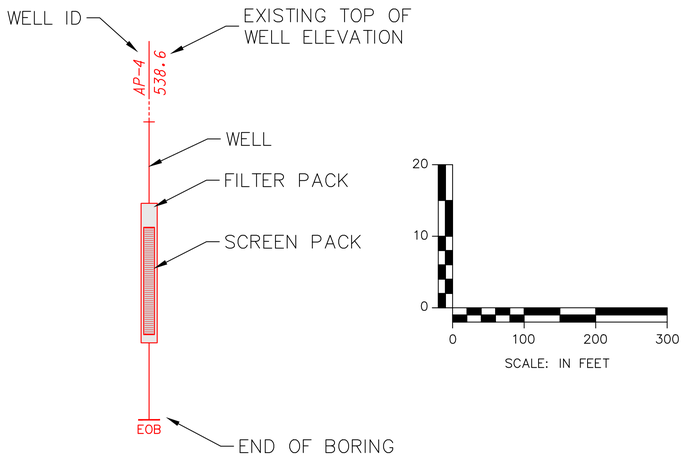
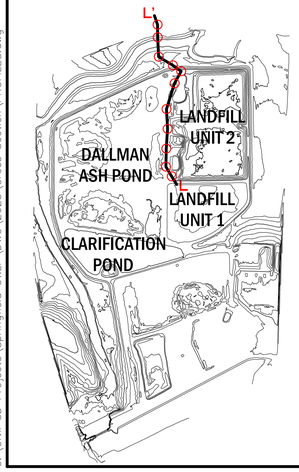



## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALLOW SAND
- SHALE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
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3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

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GEOLOGIC CROSS-SECTION L-L'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

L-L'

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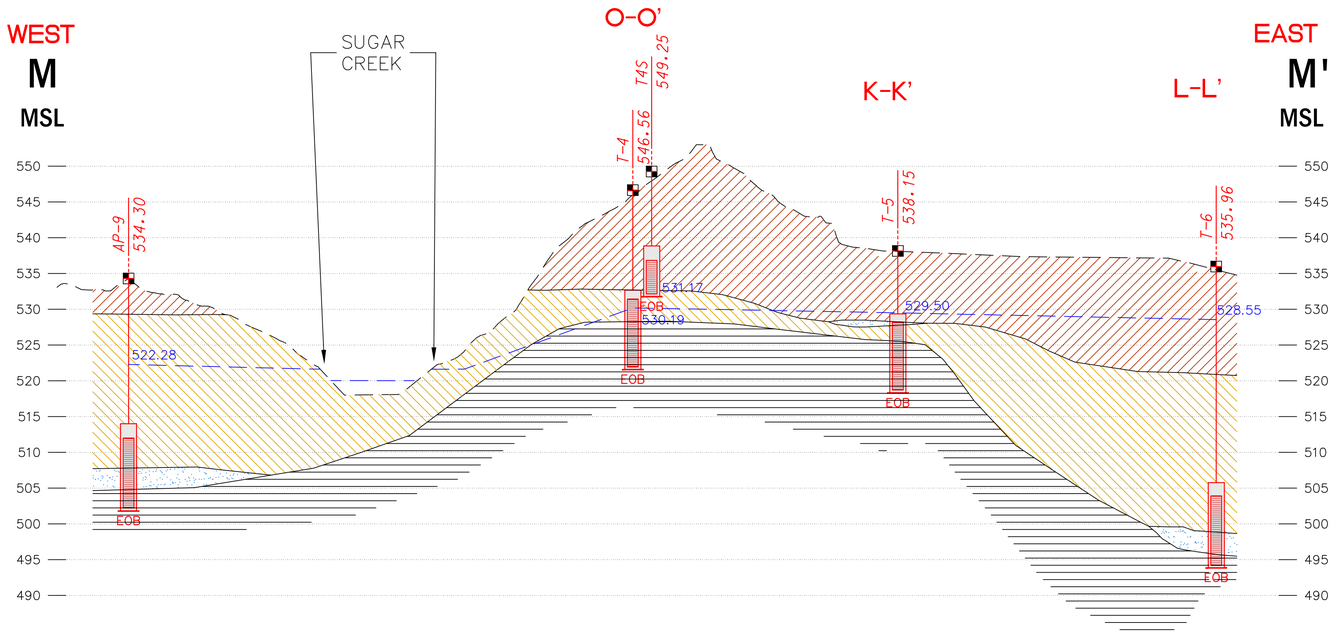


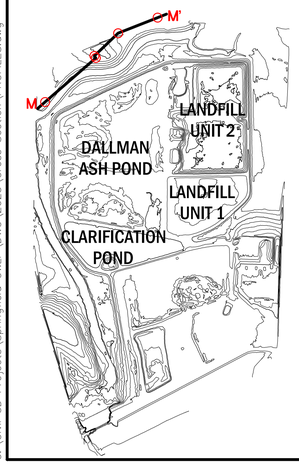


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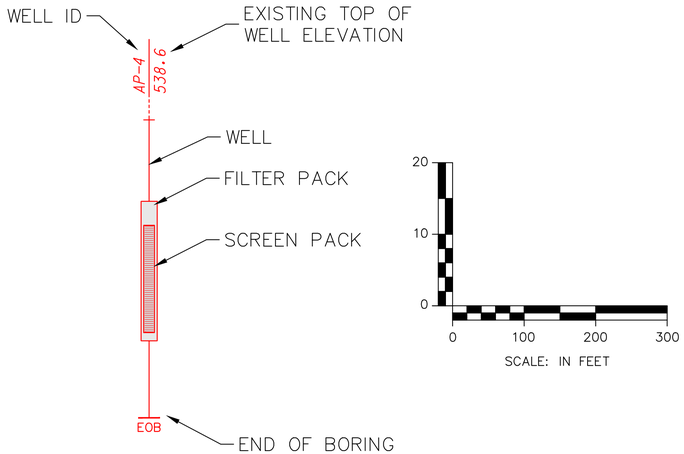
## LEGEND

- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION M-M'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

M-M'

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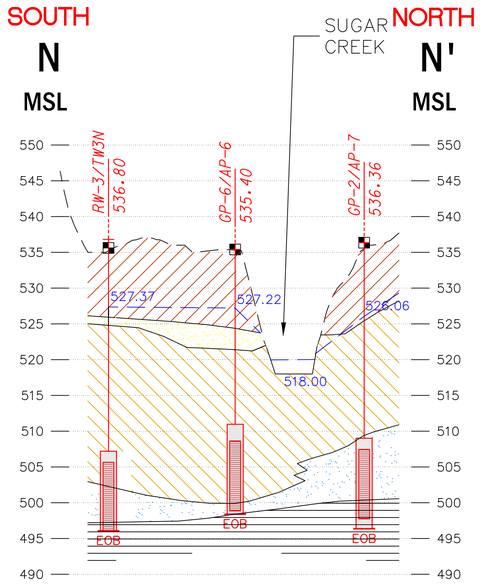


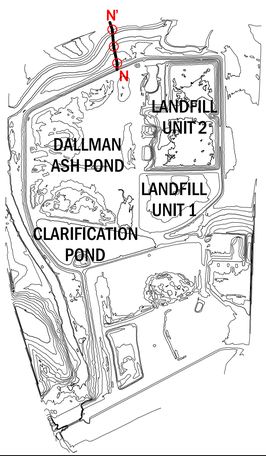


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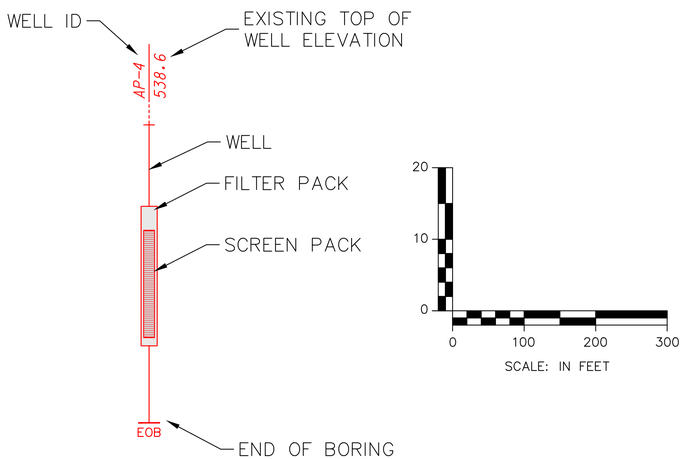
## LEGEND

- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION N-N'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

N-N'

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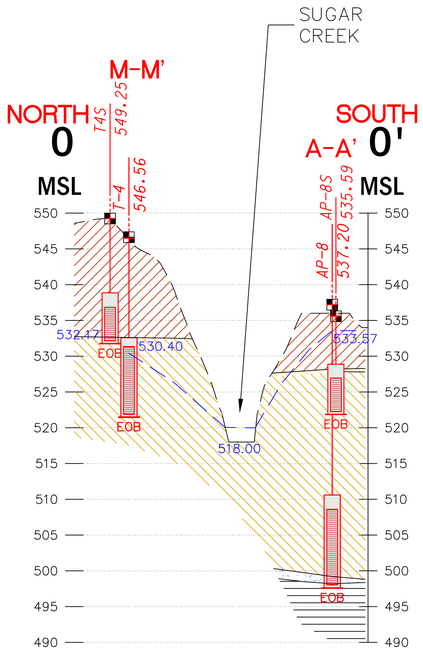


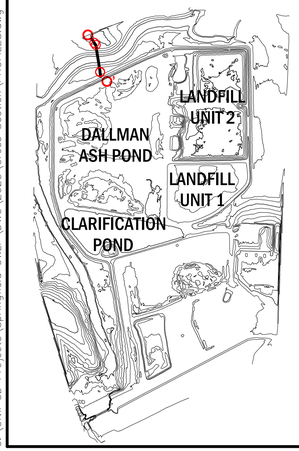


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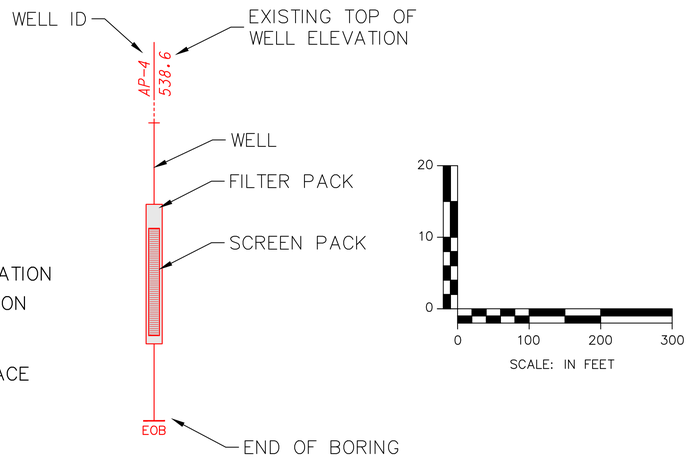
## LEGEND

- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION O-O'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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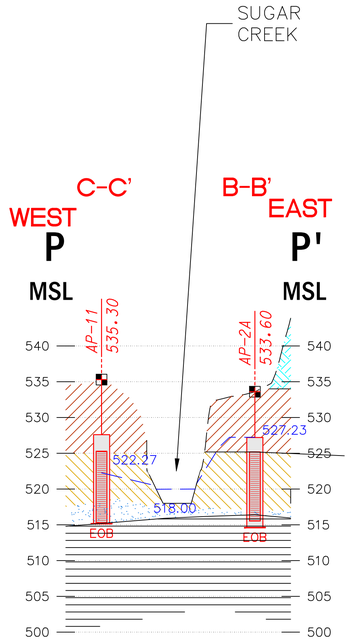


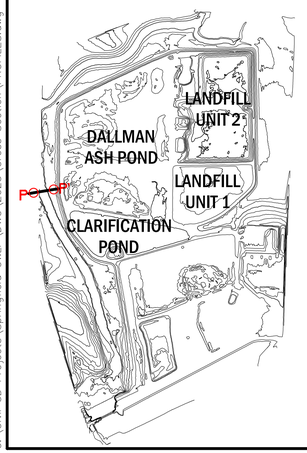


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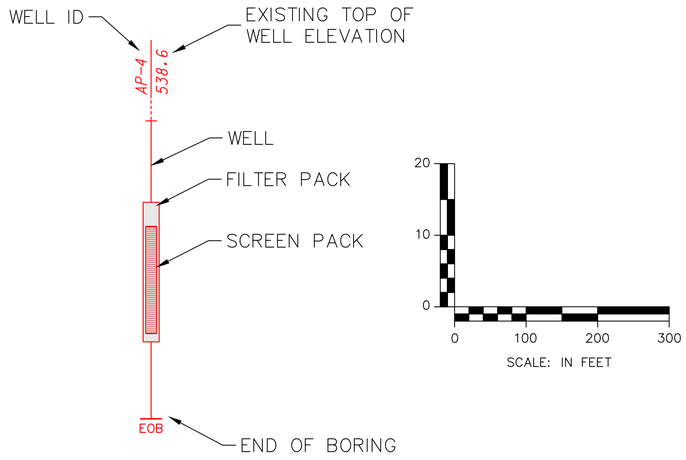
## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION P-P'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

P-P'

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# APPENDIX G:
## Laboratory Analytical Reports

# Interior Impoundment Wells

May 28, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050235

Dear Eric Staley:

TEKLAB, INC received 4 samples on 5/2/2024 1:11:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050235
**Report Date:** 28-May-24

**This reporting package includes the following:**


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| Laboratory Results | 7 |
| Receiving Check List | 11 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050235

**Client Project:** CWLP Borings **Report Date:** 28-May-24

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24

**Cooler Receipt Temp:** 2.9 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050235

**Client Project:** CWLP Borings

**Report Date:** 28-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050235-001
**Client Sample ID:** D2 33.5-35.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 10:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **158** | mg/L | 10 | 05/09/2024 14:01 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.37 | 1.0 | J | **0.37** | mg/L | 10 | 05/10/2024 9:26 | R347102 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | | |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **8** | mg/L | 1 | 05/09/2024 13:56 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.18** | | 1 | 05/06/2024 11:24 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.345** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.352** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | J | **0.0002** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **4.05** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0130** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **1.27** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0125** | mg/L | 5 | 05/09/2024 9:41 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0707** | mg/L | 5 | 05/09/2024 9:41 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0018** | mg/L | 5 | 05/09/2024 9:41 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 0:32 | 222519 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0390** | mg/L | 1 | 05/08/2024 17:27 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **3.05** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **5.21** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0273** | mg/L | 5 | 05/09/2024 10:45 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0065** | mg/L | 5 | 05/09/2024 10:45 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0015** | mg/L | 5 | 05/09/2024 10:45 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:08 | 223125 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050235-002
**Client Sample ID:** D1 36.5-38.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 15:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 6 | 10 | | **45** | mg/L | 1 | 05/09/2024 14:04 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.19** | mg/L | 1 | 05/09/2024 13:44 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **1** | mg/L | 1 | 05/09/2024 14:04 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.64** | | 1 | 05/06/2024 11:30 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0528** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.514** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0085** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **10.9** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0706** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0707** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0116** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **0.0102** | mg/L | 1 | 05/08/2024 13:13 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0554** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.037** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0237** | mg/L | 5 | 05/09/2024 9:36 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0367** | mg/L | 5 | 05/09/2024 9:36 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0268** | mg/L | 5 | 05/08/2024 14:55 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 0:39 | 222519 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0471** | mg/L | 1 | 05/08/2024 17:23 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | J | **0.0002** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **2.94** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.144** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.021** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0078** | mg/L | 5 | 05/08/2024 15:04 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0112** | mg/L | 5 | 05/09/2024 10:24 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0010** | mg/L | 5 | 05/08/2024 15:04 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:12 | 223125 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

**Client:** City Water, Light & Power **Work Order:** 24050235

**Client Project:** CWLP Borings **Report Date:** 28-May-24

**Lab ID:** 24050235-003 **Client Sample ID:** D3 14.5-29.5

**Matrix:** SOLID **Collection Date:** 04/30/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 6 | 10 | | **31** | mg/L | 1 | 05/09/2024 14:28 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.11** | mg/L | 1 | 05/09/2024 13:47 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **< 4** | mg/L | 1 | 05/09/2024 14:28 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.38** | | 1 | 05/06/2024 11:33 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0155** | mg/L | 1 | 05/08/2024 13:15 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.373** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0113** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **8.74** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0475** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0438** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0054** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0415** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.030** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0197** | mg/L | 5 | 05/10/2024 7:34 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0100** | mg/L | 5 | 05/09/2024 10:29 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0185** | mg/L | 5 | 05/08/2024 15:29 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 0:42 | 222519 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0173** | mg/L | 1 | 05/08/2024 17:29 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **2.34** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0355** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0070** | mg/L | 5 | 05/09/2024 11:07 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0034** | mg/L | 5 | 05/09/2024 11:07 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0017** | mg/L | 5 | 05/09/2024 11:07 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:14 | 223125 |

**Client:** City Water, Light & Power **Work Order:** 24050235

**Client Project:** CWLP Borings **Report Date:** 28-May-24

**Lab ID:** 24050235-004 **Client Sample ID:** D4 29.5-31.5

**Matrix:** SOLID **Collection Date:** 04/30/2024 15:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **102** | mg/L | 10 | 05/09/2024 14:41 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.14** | mg/L | 1 | 05/09/2024 13:49 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **11** | mg/L | 1 | 05/09/2024 14:36 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **10.2** | | 1 | 05/06/2024 11:35 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0242** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.287** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0012** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **6.25** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0063** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0089** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.179** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.022** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0376** | mg/L | 5 | 05/09/2024 10:18 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0374** | mg/L | 5 | 05/09/2024 10:18 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0243** | mg/L | 5 | 05/08/2024 15:00 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/19/2024 16:25 | 223122 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0114** | mg/L | 1 | 05/08/2024 17:31 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **2.77** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.134** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.021** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0240** | mg/L | 5 | 05/09/2024 11:44 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0059** | mg/L | 5 | 05/09/2024 11:44 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0013** | mg/L | 5 | 05/08/2024 16:14 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:21 | 223125 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050235
**Report Date:** 28-May-24

**Carrier:** Paul Reeves
**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 03-May-24

**Reviewed by:** Ellie Hopkins
**On:** 03-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 14

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 2.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☐ | No ☑ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | NA ☑ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 5/3/2024 10:02:55 AM

Limited volume for D3 sample; additional volume for Radium-226 and -228 was submitted on WO#24050346. SAH 5/28/24

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050235

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.9 °C #7
Preserved in: [ ] LAB [ ] FIELD
FOR LAB USE ONLY
LAB NOTES:

TEKLAB

Client Comments:
TCLP & SPLP for all metals

Courier

email results to C. Grey and datamanagement@andrews-eng.com

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

**PROJECT NAME/NUMBER**: CWLP Borings

**SAMPLE COLLECTOR'S NAME**: S. Van Hook

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | TCLP & SPLP Sb, As, Ba, Be | TCLP & SPLP B, Cd, Cr, Co, Pb, Se, Tl | TCLP & SPLP Li, Mo | TCLP & SPLP Hg | Neutral Leach Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050235-001 | D2 33.5-35.5 | 4/29/24 10AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | D1 36.5-38.5 | 4/29/24 3:30PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | D3 14.5-29.5 | 4/30/24 10:15am | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | D4 29.5-31.5 | 4/30/24 3:00PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steve Van Hook | 5/1/24 7:00pm | ASI Secure Storage | 5/1/24 7:00P |
| ASI Secure Storage CMay | 5/2/24 7:40A | Paul Mix | 5.2.24 0740 |
| Paul Mix | 5.2.24 1311 | Mitch Klett | 5/2/24 1311 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

UM 5/2

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 23, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050235

Dear Shelly Hennessy:

Order No.: 24050488

Summit Environmental Technologies, Inc. received 3 sample(s) on 5/7/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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# Case Narrative

WO#: **24050488**
Date: **5/23/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050235

WorkOrder Narrative:
24050488: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-448*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050488**
Date: **5/23/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050488**

***23-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050235

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050488-001 | 24050235-001 | | 4/29/2024 10:00:00 AM | 5/7/2024 11:30:00 AM | Solid |
| 24050488-002 | 24050235-002 | | 4/29/2024 3:30:00 PM | 5/7/2024 11:30:00 AM | Solid |
| 24050488-003 | 24050235-004 | | 4/30/2024 3:00:00 PM | 5/7/2024 11:30:00 AM | Solid |

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# DATES REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050235

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050488-001A | 24050235-001 | 4/29/2024 10:00:00 AM | Solid | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050488-002A | 24050235-002 | 4/29/2024 3:30:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050488-003A | 24050235-004 | 4/30/2024 3:00:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |

Original

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24050488**

Date Reported: **5/23/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 10:00:00 AM

**Project:** 24050235

**Lab ID:** 24050488-001

**Matrix:** SOLID

**Client Sample ID:** 24050235-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **SW9315** **E903-904** | | Analyst: **SMZ** |
| **RADIUM-226 ANALYSIS (9315)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.100 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RAD226/228** | | | | | **SW9320** **E903-904** | | Analyst: **SMZ** |
| **RADIUM-228 ANALYSIS (9320)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.330 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24050488**

Date Reported: **5/23/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 3:30:00 PM

**Project:** 24050235

**Lab ID:** 24050488-002

**Matrix:** SOLID

**Client Sample ID:** 24050235-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **SW9315** **E903-904** | | Analyst: **SMZ** |
| **RADIUM-226 ANALYSIS (9315)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.130 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RAD226/228** | | | | | **SW9320** **E903-904** | | Analyst: **SMZ** |
| **RADIUM-228 ANALYSIS (9320)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.270 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24050488**

Date Reported: **5/23/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 3:00:00 PM

**Project:** 24050235

**Lab ID:** 24050488-003

**Matrix:** SOLID

**Client Sample ID:** 24050235-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **SW9315** **E903-904** | | Analyst: **SMZ** |
| **RADIUM-226 ANALYSIS (9315)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.160 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RAD226/228** | | | | | **SW9320** **E903-904** | | Analyst: **SMZ** |
| **RADIUM-228 ANALYSIS (9320)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.300 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050235 **BatchID:** **75515**

| Sample ID: **MB-75515** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043898** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75515** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 2.00 | 5.000 | 0 | 72.4 | 50 | 130 | | | | |

| Sample ID: **LCSD-75515** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.01 | 2.00 | 5.000 | 0 | 60.2 | 50 | 130 | 3.620 | 18.4 | 20 | |

| Sample ID: **24041932-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043905** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050235 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**

Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 8.89 | 2.00 | 10.00 | 0 | 88.9 | 0 | 0 | 6.490 | 31.2 | 20 | RS |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050235 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044082**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044083**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.20 | 1.00 | 5.000 | 0 | 124 | 70 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044084**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 60 | 140 | 6.200 | 7.36 | 40 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050235 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.51 | 1.00 | | | | | | 6.960 | 6.68 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

W.8-0.2 Cooler Temp: 26.6°C Sampler: Client QC Level: 2

Fedex, Cooler

Project# 24050235

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36226 Phone: (618) 344-1004 ext. 36

24050488

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | CPM | | | | | | | | | |
| | 24050235-001 | 4/29/24 1000 | Unpres | Soil | ✔ | | 38 | | | | | | | | | |
| | 24050235-002 | 4/29/24 1530 | Unpres | Soil | ✔ | | 34 | | | | | | | | | |
| | 24050235-004 | 4/30/24 1500 | Unpres | Soil | ✔ | | 38 | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5/3/24 1700 | | 5/7/24, 1130 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization, and proprietary rights.

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050488 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Christina N. Gemma | 5/7/2024 11:30:00 AM | C. Gemma |
| Completed By: | Christina N. Gemma | 5/7/2024 5:25:54 PM | C. Gemma |
| Reviewed By: | Jennifer Woolf | 5/8/2024 11:11:39 AM | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| | No. Seal Date: | Signed By: | | |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 20.6 | Good | Not Present | | | |

June 05, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050346

Dear Eric Staley:

TEKLAB, INC received 10 samples on 5/3/2024 1:50:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050346
**Report Date:** 05-Jun-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 17 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050346

**Client Project:** CWLP Borings **Report Date:** 05-Jun-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24050346

**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24

**Cooler Receipt Temp:** 3.3 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050346

**Client Project:** CWLP Borings

**Report Date:** 05-Jun-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-001
**Client Sample ID:** L4 10ft-15.3ft
**Matrix:** SOLID
**Collection Date:** 05/02/2024 8:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **149** | mg/L | 10 | 05/09/2024 14:49 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.42** | mg/L | 1 | 05/09/2024 13:52 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **25** | mg/L | 1 | 05/09/2024 14:44 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.49** | | 1 | 05/06/2024 11:10 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Barium | NELAP | 0.0150 | 0.0450 | | **1.04** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.59** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0077** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0012** | mg/L | 5 | 05/14/2024 9:03 | 222742 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0034** | mg/L | 5 | 05/14/2024 9:03 | 222742 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0015** | mg/L | 5 | 05/15/2024 12:16 | 222742 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/16/2024 7:17 | 222743 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **< 1.00** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | J | **0.0009** | mg/L | 5 | 05/14/2024 12:23 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **< 0.0030** | mg/L | 5 | 05/14/2024 12:23 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0011** | mg/L | 5 | 05/15/2024 14:31 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:27 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-002
**Client Sample ID:** L3 29.5-32.7
**Matrix:** SOLID
**Collection Date:** 05/02/2024 11:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 307 | 500 | | **574** | mg/L | 50 | 05/10/2024 13:21 | R347112 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.20** | mg/L | 1 | 05/09/2024 13:53 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **13** | mg/L | 1 | 05/09/2024 14:52 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.79** | | 1 | 05/06/2024 11:12 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0337** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.470** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0054** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Boron | NELAP | 0.250 | 1.00 | | **1.23** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0397** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0185** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0161** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Lead | NELAP | 0.0040 | 0.0075 | | **0.0247** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0024** | mg/L | 5 | 05/14/2024 9:57 | 222742 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0061** | mg/L | 5 | 05/14/2024 9:57 | 222742 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0060** | mg/L | 5 | 05/15/2024 12:31 | 222742 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/16/2024 7:20 | 222743 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/16/2024 17:50 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.025** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.60** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0169** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0037** | mg/L | 5 | 05/14/2024 12:28 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0030** | mg/L | 5 | 05/14/2024 12:28 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:36 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:29 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/31/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/31/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-003
**Client Sample ID:** L3 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 05/02/2024 11:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **224** | mg/L | 10 | 05/09/2024 15:05 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.20** | mg/L | 1 | 05/09/2024 13:56 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **4** | mg/L | 1 | 05/09/2024 15:00 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.14** | | 1 | 05/06/2024 11:14 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0279** | mg/L | 1 | 05/16/2024 17:49 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.635** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.69** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0154** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0065** | mg/L | 1 | 05/14/2024 12:11 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0307** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0066** | mg/L | 5 | 05/14/2024 9:42 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0053** | mg/L | 5 | 05/14/2024 9:42 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0086** | mg/L | 5 | 05/15/2024 13:21 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **0.00028** | mg/L | 1 | 05/14/2024 14:21 | 222612 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0195** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.028** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.32** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0111** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0054** | mg/L | 5 | 05/14/2024 12:33 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0015** | mg/L | 5 | 05/14/2024 12:33 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:41 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:36 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-004
**Client Sample ID:** L1 24.5-31.5
**Matrix:** SOLID
**Collection Date:** 05/02/2024 15:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **139** | mg/L | 10 | 05/09/2024 15:29 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.21** | mg/L | 1 | 05/10/2024 9:32 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **5** | mg/L | 1 | 05/09/2024 15:24 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.14** | | 1 | 05/06/2024 11:15 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.172** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0015** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Boron | NELAP | 0.250 | 1.00 | | **17.2** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0045** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0033** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0118** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0064** | mg/L | 5 | 05/14/2024 9:47 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0087** | mg/L | 5 | 05/14/2024 9:47 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0041** | mg/L | 5 | 05/15/2024 13:26 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 16:51 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.026** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **2.69** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0012** | mg/L | 5 | 05/14/2024 12:39 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0030** | mg/L | 5 | 05/14/2024 12:39 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:45 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:43 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-005
**Client Sample ID:** L1 14.5-21.5
**Matrix:** SOLID
**Collection Date:** 05/02/2024 14:50

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **103** | mg/L | 10 | 05/09/2024 15:37 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.37** | mg/L | 1 | 05/10/2024 9:35 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **1** | mg/L | 1 | 05/09/2024 15:32 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.13** | | 1 | 05/06/2024 11:16 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.345** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | J | **0.0007** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.32** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0045** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0054** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0019** | mg/L | 5 | 05/14/2024 10:18 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0036** | mg/L | 5 | 05/14/2024 10:18 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0023** | mg/L | 5 | 05/15/2024 13:36 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 16:54 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0276** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **< 1.00** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0145** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.019** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0114** | mg/L | 5 | 05/14/2024 13:05 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **< 0.0030** | mg/L | 5 | 05/14/2024 13:05 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 15:05 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:45 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-006
**Client Sample ID:** D3 9.5-11.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-007
**Client Sample ID:** D3 4.5-6.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 6 | 10 | | **45** | mg/L | 1 | 05/09/2024 15:42 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | J | **0.08** | mg/L | 1 | 05/10/2024 9:36 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **< 4** | mg/L | 1 | 05/09/2024 15:42 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.93** | | 1 | 05/06/2024 11:18 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.492** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0114** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Boron | NELAP | 0.500 | 2.00 | | **25.9** | mg/L | 2 | 05/13/2024 11:33 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0302** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0692** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0118** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0375** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0178** | mg/L | 5 | 05/14/2024 9:52 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0131** | mg/L | 5 | 05/14/2024 9:52 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0252** | mg/L | 5 | 05/15/2024 13:31 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 16:56 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/16/2024 17:50 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **2.65** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0138** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0029** | mg/L | 5 | 05/14/2024 12:44 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0033** | mg/L | 5 | 05/14/2024 12:44 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:50 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:47 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-008
**Client Sample ID:** D1 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 15:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **65** | mg/L | 5 | 05/10/2024 13:23 | R347112 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.13** | mg/L | 1 | 05/10/2024 9:39 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **1** | mg/L | 1 | 05/09/2024 15:50 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **10.0** | | 1 | 05/06/2024 11:20 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.358** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0145** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Boron | NELAP | 0.500 | 2.00 | | **26.6** | mg/L | 2 | 05/13/2024 11:33 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0293** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.105** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0145** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0402** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.017** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0170** | mg/L | 5 | 05/14/2024 11:46 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0112** | mg/L | 5 | 05/14/2024 11:46 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0229** | mg/L | 5 | 05/15/2024 14:26 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 17:07 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **5.11** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Chromium | NELAP | 0.0034 | 0.010 | J | **0.0049** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.216** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.030** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0035** | mg/L | 5 | 05/14/2024 12:49 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0033** | mg/L | 5 | 05/14/2024 12:49 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:55 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:49 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-009
**Client Sample ID:** D2 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 9:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **226** | mg/L | 10 | 05/09/2024 16:20 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.20** | mg/L | 1 | 05/10/2024 9:42 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **7** | mg/L | 1 | 05/09/2024 16:14 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.25** | | 1 | 05/06/2024 11:21 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0505** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.556** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0231** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Boron | NELAP | 0.250 | 1.00 | | **9.63** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0638** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.116** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0182** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0571** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.017** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0163** | mg/L | 5 | 05/14/2024 9:36 | 222742 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0228** | mg/L | 5 | 05/14/2024 9:36 | 222742 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0257** | mg/L | 5 | 05/15/2024 12:11 | 222742 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/16/2024 7:24 | 222743 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.021** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **4.20** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.155** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0141** | mg/L | 5 | 05/14/2024 12:54 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0078** | mg/L | 5 | 05/14/2024 12:54 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 15:00 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:54 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-010
**Client Sample ID:** D4 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 14:45

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **70** | mg/L | 5 | 05/10/2024 13:26 | R347112 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | J | **0.06** | mg/L | 1 | 05/10/2024 9:52 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **2** | mg/L | 1 | 05/09/2024 16:22 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.63** | | 1 | 05/06/2024 11:22 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.238** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0056** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Boron | NELAP | 0.500 | 2.00 | S | **26.9** | mg/L | 2 | 05/13/2024 11:34 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0422** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0151** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0107** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.105** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | | |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0395** | mg/L | 5 | 05/14/2024 11:51 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0192** | mg/L | 5 | 05/14/2024 11:51 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0225** | mg/L | 5 | 05/15/2024 13:55 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **0.00029** | mg/L | 1 | 05/15/2024 17:12 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **3.77** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0495** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0034** | mg/L | 5 | 05/14/2024 14:18 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0075** | mg/L | 5 | 05/14/2024 14:18 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0017** | mg/L | 5 | 05/15/2024 16:15 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:56 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050346
**Report Date:** 05-Jun-24

**Carrier:** Paul Reeves

**Received By:** LM

**Completed by:** Amber Dilallo
**On:** 03-May-24

**Reviewed by:** Ellie Hopkins
**On:** 03-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 25

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.3 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | NA ☑ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 5/3/2024 2:35:35 PM

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050346

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☐ No
Are these samples known to be hazardous? ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☐ No

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 3.3 °C LT6475
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

TEKLAB

Client Comments:
TCLP & SPLP for all metals

Courier

email results to C. Grey and datamanagement@andrews-eng.com SAV 5/6/24
*Add'l volume for 24050235-003; use ID D3 9.5-11.5 per Steve Van Hook

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | TCLP & SPLP Sb, As, Ba, Be | TCLP & SPLP B, Cd, Cr, Co, Pb, Se, Tl | TCLP & SPLP Li, Mo | TCLP & SPLP Hg | Neutral Leach Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050346 001 | L4 10'-15.5' | 5/2/24 8:15am | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | L3 29.5-32' | 5/2/24 11AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | L3 19.5-21.5 | 5/2/24 11:15AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | L4 24.5-31.5 | 5/2/24 3:30pm | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | L1 14.5-21.5 | 5/2/24 2:50PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| * 006 | D3 9.5'-29.5' | 4/30/24 10:15AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ RAD ONLY SAV 5/6/24 |
| 007 | D3 4.5-6.5 | 4/30/24 10:15AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | D1 19.5-21.5 | 4/29/24 3:00PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | D2 19.5-21.5 | 4/29/24 9:30am | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | D4 19.5-21.5 | 4/30/24 2:45pm | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5/2/24 7:00pm | AEI Secure Storage | 5/2/24 1900 |
| AEI Secure Storage | 5/3/24 07:28 | [signature] | 5.3.24 0728 |
| [signature] | 5.3.24 1350 | [signature] | 5/3/24 1350 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

5/3

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

June 05, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050346

Dear Shelly Hennessy:

Order No.: 24050783

Summit Environmental Technologies, Inc. received 10 sample(s) on 5/9/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*Website: http://www.settek.com*

# Case Narrative

WO#: **24050783**
Date: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050346

WorkOrder Narrative:
24050783: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44&*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050783**
Date: **6/5/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050783**
***05-Jun-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050346

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050783-001 | 24050346-001 | | 5/2/2024 8:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-002 | 24050346-002 | | 5/2/2024 11:00:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-003 | 24050346-003 | | 5/2/2024 11:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-004 | 24050346-004 | | 5/2/2024 3:30:00 PM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-005 | 24050346-005 | | 5/2/2024 2:50:00 PM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-006 | 24050346-006 | | 4/30/2024 10:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-007 | 24050346-007 | | 4/30/2024 10:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-008 | 24050346-008 | | 4/30/2024 3:00:00 PM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-009 | 24050346-009 | | 4/30/2024 9:30:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-010 | 24050346-010 | | 4/30/2024 2:45:00 PM | 5/9/2024 11:40:00 AM | Solid |

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# DATES REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050783-001A | 24050346-001 | 5/2/2024 8:15:00 AM | Solid | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-002A | 24050346-002 | 5/2/2024 11:00:00 AM | | Radium-226 Analysis (9315) | | 5/28/2024 1:38:00 PM | 6/3/2024 11:07:59 AM |
| | | | | Radium-228 Analysis (9320) | | 5/28/2024 1:38:00 PM | 5/31/2024 1:16:12 PM |
| 24050783-003A | 24050346-003 | 5/2/2024 11:15:00 AM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-004A | 24050346-004 | 5/2/2024 3:30:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-005A | 24050346-005 | 5/2/2024 2:50:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-006A | 24050346-006 | 4/30/2024 10:15:00 AM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-007A | 24050346-007 | | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-008A | 24050346-008 | 4/30/2024 3:00:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-009A | 24050346-009 | 4/30/2024 9:30:00 AM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-010A | 24050346-010 | 4/30/2024 2:45:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 8:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-001

**Matrix:** SOLID

**Client Sample ID:** 24050346-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.0700 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.290 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 11:00:00 AM

**Project:** 24050346

**Lab ID:** 24050783-002

**Matrix:** SOLID

**Client Sample ID:** 24050346-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.0800 | 1 | 6/3/2024 11:07:59 AM |
| Yield | 1.00 | | | | | 1 | 6/3/2024 11:07:59 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.260 | 1 | 5/31/2024 1:16:12 PM |
| Yield | 1.00 | | | | | 1 | 5/31/2024 1:16:12 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 5/2/2024 11:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-003
**Matrix:** SOLID

**Client Sample ID:** 24050346-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.140 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.300 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 5/2/2024 3:30:00 PM

**Project:** 24050346

**Lab ID:** 24050783-004
**Matrix:** SOLID

**Client Sample ID:** 24050346-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.100 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.250 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 5/2/2024 2:50:00 PM
**Project:** 24050346
**Lab ID:** 24050783-005
**Matrix:** SOLID
**Client Sample ID:** 24050346-005

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.0800 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.210 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 10:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-006

**Matrix:** SOLID

**Client Sample ID:** 24050346-006

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.140 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.280 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 4/30/2024 10:15:00 AM
**Project:** 24050346
**Lab ID:** 24050783-007
**Matrix:** SOLID
**Client Sample ID:** 24050346-007

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.100 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.380 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050346
**Lab ID:** 24050783-008
**Client Sample ID:** 24050346-008

**Collection Date:** 4/30/2024 3:00:00 PM
**Matrix:** SOLID

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.160 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.290 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050346
**Lab ID:** 24050783-009
**Client Sample ID:** 24050346-009

**Collection Date:** 4/30/2024 9:30:00 AM
**Matrix:** SOLID

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.120 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.290 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 2:45:00 PM

**Project:** 24050346

**Lab ID:** 24050783-010

**Matrix:** SOLID

**Client Sample ID:** 24050346-010

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.120 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.280 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

| Sample ID: **MB-75515** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043898** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75515** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 2.00 | 5.000 | 0 | 72.4 | 50 | 130 | | | | |

| Sample ID: **LCSD-75515** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.01 | 2.00 | 5.000 | 0 | 60.2 | 50 | 130 | 3.620 | 18.4 | 20 | |

| Sample ID: **24041932-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/g-dry** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043905** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 10.4 | 2.34 | 11.68 | 0 | 88.9 | 0 | 0 | 7.583 | 31.2 | 20 | RS |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044082**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044083**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.20 | 1.00 | 5.000 | 0 | 124 | 70 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044084**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 60 | 140 | 6.200 | 7.36 | 40 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 7.61 | 1.17 | | | | | | 8.133 | 6.68 | 20 | |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

| Sample ID: **MB-75738** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186695** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75738** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/31/2024** | SeqNo: **5059001** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75738** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186695** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75738** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/31/2024** | SeqNo: **5059002** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.33 | 2.00 | 5.000 | 0 | 66.6 | 50 | 130 | | | | |

| Sample ID: **LCSD-75738** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186695** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75738** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/31/2024** | SeqNo: **5059003** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.40 | 2.00 | 5.000 | 0 | 68.0 | 50 | 130 | 3.330 | 2.08 | 20 | |

| Sample ID: **24050783-002ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186695** |
|---|---|---|---|---|---|
| Client ID: **24050346-002** | Batch ID: **75738** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/31/2024** | SeqNo: **5059008** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

Sample ID: **24050783-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186695**
Client ID: **24050346-002** Batch ID: **75738** TestNo: **SW9320** **E903-904** Analysis Date: **5/31/2024** SeqNo: **5059008**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | 10.00 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

| Sample ID: **MB-75738** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186696** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75738** | TestNo: **SW9315** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5059009** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75738** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186696** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75738** | TestNo: **SW9315** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5059010** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.94 | 1.00 | 5.000 | 0 | 98.8 | 70 | 130 | | | | |

| Sample ID: **LCSD-75738** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186696** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75738** | TestNo: **SW9315** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5059011** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.81 | 1.00 | 5.000 | 0 | 96.2 | 60 | 140 | 4.940 | 2.67 | 40 | |

| Sample ID: **24050783-002ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/28/2024** | RunNo: **186696** |
|---|---|---|---|---|---|
| Client ID: **24050346-002** | Batch ID: **75738** | TestNo: **SW9315** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5059016** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

Sample ID: **24050783-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186696**
Client ID: **24050346-002** Batch ID: **75738** TestNo: **SW9315** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5059016**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

Pg 1 of 1 24050783

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

18.4-0.2= Cooler Temp: 18.2c Sampler: Client QC Level: 2

Fedex, Cooler

Project# 24050346

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36236 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | CPM |
|---|---|---|---|---|---|---|---|
| | 24050346-001 | 5/2/24 0815 | Unpres | Soil | ✔ | | 24 |
| | 24050346-002 | 5/2/24 1100 | Unpres | Soil | ✔ | | 36 |
| | 24050346-003 | 5/2/24 1115 | Unpres | Soil | ✔ | | 24 |
| | 24050346-004 | 5/2/24 1530 | Unpres | Soil | ✔ | | 24 |
| | 24050346-005 | 5/2/24 1450 | Unpres | Soil | ✔ | | 28 |
| | 24050346-006 | 4/30/24 1015 | Unpres | Soil | ✔ | | 20 |
| | 24050346-007 | 4/30/24 1015 | Unpres | Soil | ✔ | | 30 |
| | 24050346-008 | 4/29/24 1500 | Unpres | Soil | ✔ | | 24 |
| | 24050346-009 | 4/29/24 0930 | Unpres | Soil | ✔ | | 38 |
| | 24050346-010 | 4/30/24 1445 | Unpres | Soil | ✔ | | 34 |
| | | | Other | Aqueous | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5/16/24 1700 | [signature] | 5/19/24, 1140 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050783 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/9/2024 11:40:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/10/2024 12:09:39 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/10/2024 5:04:45 PM | Jennifer Woolf |

## *Chain of Custody*

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## *Log In*

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| | No. Seal Date: | Signed By: | | |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## *Special Handling (if applicable)*

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 18.2 | Good | Not Present | | | |

May 28, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050428

Dear Eric Staley:

TEKLAB, INC received 2 samples on 5/6/2024 12:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050428
**Report Date:** 28-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 9 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050428

**Client Project:** CWLP Borings **Report Date:** 28-May-24

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24050428

**Client Project:** CWLP Borings
**Report Date:** 28-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

**Client:** City Water, Light & Power

**Client Project:** CWLP Borings

**Work Order:** 24050428

**Report Date:** 28-May-24

**Cooler Receipt Temp:** 3.5 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050428

**Client Project:** CWLP Borings

**Report Date:** 28-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050428
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050428-001
**Client Sample ID:** L5 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 05/03/2024 8:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **67** | mg/L | 5 | 05/15/2024 13:32 | R347372 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.36** | mg/L | 1 | 05/13/2024 9:06 | R347147 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **6** | mg/L | 1 | 05/14/2024 20:03 | R347274 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.14** | | 1 | 05/07/2024 10:21 | R346852 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0276** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.574** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0049** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Boron | NELAP | 0.250 | 1.00 | | **2.32** | mg/L | 1 | 05/21/2024 8:27 | 223096 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.149** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Chromium | NELAP | 0.0034 | 0.010 | J | **0.0082** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0218** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Molybdenum | NELAP | 0.0037 | 0.010 | J | **0.0081** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0072** | mg/L | 5 | 05/16/2024 18:27 | 222893 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0153** | mg/L | 5 | 05/16/2024 18:27 | 222893 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0199** | mg/L | 5 | 05/16/2024 18:27 | 222893 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 12:42 | 222892 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0331** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.0596** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Boron | NELAP | 0.250 | 1.00 | | **1.05** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Molybdenum | NELAP | 0.0037 | 0.010 | J | **0.0076** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0067** | mg/L | 5 | 05/17/2024 9:22 | 222963 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0027** | mg/L | 5 | 05/16/2024 14:37 | 222963 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/16/2024 14:37 | 222963 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 14:08 | 222116 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

**Client:** City Water, Light & Power
**Work Order:** 24050428
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050428-002
**Client Sample ID:** L5 32.5-35.2
**Matrix:** SOLID
**Collection Date:** 05/03/2024 9:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **73** | mg/L | 5 | 05/15/2024 13:35 | R347372 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | J | **0.08** | mg/L | 1 | 05/13/2024 9:11 | R347147 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **11** | mg/L | 1 | 05/14/2024 20:11 | R347274 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.27** | | 1 | 05/07/2024 10:22 | R346852 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:06 | 222894 |
| Barium | NELAP | 0.0150 | 0.0450 | | **1.24** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Boron | NELAP | 0.250 | 1.00 | | **2.79** | mg/L | 1 | 05/20/2024 9:22 | 223102 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0022** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0043** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Lead | NELAP | 0.0045 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0375** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0017** | mg/L | 5 | 05/16/2024 18:07 | 222894 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0183** | mg/L | 5 | 05/16/2024 18:07 | 222894 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0021** | mg/L | 5 | 05/16/2024 18:07 | 222894 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 13:19 | 222895 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.023** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Boron | NELAP | 0.250 | 1.00 | | **2.15** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0904** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0005 | 0.0010 | | **0.0025** | mg/L | 5 | 05/16/2024 14:21 | 222963 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0033** | mg/L | 5 | 05/16/2024 14:21 | 222963 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0019** | mg/L | 5 | 05/16/2024 14:21 | 222963 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 14:11 | 222116 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050428
**Report Date:** 28-May-24

**Carrier:** Paul Reeves

**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 06-May-24

**Reviewed by:** Ellie Hopkins
**On:** 06-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 16

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.5 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | NA ☑ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 5/6/2024 1:04:15 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050424

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3-5 °C CT6 #7
Preserved in: [ ] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: TEKLAB

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

Client Comments: Courier
TCLP & SPLP for all metals

email results to C. Grey and datamanagement@andrews-eng.com

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

RESULTS REQUESTED
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other ____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | TCLP & SPLP Sb, As, Ba, Be | TCLP & SPLP B, Cd, Cr, Co, Pb, Se, Tl | TCLP & SPLP Li, Mo | TCLP & SPLP Hg | Neutral Leach Cl, F-, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050424-01 | LS 19.5 - 21.5 | 5/3/2024 8:30AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -02 | LS 32.5 - 35.2 | 5/3/2024 9:00AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steve Van Hook | 5/3/2024 12:30pm | Paul Mix | 5.6.24 0820 |
| Paul Mix | 5.6.24 1200 | Rich Reed | 5/6/24 1200 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

MR 5/6

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 28, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050428

Order No.: 24050795

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 2 sample(s) on 5/9/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **24050795**
Date: **5/28/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050428

WorkOrder Narrative:
24050795: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44&*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050795**
Date: **5/28/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
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*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050795**

***28-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050428

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050795-001 | 24050428-001 | | 5/3/2024 8:30:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050795-002 | 24050428-002 | | 5/3/2024 9:00:00 AM | 5/9/2024 11:40:00 AM | Solid |

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# DATES REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050428

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050795-001A | 24050428-001 | 5/3/2024 8:30:00 AM | Solid | Percent Moisture by SM2540Mod | | | 5/25/2024 3:45:00 PM |
| | | | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050795-002A | 24050428-002 | 5/3/2024 9:00:00 AM | | Percent Moisture by SM2540Mod | | | 5/25/2024 3:45:00 PM |
| | | | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
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*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/3/2024 8:30:00 AM

**Project:** 24050428

**Lab ID:** 24050795-001

**Matrix:** SOLID

**Client Sample ID:** 24050428-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | **SW9315** | **E903-904** | | Analyst: **SMZ** |
| Radium-226 | ND | 1.66 | | pCi/g-dry | ± 0.160 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.66 | | | -dry | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | **SW9320** | **E903-904** | | Analyst: **SMZ** |
| Radium-228 | ND | 3.31 | | pCi/g-dry | ± 0.320 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.66 | | | -dry | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/3/2024 9:00:00 AM

**Project:** 24050428

**Lab ID:** 24050795-002

**Matrix:** SOLID

**Client Sample ID:** 24050428-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | **SW9315** | **E903-904** | | Analyst: **SMZ** |
| Radium-226 | ND | 1.77 | | pCi/g-dry | ± 0.0600 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.77 | | | -dry | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | **SW9320** | **E903-904** | | Analyst: **SMZ** |
| Radium-228 | ND | 3.55 | | pCi/g-dry | ± 0.320 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.77 | | | -dry | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(base report)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,
**Matrix:** SOLID
**Lab ID:** 24050795-001A
**Project:** 24050428
**Client Sample ID** 24050428-001

**Tag Number:**
**Collection Date:** 5/3/2024 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PERCENT MOISTURE BY SM2540MOD** | | | | **A2540B** | | Analyst: **AAA** |
| Percent Moisture | 39.6 | 0.500 | | % | 1 | 5/25/2024 3:45:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |



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# Analytical Report

(base report)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,
**Matrix:** SOLID
**Lab ID:** 24050795-002A
**Project:** 24050428
**Client Sample ID** 24050428-002

**Tag Number:**
**Collection Date:** 5/3/2024 9:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PERCENT MOISTURE BY SM2540MOD** | | | | **A2540B** | | Analyst: **AAA** |
| Percent Moisture | 43.6 | 0.500 | | % | 1 | 5/25/2024 3:45:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |



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# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

| Sample ID: **MB-75515** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043898** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75515** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 2.00 | 5.000 | 0 | 72.4 | 50 | 130 | | | | |

| Sample ID: **LCSD-75515** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.01 | 2.00 | 5.000 | 0 | 60.2 | 50 | 130 | 3.620 | 18.4 | 20 | |

| Sample ID: **24041932-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/g-dry** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043905** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 10.4 | 2.34 | 11.68 | 0 | 88.9 | 0 | 0 | 7.583 | 31.2 | 20 | RS |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

| Sample ID: **MB-75515** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186145** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75515** | TestNo: **SW9315** | **E903-904** | Analysis Date: **5/23/2024** | SeqNo: **5044082** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75515** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186145** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75515** | TestNo: **SW9315** | **E903-904** | Analysis Date: **5/23/2024** | SeqNo: **5044083** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.20 | 1.00 | 5.000 | 0 | 124 | 70 | 130 | | | | |

| Sample ID: **LCSD-75515** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186145** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75515** | TestNo: **SW9315** | **E903-904** | Analysis Date: **5/23/2024** | SeqNo: **5044084** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 60 | 140 | 6.200 | 7.36 | 40 | |

| Sample ID: **24041932-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/g-dry** | Prep Date: **5/16/2024** | RunNo: **186145** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75515** | TestNo: **SW9315** | **E903-904** | Analysis Date: **5/23/2024** | SeqNo: **5044089** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 7.61 | 1.17 | | | | | | 8.133 | 6.68 | 20 | |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **R186329**

| Sample ID: **MB-R186329** | SampType: **MBLK** | TestCode: **PctMoist_S(2** | Units: **%** | Prep Date: | RunNo: **186329** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **R186329** | TestNo: **A2540B** | | Analysis Date: **5/25/2024** | SeqNo: **5049039** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | ND | 0.500 | | | | | | | | | |

| Sample ID: **24051805-006ADUP** | SampType: **DUP** | TestCode: **PctMoist_S(2** | Units: **%** | Prep Date: | RunNo: **186329** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **R186329** | TestNo: **A2540B** | | Analysis Date: **5/25/2024** | SeqNo: **5049048** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | 17.8 | 0.500 | | | | | | 17.37 | 2.41 | 5 | |

| Sample ID: **24051777-003ADUP** | SampType: **DUP** | TestCode: **PctMoist_S(2** | Units: **%** | Prep Date: | RunNo: **186329** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **R186329** | TestNo: **A2540B** | | Analysis Date: **5/25/2024** | SeqNo: **5049058** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | 7.92 | 0.500 | | | | | | 7.909 | 0.187 | 5 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

Pg ___ of ___ 24050795

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

18.4-0.2 = Cooler Temp: 18.2 Sampler: Client QC Level: 2

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Fedex, Cooler

Project# 24050428

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36234 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | CPM | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050428-001 | 5/3/24 0830 | Unpres | Soil | ✔ | | 32 | | | | | | | | | | |
| | 24050428-002 | 5/3/24 0900 | Unpres | Soil | ✔ | | 22 | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Omar Rivera | 5/9/24 1200 | | 5/9/24, 1140 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights,

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050795 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/9/2024 11:40:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/10/2024 12:25:27 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/10/2024 5:06:15 PM | Jennifer Woolf |

## *Chain of Custody*

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## *Log In*

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| | No. Seal Date: | Signed By: | | |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## *Special Handling (if applicable)*

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 18.2 | Good | Not Present | | | |

May 29, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050236

Dear Eric Staley:

TEKLAB, INC received 4 samples on 5/2/2024 1:11:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050236
**Report Date:** 29-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 11 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050236

**Client Project:** CWLP Borings **Report Date:** 29-May-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24

**Cooler Receipt Temp:** 5.9 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050236

**Client Project:** CWLP Borings

**Report Date:** 29-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-001
**Client Sample ID:** D-2 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/29/2024 9:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1720** | mg/L | 50 | 05/09/2024 11:05 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **9.27** | | 1 | 05/03/2024 10:33 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.21** | mg/L | 1 | 05/09/2024 12:19 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **236** | mg/L | 10 | 05/07/2024 18:33 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.022 | 0.050 | J | **0.024** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Arsenic | NELAP | 0.0200 | 0.0500 | | **0.279** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Barium | NELAP | 0.0350 | 0.0500 | | **1.13** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Beryllium | NELAP | 0.0125 | 0.0500 | | **0.0640** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Boron | NELAP | 0.462 | 1.25 | | **89.0** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Cadmium | NELAP | 0.0075 | 0.0500 | | **0.0541** | mg/L | 250 | 05/13/2024 13:49 | 222410 |
| Chromium | NELAP | 0.0350 | 0.0750 | | **0.902** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Cobalt | NELAP | 0.0058 | 0.0500 | | **0.0579** | mg/L | 250 | 05/13/2024 13:49 | 222410 |
| Lead | NELAP | 0.0300 | 0.0500 | | **0.199** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Lithium | * | 0.0725 | 0.150 | | **0.154** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Molybdenum | NELAP | 0.0300 | 0.0750 | | **8.04** | mg/L | 250 | 05/15/2024 3:31 | 222410 |
| Selenium | NELAP | 0.0300 | 0.0500 | | **< 0.0500** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Thallium | NELAP | 0.048 | 0.10 | J | **0.049** | mg/L | 250 | 05/10/2024 14:10 | 222410 |

*Elevated reporting limit due to matrix interference.*

*Contamination present in the CCB for Sb. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00046** | mg/L | 1 | 05/24/2024 12:57 | 223373 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-002
**Client Sample ID:** D-1 25ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/29/2024 15:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1740** | mg/L | 50 | 05/09/2024 11:08 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **9.85** | | 1 | 05/03/2024 10:34 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.32** | mg/L | 1 | 05/09/2024 12:22 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **63** | mg/L | 10 | 05/07/2024 18:41 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.060 | 0.10 | J | **0.061** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Arsenic | NELAP | 0.0400 | 0.100 | | **1.17** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Barium | NELAP | 0.0700 | 0.100 | | **2.48** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Beryllium | NELAP | 0.0250 | 0.100 | | **0.254** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Boron | NELAP | 0.925 | 2.50 | | **78.6** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Cadmium | NELAP | 0.0150 | 0.100 | | **0.222** | mg/L | 500 | 05/13/2024 17:43 | 222414 |
| Chromium | NELAP | 0.0700 | 0.150 | | **3.91** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Cobalt | NELAP | 0.0115 | 0.100 | | **0.241** | mg/L | 500 | 05/13/2024 17:43 | 222414 |
| Lead | NELAP | 0.0600 | 0.100 | | **1.04** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Lithium | * | 0.145 | 0.300 | | **0.428** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Molybdenum | NELAP | 0.0600 | 0.150 | | **15.7** | mg/L | 500 | 05/15/2024 5:53 | 222414 |
| Selenium | NELAP | 0.060 | 0.10 | J | **0.10** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Thallium | NELAP | 0.095 | 0.20 | J | **0.13** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00562** | mg/L | 1 | 05/14/2024 17:39 | 222568 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-003
**Client Sample ID:** D-3 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/30/2024 10:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1000** | mg/L | 50 | 05/09/2024 11:13 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **10.1** | | 1 | 05/03/2024 10:36 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.33** | mg/L | 1 | 05/09/2024 12:23 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 1 | 4 | | **41** | mg/L | 1 | 05/07/2024 18:43 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0650 | 0.100 | | **0.230** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Arsenic | NELAP | 0.0800 | 0.200 | | **2.33** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Barium | NELAP | 0.0700 | 0.100 | | **3.51** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Beryllium | NELAP | 0.0250 | 0.100 | | **0.439** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Boron | NELAP | 0.925 | 2.50 | | **105** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Cadmium | NELAP | 0.0300 | 0.200 | | **0.492** | mg/L | 1000 | 05/14/2024 15:24 | 222461 |
| Chromium | NELAP | 0.140 | 0.300 | | **6.25** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Cobalt | NELAP | 0.0230 | 0.200 | | **0.323** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Lead | NELAP | 0.0600 | 0.100 | | **1.46** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Lithium | * | 0.145 | 0.300 | | **0.571** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Molybdenum | NELAP | 0.140 | 0.300 | | **2.61** | mg/L | 1000 | 05/16/2024 7:35 | 222461 |
| Selenium | NELAP | 0.12 | 0.20 | J | **0.13** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Thallium | NELAP | 0.0950 | 0.200 | | **0.274** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00055 | 0.00200 | H | **0.00685** | mg/L | 10 | 05/29/2024 12:19 | 223513 |
| *Sample required re-analysis out of hold time.* | | | | | | | | | |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-004
**Client Sample ID:** D-4 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/30/2024 14:45

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **2050** | mg/L | 50 | 05/09/2024 11:16 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **9.10** | | 1 | 05/03/2024 10:37 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.43** | mg/L | 1 | 05/09/2024 12:25 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **139** | mg/L | 10 | 05/07/2024 18:57 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0180 | 0.0400 | | **0.0812** | mg/L | 200 | 05/15/2024 10:35 | 222764 |
| Arsenic | NELAP | 0.0400 | 0.100 | | **0.378** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Barium | NELAP | 0.0350 | 0.0500 | | **0.975** | mg/L | 250 | 05/16/2024 9:42 | 222764 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0674** | mg/L | 5 | 05/14/2024 23:46 | 222764 |
| Boron | NELAP | 0.462 | 1.25 | | **73.1** | mg/L | 250 | 05/16/2024 9:42 | 222764 |
| Cadmium | NELAP | 0.015 | 0.10 | J | **0.068** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Chromium | NELAP | 0.0700 | 0.150 | | **1.03** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Cobalt | NELAP | 0.012 | 0.10 | J | **0.061** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Lead | NELAP | 0.0240 | 0.0400 | | **0.266** | mg/L | 200 | 05/15/2024 10:35 | 222764 |
| Lithium | * | 0.0725 | 0.150 | | **0.228** | mg/L | 250 | 05/16/2024 9:42 | 222764 |
| Molybdenum | NELAP | 0.0600 | 0.150 | | **2.30** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Selenium | NELAP | 0.060 | 0.10 | J | **0.090** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Thallium | NELAP | 0.038 | 0.080 | J | **0.066** | mg/L | 200 | 05/15/2024 10:35 | 222764 |
| *Elevated reporting limit due to sample composition.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00717** | mg/L | 1 | 05/14/2024 17:44 | 222568 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050236
**Report Date:** 29-May-24

**Carrier:** Paul Reeves
**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 02-May-24

**Reviewed by:** Ellie Hopkins
**On:** 02-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 18

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 5.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☐ | No ☑ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☐ | No ☑ | | |
| Reported field parameters measured: | Field ☐ | Lab ☑ | NA ☐ | |

*Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.*

| | | | |
|---|---|---|---|
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

**Any No responses must be detailed below or on the COC.**

Samples were preserved with Nitric Acid (97606) upon arrival at the laboratory. - amberdilallo - 5/2/2024 3:15:00 PM

pH strip #96651. - amberdilallo - 5/2/2024 3:15:13 PM

D-1 25ft. labeled as collected at 1430 rather than 1500. Collen Grey was notified of this error via work order summary. - amberdilallo - 5/2/2024 3:15:45 PM

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 240502360

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.9 °C #7
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (970600) to all um 5/2 *14:30 on container (ump) 960057

Client Comments:
email results to C. Grey and datamanagement@andrews-eng.com

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | Sb, As, Ba, Be | B, Cd, Cr, Co, Pb, Se, Tl | Li, Mo | Hg | Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 240502360-001 | D-2 20ft. | 4/29/24 9:30am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | D-1 25ft. | 4/29/24 3pm* | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | D-3 20ft. | 4/30/24 10am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | D-4 20ft. | 4/30/24 2:45pm | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steven Van Hook | 4/30/24 5:30pm | ASI Secure Storage | 4/30/24 17:30 |
| eurofins Custody Seal #1697609 | | | |
| ASI Secure Storage cmg | 5/2/24 7:40 | | 5-2-24 0746 |
| | 5-2-24 1311 | Mark Reed | 5/2/24 1311 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 22, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050236

Dear Shelly Hennessy:

Order No.: 24050483

Summit Environmental Technologies, Inc. received 4 sample(s) on 5/6/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24050483**
Date: **5/22/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050236

WorkOrder Narrative:
24050483: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Sample Fraction:
Per Chain of Custody note: Analyze Aqueous layer only.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
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# Qualifiers and Acronyms

WO#: **24050483**
Date: **5/22/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050483**
***22-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050236

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050483-001 | 24050236-001 | | 4/29/2024 9:30:00 AM | 5/6/2024 10:00:00 AM | Non-Potable Water |
| 24050483-002 | 24050236-002 | | 4/29/2024 3:00:00 PM | 5/6/2024 10:00:00 AM | Non-Potable Water |
| 24050483-003 | 24050236-003 | | 4/30/2024 10:00:00 AM | 5/6/2024 10:00:00 AM | Non-Potable Water |
| 24050483-004 | 24050236-004 | | 4/30/2024 2:45:00 PM | 5/6/2024 10:00:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050236

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050483-001A | 24050236-001 | 4/29/2024 9:30:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050483-002A | 24050236-002 | 4/29/2024 3:00:00 PM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050483-003A | 24050236-003 | 4/30/2024 10:00:00 AM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050483-004A | 24050236-004 | 4/30/2024 2:45:00 PM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 9:30:00 AM

**Project:** 24050236

**Lab ID:** 24050483-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | 4.63 | 1.67 | | pCi/L | ± 0.590 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | 2.18 | 1.67 | | pCi/L | ± 0.800 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 3:00:00 PM

**Project:** 24050236

**Lab ID:** 24050483-002

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.43 | | pCi/L | ± 0.250 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.43 | | pCi/L | ± 0.570 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 10:00:00 AM

**Project:** 24050236

**Lab ID:** 24050483-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 2.50 | | pCi/L | ± 0.470 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 2.50 | | pCi/L | ± 0.800 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 2:45:00 PM

**Project:** 24050236

**Lab ID:** 24050483-004

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 3.34 | | pCi/L | ± 0.580 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 3.34 | | pCi/L | ± 1.24 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040013**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

| Sample ID: **MB-75217** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040004** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75217** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040005** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.36 | 1.00 | 5.000 | 0 | 67.2 | 50 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75217** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040006** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.00 | 1.00 | 5.000 | 0 | 100 | 50 | 130 | 3.360 | 39.2 | 20 | R |
| Yield | 0.960 | | | 0 | 0 | | | 1.000 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

| Sample ID: **RLC-75217** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040008** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.14 | 1.00 | 1.000 | 0 | 114 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-75217** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040009** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 87.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040150**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040152**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **MB-75217** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **PBW** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040143**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.980 | | | | | | | | | | |

Sample ID: **LCS-75217** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **LCSW** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040144**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.38 | 1.00 | 5.000 | 0 | 87.6 | 70 | 130 | | | | |

Sample ID: **LCSD-75217** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **LCSS02** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040145**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.67 | 1.00 | 5.000 | 0 | 93.4 | 70 | 130 | 4.380 | 6.41 | 20 | |

Sample ID: **RLC-75217** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040147**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

| Sample ID: **RLC-75217** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185975** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75217** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/21/2024** | SeqNo: **5040147** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 95.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-75217** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185975** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75217** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/21/2024** | SeqNo: **5040148** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 99.0 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Pg __ of 24050483

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: 19.5 19.7 0.2 Sampler: Client QC Level: 2

Fedex, Cooler

Project# 24050236

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site. Analyze aqueous layers only.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36223 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | CAM | | | | | PH | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050236-001 | 4/29/24 0930 | HNO3 | Groundwater | ✔ | 42, 22 | | | | | 1,3 | | | | | |
| | 24050236-002 | 4/29/24 1500 | HNO3 | Groundwater | ✔ | 34, 38 | | | | | 1,2 | | | | | |
| | 24050236-003 | 4/30/24 1000 | HNO3 | Groundwater | ✔ | 16, ~~5~~ TR 5/7/24 | | | | | 4, | | | | | |
| | 24050236-004 | 4/30/24 1445 | HNO3 | Groundwater | ✔ | 34, 32 | | | | | 4,5 | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [illegible] | 5/2/24 1700 | [illegible] | 5/6/24 1000 |

One container - 003 arrived broken



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sample information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050483 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/6/2024 10:00:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/7/2024 5:18:50 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/8/2024 10:44:21 AM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☐ No ☑
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☑ No ☐
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

| | | | |
|---|---|---|---|
| Person Notified: | | Date: | |
| By Whom: | | Via: | ☐ eMail ☐ Phone ☐ Fax ☐ In Person |
| Regarding: | | | |
| Client Instructions: | | | |

18. Additional remarks:

pH for all but 2 containers >2, one container -003 received broken

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050483 RcptNo: 1

May 23, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050347

Dear Eric Staley:

TEKLAB, INC received 3 samples on 5/3/2024 1:50:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050347
**Report Date:** 23-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 10 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050347

**Client Project:** CWLP Borings **Report Date:** 23-May-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24

**Cooler Receipt Temp:** 3.7 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050347

**Client Project:** CWLP Borings

**Report Date:** 23-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24
**Lab ID:** 24050347-001
**Client Sample ID:** L4 18ft.
**Matrix:** GROUNDWATER
**Collection Date:** 05/02/2024 8:40

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1050** | mg/L | 50 | 05/09/2024 11:21 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **7.35** | | 1 | 05/06/2024 14:09 | R346778 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **1.19** | mg/L | 1 | 05/10/2024 14:31 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **154** | mg/L | 10 | 05/07/2024 19:05 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0020** | mg/L | 5 | 05/16/2024 10:42 | 222862 |
| Arsenic | NELAP | 0.0004 | 0.0010 | | **0.0512** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Barium | NELAP | 0.0008 | 0.0010 | | **0.308** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0024** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Boron | NELAP | 0.0092 | 0.0250 | | **2.15** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Cadmium | NELAP | 0.0002 | 0.0010 | | **0.0019** | mg/L | 5 | 05/14/2024 4:27 | 222470 |
| Chromium | NELAP | 0.0009 | 0.0015 | | **0.0632** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Cobalt | NELAP | 0.0002 | 0.0010 | | **0.0213** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Lead | NELAP | 0.0006 | 0.0010 | | **0.0526** | mg/L | 5 | 05/15/2024 14:55 | 222862 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0288** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Molybdenum | NELAP | 0.0006 | 0.0015 | | **0.0218** | mg/L | 5 | 05/10/2024 18:38 | 222470 |
| Selenium | NELAP | 0.0006 | 0.0010 | | **0.0066** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0012** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00050** | mg/L | 1 | 05/20/2024 14:24 | 223152 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power **Work Order:** 24050347

**Client Project:** CWLP Borings **Report Date:** 23-May-24

**Lab ID:** 24050347-002 **Client Sample ID:** L3-20ft.

**Matrix:** GROUNDWATER **Collection Date:** 05/02/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 614 | 1000 | | **2660** | mg/L | 100 | 05/10/2024 12:35 | R347112 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **8.10** | | 1 | 05/06/2024 14:10 | R346778 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **1.07** | mg/L | 1 | 05/10/2024 10:26 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **269** | mg/L | 10 | 05/07/2024 19:26 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0180 | 0.0400 | B | **0.0655** | mg/L | 200 | 05/14/2024 15:36 | 222470 |
| Arsenic | NELAP | 0.0080 | 0.0200 | | **2.43** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Barium | NELAP | 0.0140 | 0.0200 | | **1.49** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Beryllium | NELAP | 0.0050 | 0.0200 | | **0.102** | mg/L | 100 | 05/14/2024 4:33 | 222470 |
| Boron | NELAP | 0.370 | 1.00 | | **25.8** | mg/L | 200 | 05/14/2024 15:36 | 222470 |
| Cadmium | NELAP | 0.0060 | 0.0400 | | **0.260** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Chromium | NELAP | 0.0280 | 0.0600 | | **2.08** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Cobalt | NELAP | 0.0046 | 0.0400 | | **0.336** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Lead | NELAP | 0.0120 | 0.0200 | B | **3.40** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Lithium | * | 0.0290 | 0.0600 | | **0.621** | mg/L | 100 | 05/14/2024 4:33 | 222470 |
| Molybdenum | NELAP | 0.0240 | 0.0600 | | **0.218** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Selenium | NELAP | 0.0120 | 0.0200 | | **0.158** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Thallium | NELAP | 0.0190 | 0.0400 | | **0.0433** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| *Sample result for Sb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | | |
| *Sample result for Pb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00926** | mg/L | 1 | 05/20/2024 15:07 | 223152 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power **Work Order:** 24050347

**Client Project:** CWLP Borings **Report Date:** 23-May-24

**Lab ID:** 24050347-003 **Client Sample ID:** L1-20ft.

**Matrix:** GROUNDWATER **Collection Date:** 05/02/2024 14:50

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1080** | mg/L | 50 | 05/09/2024 11:29 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **7.86** | | 1 | 05/06/2024 14:12 | R346778 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.50** | mg/L | 1 | 05/10/2024 10:28 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **122** | mg/L | 10 | 05/07/2024 19:34 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.018 | 0.040 | BJ | **0.027** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Arsenic | NELAP | 0.0080 | 0.0200 | | **0.717** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Barium | NELAP | 0.0140 | 0.0200 | | **3.48** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Beryllium | NELAP | 0.0050 | 0.0200 | | **0.0542** | mg/L | 100 | 05/14/2024 4:39 | 222470 |
| Boron | NELAP | 0.370 | 1.00 | | **4.91** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Cadmium | NELAP | 0.0060 | 0.0400 | | **0.0776** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Chromium | NELAP | 0.0280 | 0.0600 | | **0.993** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Cobalt | NELAP | 0.0046 | 0.0400 | | **0.154** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Lead | NELAP | 0.0120 | 0.0200 | B | **0.655** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Lithium | * | 0.0290 | 0.0600 | | **0.172** | mg/L | 100 | 05/14/2024 4:39 | 222470 |
| Molybdenum | NELAP | 0.0120 | 0.0300 | | **0.161** | mg/L | 100 | 05/17/2024 12:28 | 222470 |
| Selenium | NELAP | 0.0120 | 0.0200 | | **0.0906** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Thallium | NELAP | 0.0190 | 0.0400 | | **< 0.0400** | mg/L | 100 | 05/10/2024 19:09 | 222470 |

*Elevated reporting limit for Sb & Tl due to matrix interference.*

*Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.*

*Sample result for Pb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00198** | mg/L | 1 | 05/20/2024 15:09 | 223152 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050347
**Report Date:** 23-May-24

**Carrier:** Paul Reeves
**Received By:** LM

**Completed by:** Amber Dilallo
**On:** 03-May-24

**Reviewed by:** Ellie Hopkins
**On:** 03-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 15

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.7 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☐ | No ☑ | | |
| Reported field parameters measured: | Field ☐ | Lab ☑ | NA ☐ | |

*Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.*

| | | | |
|---|---|---|---|
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

**Any No responses must be detailed below or on the COC.**

pH strip #96651. - amberdilallo - 5/3/2024 2:40:59 PM

Samples were preserved with Nitric Acid (97606) upon arrival at the laboratory. - amberdilallo - 5/3/2024 2:47:30 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050347

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.2 °C #7
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added $HNO_3$ (97606) 96517

Client Comments:
email results to C. Grey and datamanagement@andrews-eng.com

TEKLAB
Courier

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Rad 226 and 228 | Sb, As, Ba, Be | B, Cd, Cr, Co, Pb, Se, Tl | Li, Mo | Hg | Cl, F+, SO4 | pH | | | | | | | |
| 24050347 001 | L4 18ft. | 5/2/24 8:40am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 002 | L3-20ft | 5/2/24 10:15am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 003 | L1-20ft | 5/2/24 2:50pm | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5/2/24 7:00pm | AEI Secure Storage | 5/2/24 19:00 |
| AEI Secure Storage | 5/3/24 07:28 | | 5.3.24 0728 |
| | 5.3.24 1350 | | 5/3/24 1350 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 22, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050347

Dear Shelly Hennessy:

Order No.: 24050485

Summit Environmental Technologies, Inc. received 3 sample(s) on 5/7/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# Case Narrative

WO#: **24050485**
Date: **5/22/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050347

WorkOrder Narrative:
24050485: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-75217 Radium-228_DW(904.0): LCS and LCSD exhibited a high RPD, individually each LCS/LCSD meets the required criteria.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050485**
Date: **5/22/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050485**

***22-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050347

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050485-001 | 24050347-001 | | 5/2/2024 8:40:00 AM | 5/7/2024 11:30:00 AM | Non-Potable Water |
| 24050485-002 | 24050347-002 | | 5/2/2024 10:15:00 AM | 5/7/2024 11:30:00 AM | Non-Potable Water |
| 24050485-003 | 24050347-003 | | 5/2/2024 2:50:00 PM | 5/7/2024 11:30:00 AM | Non-Potable Water |

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Website: http://www.settek.com

# DATES REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050347

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050485-001A | 24050347-001 | 5/2/2024 8:40:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050485-002A | 24050347-002 | 5/2/2024 10:15:00 AM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050485-003A | 24050347-003 | 5/2/2024 2:50:00 PM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050485**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 8:40:00 AM

**Project:** 24050347

**Lab ID:** 24050485-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050347-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.170 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 0.980 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | 1.05 | 1.00 | | pCi/L | ± 0.400 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050485**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 10:15:00 AM

**Project:** 24050347

**Lab ID:** 24050485-002

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050347-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | 2.50 | 2.00 | | pCi/L | ± 0.480 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 2.00 | | pCi/L | ± 0.720 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050485**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 2:50:00 PM

**Project:** 24050347

**Lab ID:** 24050485-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050347-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.25 | | pCi/L | ± 0.230 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.25 | | pCi/L | ± 0.380 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040013**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

Sample ID: **MB-75217** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **PBW** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040004**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-75217** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **LCSW** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040005**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.36 | 1.00 | 5.000 | 0 | 67.2 | 50 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-75217** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **LCSS02** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040006**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.00 | 1.00 | 5.000 | 0 | 100 | 50 | 130 | 3.360 | 39.2 | 20 | R |
| Yield | 0.960 | | | 0 | 0 | | | 1.000 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040150**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040152**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

| Sample ID: **MB-75217** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185975** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75217** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/21/2024** | SeqNo: **5040143** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.980 | | | | | | | | | | |

| Sample ID: **LCS-75217** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185975** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75217** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/21/2024** | SeqNo: **5040144** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.38 | 1.00 | 5.000 | 0 | 87.6 | 70 | 130 | | | | |

| Sample ID: **LCSD-75217** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185975** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75217** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/21/2024** | SeqNo: **5040145** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.67 | 1.00 | 5.000 | 0 | 93.4 | 70 | 130 | 4.380 | 6.41 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Client | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24050347

Contact: Shelly Hennessy | Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT | Billing/PO: 36229 | Phone: (618) 344-1004 ext. 43

24050485

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | COM | pH | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050347-001 | 05/02/2024 0840 | HNO3 | Groundwater | ✔ | 32 | 4 | | | | | | | | | | |
| | 24050347-002 | 05/02/2024 1015 | HNO3 | Groundwater | ✔ | 20 | 7 | | | | | | | | | | |
| | 24050347-003 | 05/02/2024 1450 | HNO3 | Groundwater | ✔ | 20 | 5 | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5/3/24 | | |
| | | 5/7/24 1130 FedEx ground cooler, no ice 19.5-0.2=19.7 | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights.

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050485 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Christina N. Gemma | 5/7/2024 11:30:00 AM | C. Gemma |
| Completed By: | Christina N. Gemma | 5/7/2024 5:22:56 PM | C. Gemma |
| Reviewed By: | Jennifer Woolf | 5/8/2024 10:54:58 AM | Jennifer Woolf |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☑ No ☐
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

pH received >2, one of two containers of 003 received broken (no volume remains).

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

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*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050485 RcptNo: 1

June 18, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050429

Dear Eric Staley:

TEKLAB, INC received 1 sample on 5/6/2024 12:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050429
**Report Date:** 18-Jun-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 8 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050429

**Client Project:** CWLP Borings **Report Date:** 18-Jun-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050429
**Client Project:** CWLP Borings
**Report Date:** 18-Jun-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

**Client:** City Water, Light & Power
**Work Order:** 24050429
**Client Project:** CWLP Borings
**Report Date:** 18-Jun-24

**Cooler Receipt Temp:** 3.5 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050429

**Client Project:** CWLP Borings

**Report Date:** 18-Jun-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24050429

**Client Project:** CWLP Borings **Report Date:** 18-Jun-24

**Lab ID:** 24050429-001 **Client Sample ID:** L5 20ft.

**Matrix:** GROUNDWATER **Collection Date:** 05/03/2024 8:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 614 | 1000 | | **2620** | mg/L | 100 | 05/10/2024 12:38 | R347112 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **7.62** | | 1 | 05/07/2024 13:01 | R346852 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **1.32** | mg/L | 1 | 05/10/2024 11:43 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **202** | mg/L | 10 | 05/07/2024 19:42 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0450 | 0.100 | B | **< 0.100** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Arsenic | NELAP | 0.0400 | 0.100 | | **2.58** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Barium | NELAP | 0.0350 | 0.0500 | | **1.60** | mg/L | 250 | 05/14/2024 4:51 | 222636 |
| Beryllium | NELAP | 0.0125 | 0.0500 | | **0.0911** | mg/L | 250 | 05/14/2024 4:51 | 222636 |
| Boron | NELAP | 0.925 | 2.50 | | **28.9** | mg/L | 500 | 05/14/2024 15:30 | 222636 |
| Cadmium | * | 0.0150 | 0.100 | | **0.296** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Chromium | NELAP | 0.0750 | 0.150 | | **1.81** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Cobalt | NELAP | 0.0115 | 0.100 | | **0.296** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Lead | NELAP | 0.0300 | 0.0500 | | **2.78** | mg/L | 250 | 05/14/2024 4:51 | 222636 |
| Lithium | * | 0.145 | 0.300 | | **0.613** | mg/L | 500 | 05/14/2024 15:30 | 222636 |
| Molybdenum | NELAP | 0.0600 | 0.150 | | **0.282** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Selenium | NELAP | 0.0600 | 0.100 | | **0.205** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Thallium | NELAP | 0.0475 | 0.100 | | **< 0.100** | mg/L | 250 | 05/14/2024 4:51 | 222636 |

*Sample result for Sb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00559** | mg/L | 1 | 05/15/2024 15:55 | 222725 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 06/13/2024 0:00 | R348957 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 06/13/2024 0:00 | R348957 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050429
**Report Date:** 18-Jun-24

**Carrier:** Paul Reeves
**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 06-May-24

**Reviewed by:** Ellie Hopkins
**On:** 06-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 15

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes | ☑ | No | ☐ | Not Present | ☐ | Temp °C 3.5 |
| Type of thermal preservation? | None | ☐ | Ice | ☑ | Blue Ice | ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes | ☑ | No | ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes | ☑ | No | ☐ | | | |
| Chain of custody agrees with sample labels? | Yes | ☑ | No | ☐ | | | |
| Samples in proper container/bottle? | Yes | ☑ | No | ☐ | | | |
| Sample containers intact? | Yes | ☑ | No | ☐ | | | |
| Sufficient sample volume for indicated test? | Yes | ☑ | No | ☐ | | | |
| All samples received within holding time? | Yes | ☐ | No | ☑ | | | |
| Reported field parameters measured: | Field | ☐ | Lab | ☑ | NA | ☐ | |

*Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Container/Temp Blank temperature in compliance? | Yes | ☑ | No | ☐ | | | |
| Water – at least one vial per sample has zero headspace? | Yes | ☐ | No | ☐ | No VOA vials | ☑ | |
| Water - TOX containers have zero headspace? | Yes | ☐ | No | ☐ | No TOX containers | ☑ | |
| Water - pH acceptable upon receipt? | Yes | ☐ | No | ☑ | NA | ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes | ☐ | No | ☐ | NA | ☑ | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

**Any No responses must be detailed below or on the COC.**

Sample was preserved with Nitric Acid (97606) upon arrival at the laboratory. - amberdilallo - 5/6/2024 1:07:35 PM

pH strip #96651. - amberdilallo - 5/6/2024 1:07:37 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050429

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.5 °C LG#7
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (971 lot) pH ✓ 9/16/24 SM

TEKLAB

Client Comments: Courier
email results to C. Grey and datamanagement@andrews-eng.com

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | Sb, As, Ba, Be | B, Cd, Cr, Co, Pb, Se, Tl | Li, Mo | Hg | Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050429-001 | LS 20ft. | 5/3/24 8:30AM | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steve Van Hook | 5/3/2024 12:30 pm | Paul M Yr | 5.6.24 0820 |
| Paul M Yr | 5.6.24 1200 | Mitch Reed | 5/6/24 1200 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

MK 5/6

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

June 18, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050429

Dear Shelly Hennessy:

Order No.: 24050786

Summit Environmental Technologies, Inc. received 1 sample(s) on 5/9/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# Case Narrative

WO#: **24050786**
Date: **6/18/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050429

WorkOrder Narrative:
24050786: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44&*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050786**
Date: **6/18/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050786**

***18-Jun-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050429

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050786-001 | 24050429-001 | | 5/3/2024 8:30:00 AM | 5/9/2024 11:40:00 AM | Non-Potable Water |

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

# DATES REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,

**Project:** 24050429

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050786-001A | 24050429-001 | 5/3/2024 8:30:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 6/10/2024 3:03:24 PM | 6/14/2024 11:38:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 5/29/2024 12:23:00 PM | 6/5/2024 10:01:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/10/2024 3:03:24 PM | 6/13/2024 2:27:54 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/29/2024 12:23:00 PM | 6/4/2024 2:54:00 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*Cuyahoga Falls, Ohio 44223*
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# Analytical Report

(consolidated)

WO#: **24050786**

Date Reported: **6/18/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/3/2024 8:30:00 AM

**Project:** 24050429

**Lab ID:** 24050786-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050429-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | 12.3 | 5.00 | * | pCi/L | ± 1.15 | 1 | 6/14/2024 11:38:39 AM |
| Yield | 1.00 | | | | | 1 | 6/14/2024 11:38:39 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 5.44 | 5.00 | * | pCi/L | ± 3.56 | 1 | 6/13/2024 2:27:54 PM |
| Yield | 0.580 | | | | | 1 | 6/13/2024 2:27:54 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

| Sample ID: **MB-75975** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081626** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75975** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081627** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.51 | 1.00 | 5.000 | 0 | 70.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75975** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081628** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.55 | 1.00 | 5.000 | 0 | 71.0 | 50 | 130 | 3.510 | 1.13 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

| Sample ID: **RLC-75975** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081630** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.97 | 1.00 | 1.000 | 0 | 197 | 50 | 150 | | | | S |

| Sample ID: **RLCD-75975** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081631** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 0 | 50 | 150 | | | | S |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **24060255-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187502**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E904.0** **E903-904** Analysis Date: **6/13/2024** SeqNo: **5081633**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **MB-75975** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **PBW** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081731**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75975** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **LCSW** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081732**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.85 | 1.00 | 5.000 | 0 | 97.0 | 70 | 130 | | | | |

Sample ID: **LCSD-75975** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **LCSS02** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081733**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.36 | 1.00 | 5.000 | 0 | 107 | 70 | 130 | 4.850 | 9.99 | 20 | |

Sample ID: **RLC-75975** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081735**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

| Sample ID: **RLC-75975** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187509** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75975** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/14/2024** | SeqNo: **5081735** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.10 | 1.00 | 1.000 | 0 | 110 | 50 | 150 | | | | |

| Sample ID: **RLCD-75975** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187509** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75975** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/14/2024** | SeqNo: **5081736** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.07 | 1.00 | 1.000 | 0 | 107 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **24060255-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081738**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24060255-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081740**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

240507866

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

18.4-0.2: Cooler Temp: 18.2 Sampler: Client QC Level: 2

Fedex, cooler

Project# 24050429

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36235 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | cpm | | | | pH | | | | | |
| | 24050429-001 | 5/3/24 0830 | Unpres | Groundwater | ✔ | | 32.40 | | | | 1.1 | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Amber DiCello | 5/6/24 1200 | | 5/9/24, 1140 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050786 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/9/2024 11:40:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/10/2024 12:21:48 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/10/2024 2:48:57 PM | Jennifer Woolf |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Containers are preserved, CoC states unpreserved

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

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# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050786 RcptNo: 1

May 28, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050235

Dear Eric Staley:

TEKLAB, INC received 4 samples on 5/2/2024 1:11:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Impoundment Monitoring and Assessment Wells

First Quarter 2022

March 16, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 22011434

Dear Eric Staley:

TEKLAB, INC received 15 samples on 2/17/2022 6:23:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22011434
**Report Date:** 16-Mar-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 22 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22011434

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 16-Mar-22

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 22011434

**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22011434
**Report Date:** 16-Mar-22

**Cooler Receipt Temp:** 2.8 °C

An employee of Teklab, Inc. collected the sample(s). AP-10 could not be collected; the sampling point was frozen.

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

| | |
|---|---|
| **Address** | 3920 Pintail Dr<br>Springfield, IL 62711-9415 |
| **Phone** | (217) 698-1004 |
| **Fax** | (217) 698-1005 |
| **Email** | KKlostermann@teklabinc.com |

### Kansas City

| | |
|---|---|
| **Address** | 8421 Nieman Road<br>Lenexa, KS 66214 |
| **Phone** | (913) 541-1998 |
| **Fax** | (913) 541-1998 |
| **Email** | jhriley@teklabinc.com |

### Collinsville Air

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | EHurley@teklabinc.com |

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@teklabinc.com |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2022 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2022 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2022 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2022 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22
**Lab ID:** 22011434-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 02/16/2022 13:34

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 02/16/2022 13:34 | R307535 |
| Depth to water | * | -5.00 | | **7.16** | ft | 1 | 02/16/2022 13:34 | R307535 |
| Depth to water from measuring point | * | 0 | | **9.86** | ft | 1 | 02/16/2022 13:34 | R307535 |
| Elevation of groundwater surface | * | 0 | | **529.64** | ft | 1 | 02/16/2022 13:34 | R307535 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 02/16/2022 13:34 | R307535 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 02/16/2022 13:34 | R307535 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.6** | NTU | 1 | 02/16/2022 13:34 | R307535 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.4** | °F | 1 | 02/16/2022 13:34 | R307535 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.27** | | 1 | 02/16/2022 13:34 | R307535 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1090** | µmhos/cm @25C | 1 | 02/16/2022 13:34 | R307535 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **408** | mg/L | 1 | 02/17/2022 12:54 | R307297 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **10** | mg/L | 1 | 02/22/2022 19:39 | R307405 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.47** | mg/L | 1 | 02/17/2022 9:55 | R307231 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **29** | mg/L | 1 | 02/22/2022 19:39 | R307406 |
| *Sample result exceeds 10 times the CCB contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.178** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Barium | NELAP | 0.0025 | | **0.154** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Boron | NELAP | 0.0200 | | **0.179** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Calcium | NELAP | 0.100 | | **72.7** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Lithium | NELAP | 0.0050 | | **0.0066** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| Molybdenum | NELAP | 0.0100 | | **0.0103** | mg/L | 1 | 02/18/2022 15:35 | 187816 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/05/2022 3:09 | 187816 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2022 2:56 | 187816 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2022 2:56 | 187816 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/17/2022 14:07 | 187817 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22
**Lab ID:** 22011434-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 02/15/2022 11:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 02/15/2022 11:31 | R307535 |
| Depth to water | * | -5.00 | | **3.71** | ft | 1 | 02/15/2022 11:31 | R307535 |
| Depth to water from measuring point | * | 0 | | **6.21** | ft | 1 | 02/15/2022 11:31 | R307535 |
| Elevation of groundwater surface | * | 0 | | **529.89** | ft | 1 | 02/15/2022 11:31 | R307535 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 02/15/2022 11:31 | R307535 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 02/15/2022 11:31 | R307535 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.9** | NTU | 1 | 02/15/2022 11:31 | R307535 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.2** | °F | 1 | 02/15/2022 11:31 | R307535 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.43** | | 1 | 02/15/2022 11:31 | R307535 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2320** | µmhos/cm @25C | 1 | 02/15/2022 11:31 | R307535 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **1310** | mg/L | 1 | 02/17/2022 12:56 | R307297 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **583** | mg/L | 20 | 02/22/2022 19:56 | R307405 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.24** | mg/L | 1 | 02/17/2022 9:58 | R307231 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **36** | mg/L | 1 | 02/22/2022 19:49 | R307406 |
| *Sample result exceeds 10 times the CCB contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Barium | NELAP | 0.0025 | | **0.0721** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Boron | NELAP | 0.0200 | | **4.68** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Calcium | NELAP | 0.100 | | **265** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Cobalt | NELAP | 0.0050 | | **0.0102** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Lithium | NELAP | 0.0050 | | **0.0057** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/18/2022 15:38 | 187816 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/05/2022 3:23 | 187816 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2022 3:11 | 187816 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2022 3:11 | 187816 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/17/2022 14:12 | 187817 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22
**Lab ID:** 22011434-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 02/15/2022 11:08

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 02/15/2022 11:08 | R307535 |
| Depth to water | * | -5.00 | | **6.72** | ft | 1 | 02/15/2022 11:08 | R307535 |
| Depth to water from measuring point | * | 0 | | **8.42** | ft | 1 | 02/15/2022 11:08 | R307535 |
| Elevation of groundwater surface | * | 0 | | **526.98** | ft | 1 | 02/15/2022 11:08 | R307535 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 02/15/2022 11:08 | R307535 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 02/15/2022 11:08 | R307535 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.3** | NTU | 1 | 02/15/2022 11:08 | R307535 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.2** | °F | 1 | 02/15/2022 11:08 | R307535 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.60** | | 1 | 02/15/2022 11:08 | R307535 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1590** | µmhos/cm @25C | 1 | 02/15/2022 11:08 | R307535 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **882** | mg/L | 1 | 02/17/2022 12:57 | R307297 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **410** | mg/L | 10 | 02/22/2022 20:02 | R307405 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.21** | mg/L | 1 | 02/17/2022 10:00 | R307231 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **42** | mg/L | 1 | 02/22/2022 19:57 | R307406 |
| *Sample result exceeds 10 times the CCB contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Barium | NELAP | 0.0025 | | **0.0802** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Boron | NELAP | 0.0200 | | **15.8** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Calcium | NELAP | 0.100 | | **150** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Lithium | NELAP | 0.0050 | | **0.0053** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/18/2022 15:40 | 187816 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/05/2022 3:29 | 187816 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2022 3:19 | 187816 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2022 3:19 | 187816 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/17/2022 14:14 | 187817 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22
**Lab ID:** 22011434-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 02/15/2022 14:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 02/15/2022 14:33 | R307535 |
| Depth to water | * | -5.00 | | **8.23** | ft | 1 | 02/15/2022 14:33 | R307535 |
| Depth to water from measuring point | * | 0 | | **10.89** | ft | 1 | 02/15/2022 14:33 | R307535 |
| Elevation of groundwater surface | * | 0 | | **528.13** | ft | 1 | 02/15/2022 14:33 | R307535 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 02/15/2022 14:33 | R307535 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 02/15/2022 14:33 | R307535 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.1** | NTU | 1 | 02/15/2022 14:33 | R307535 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.1** | °F | 1 | 02/15/2022 14:33 | R307535 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.20** | | 1 | 02/15/2022 14:33 | R307535 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1140** | µmhos/cm @25C | 1 | 02/15/2022 14:33 | R307535 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **440** | mg/L | 1 | 02/21/2022 14:46 | R307467 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/22/2022 20:40 | R307405 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.55** | mg/L | 1 | 02/17/2022 10:07 | R307231 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **64** | mg/L | 2 | 02/22/2022 20:45 | R307406 |
| *Sample result exceeds 10 times the CCB contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Barium | NELAP | 0.0025 | | **0.125** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Boron | NELAP | 0.0200 | | **0.381** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Calcium | NELAP | 0.100 | | **62.9** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Lithium | NELAP | 0.0050 | | **0.0090** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/18/2022 15:59 | 187816 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/05/2022 3:56 | 187816 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2022 4:34 | 187816 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2022 4:34 | 187816 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/17/2022 14:33 | 187817 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22
**Lab ID:** 22011434-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 02/15/2022 13:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 02/15/2022 13:12 | R307535 |
| Depth to water | * | -5.00 | | **3.51** | ft | 1 | 02/15/2022 13:12 | R307535 |
| Depth to water from measuring point | * | 0 | | **6.41** | ft | 1 | 02/15/2022 13:12 | R307535 |
| Elevation of groundwater surface | * | 0 | | **530.79** | ft | 1 | 02/15/2022 13:12 | R307535 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 02/15/2022 13:12 | R307535 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 02/15/2022 13:12 | R307535 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.0** | NTU | 1 | 02/15/2022 13:12 | R307535 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.1** | °F | 1 | 02/15/2022 13:12 | R307535 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.91** | | 1 | 02/15/2022 13:12 | R307535 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1320** | µmhos/cm @25C | 1 | 02/15/2022 13:12 | R307535 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 20 | | **502** | mg/L | 1 | 02/21/2022 14:59 | R307467 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/22/2022 20:48 | R307405 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.29** | mg/L | 1 | 02/17/2022 10:30 | R307231 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **26** | mg/L | 1 | 02/22/2022 20:48 | R307406 |
| *Sample result exceeds 10 times the CCB contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0319** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Barium | NELAP | 0.0025 | | **0.355** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Boron | NELAP | 0.0200 | | **0.125** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Calcium | NELAP | 0.100 | S | **100** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Lithium | NELAP | 0.0050 | | **0.0068** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/18/2022 16:21 | 187816 |
| *Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/05/2022 4:02 | 187816 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2022 4:41 | 187816 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2022 4:41 | 187816 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/17/2022 14:35 | 187817 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |

**Client:** City Water, Light & Power
**Work Order:** 22011434
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Mar-22
**Lab ID:** 22011434-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 02/15/2022 13:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 03/03/2022 0:00 | R308076 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22011434
**Report Date:** 16-Mar-22

**Carrier:** Joe Riley

**Received By:** EAH

**Completed by:** Mary E. Kemp
**On:** 17-Feb-22
Mary E. Kemp

**Reviewed by:** Elizabeth A. Hurley
**On:** 17-Feb-22
Elizabeth A. Hurley

**Pages to follow:** Chain of custody 2 Extra pages included 52

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes | ☑ | No | ☐ | Not Present | ☐ | Temp °C 2.8 |
| Type of thermal preservation? | None | ☐ | Ice | ☑ | Blue Ice | ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes | ☑ | No | ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes | ☑ | No | ☐ | | | |
| Chain of custody agrees with sample labels? | Yes | ☑ | No | ☐ | | | |
| Samples in proper container/bottle? | Yes | ☑ | No | ☐ | | | |
| Sample containers intact? | Yes | ☑ | No | ☐ | | | |
| Sufficient sample volume for indicated test? | Yes | ☑ | No | ☐ | | | |
| All samples received within holding time? | Yes | ☑ | No | ☐ | | | |
| Reported field parameters measured: | Field | ☑ | Lab | ☐ | NA | ☐ | |
| Container/Temp Blank temperature in compliance? | Yes | ☑ | No | ☐ | | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | | | | |
| Water – at least one vial per sample has zero headspace? | Yes | ☐ | No | ☐ | No VOA vials | ☑ | |
| Water - TOX containers have zero headspace? | Yes | ☐ | No | ☐ | No TOX containers | ☑ | |
| Water - pH acceptable upon receipt? | Yes | ☐ | No | ☑ | NA | ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes | ☐ | No | ☐ | NA | ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip #78011. - PRY/MKemp - 2/17/2022 8:32:35 AM

Additional nitric acid (80456) was needed for one container each in AP-4, AP-13, and AP-14 upon arrival at the laboratory. - MKemp - 2/17/2022 8:32:57 AM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22011434

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.8 °C LTG
Preserved in: [ ] LAB [X] FIELD
FOR LAB USE ONLY 1
LAB NOTES: PHV 7801. PNY 2/17/22
Additional HNO3 (8045G) to 1 of 2 AP-4, AP-13, AP-14 MEK 2/17/22

Client Comments: AP10-Ice stuck near top; Needs to thaw
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [X] No
Are these samples known to be hazardous? [ ] Yes [X] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [X] Yes [X] No Permit on file

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
J. RILEY A. BRINES

**RESULTS REQUESTED**
[X] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22011434-001 | RW-3 | 02/16/22 1334 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 02/15/22 1155 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 02/15/22 1139 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | 02/15/22 1108 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 02/16/22 1005 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 02/16/22 1037 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 02/15/22 1346 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | 02/15/22 1433 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 02/15/22 1317 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | 02/15/22 1507 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | NA | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 02/17/22 0623 | | 2/17/22 0623 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

PNY 2/17/22

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 22011434

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22011434-012 | AP-11 | 02/16/22 1251 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 02/16/22 1257 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 02/16/22 1134 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 02/16/22 0934 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 02/17/22 0623 | Elizabeth A Hurley | 2/17/22 0623 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

| Well ID | | | | | | | | Final | Units |
|---|---|---|---|---|---|---|---|---|---|
| RW3 | DTW | 9.86 | 14.98 | 16.05 | 17.05 | | | 9.86 | ft |
| | DTB | | | | | | | | ft |
| | MP Elev | | | | | | | | ft |
| | Time | 1313 | 1328 | 1331 | 1334 | | | 1334 | |
| | Temp | | 13.1 | 13 | 13 | | | 13 | C |
| | D.O. | | 0.49 | 0.74 | 0.72 | | | 0.72 | Mg/l |
| | Cond | | 1087 | 1090 | 1094 | | | 1094 | uS/cm |
| | pH | | 7.28 | 7.28 | 7.27 | | | 7.27 | |
| | Orp | | -136.2 | -138 | -140.2 | | | -140.2 | mV |
| | Turbidity | | 9.99 | 6.96 | 5.63 | | | 5.63 | NTU |
| | Drawdn | | 5.12 | 1.07 | 1 | | | 1 | ft |
| | Volume | | 0.65 | 0.78 | 0.91 | | | 0.91 | Gallon |

CLEAR Field Filtered
NO COLOR
NO ODOR

Bladder Pump

| Well ID | | | | | | Final | Units |
|---|---|---|---|---|---|---|---|
| AP2 | DTW | 6.21 | 6.85 | 6.85 | 6.85 | 6.85 | ft |
| | DTB | | | | | | ft |
| | MP Elev | | | | | | ft |
| | Time | 1116 | 1125 | 1128 | 1131 | 1131 | |
| | Temp | | 12.8 | 12.9 | 12.9 | 12.9 | C |
| | D.O. | | 0.26 | 0.21 | 0.18 | 0.18 | Mg/l |
| | Cond | | 2241 | 2281 | 2319 | 2319 | uS/cm |
| | pH | | 6.45 | 6.45 | 6.43 | 6.43 | |
| | Orp | | -5.6 | -11.1 | -13.5 | -13.5 | mV |
| | Turbidity | | 6.78 | 3.55 | 5.92 | 5.92 | NTU |
| | Drawdn | | 0.64 | 0 | 0 | 0 | ft |
| | Volume | | 0.39 | 0.52 | 0.65 | 0.65 | Gallon |

CLEAR
NO COLOR
NO ODOR

Bladder Pump

| Well ID | | | | | | Final | Units |
|---|---|---|---|---|---|---|---|
| AP3 | DTW | 8.42 | 8.42 | 8.42 | 8.42 | 8.42 | ft |
| | DTB | | | | | | ft |
| | MP Elev | | | | | | ft |
| | Time | 1044 | 1102 | 1105 | 1108 | 1108 | |
| | Temp | | 12.8 | 12.4 | 12.9 | 12.9 | C |
| | D.O. | | 0.43 | 0.46 | 0.41 | 0.41 | Mg/l |
| | Cond | | 1595 | 1597 | 1594 | 1594 | uS/cm |
| | pH | | 6.62 | 6.62 | 6.6 | 6.6 | |
| | Orp | | -53.9 | -58.4 | -61.5 | -61.5 | mV |
| | Turbidity | | 13.76 | 13.98 | 8.29 | 8.29 | NTU |
| | Drawdn | | 0 | 0 | 0 | 0 | ft |
| | Volume | | 0.78 | 0.91 | 1.04 | 1.04 | Gallon |

CLEAR
NO COLOR
NO ODOR

Bladder Pump

| Well ID | | | | | | Final | Units |
|---|---|---|---|---|---|---|---|
| AP7 | DTW | 10.89 | 14.32 | 15.35 | 16.2 | 16.2 | ft |
| | DTB | | | | | | ft |
| | MP Elev | | | | | | ft |
| | Time | 1421 | 1427 | 1430 | 1433 | 1433 | |
| | Temp | | 12.1 | 12.2 | 12.3 | 12.3 | C |
| | D.O. | | 0.5 | 0.38 | 0.31 | 0.31 | Mg/l |
| | Cond | | 1131 | 1134 | 1136 | 1136 | uS/cm |
| | pH | | 7.23 | 7.21 | 7.2 | 7.2 | |
| | Orp | | -53.8 | -72.1 | -84 | -84 | mV |
| | Turbidity | | 8.11 | 7.23 | 6.13 | 6.13 | NTU |
| | Drawdn | | 3.43 | 1.03 | 0.85 | 0.85 | ft |
| | Volume | | 0.26 | 0.39 | 0.52 | 0.52 | Gallon |

CLEAR
NO COLOR
NO ODOR

Sub Pump

| Well ID | | | | | | Final | Units |
|---|---|---|---|---|---|---|---|
| AP8 | DTW | 6.41 | 9.89 | 9.89 | 9.89 | 9.89 | ft |
| | DTB | | | | | | ft |
| | MP Elev | | | | | | ft |
| | Time | 1254 | 1306 | 1309 | 1312 | 1312 | |
| | Temp | | 13.4 | 13.4 | 13.4 | 13.4 | C |
| | D.O. | | 0.19 | 0.16 | 0.14 | 0.14 | Mg/l |
| | Cond | | 1321 | 1321 | 1322 | 1322 | uS/cm |
| | pH | | 6.92 | 6.91 | 6.91 | 6.91 | |
| | Orp | | -108.2 | -115.4 | -119.9 | -119.9 | mV |
| | Turbidity | | 10.87 | 12.9 | 8.01 | 8.01 | NTU |
| | Drawdn | | 3.48 | 0 | 0 | 0 | ft |
| | Volume | | 0.52 | 0.65 | 0.78 | 0.78 | Gallon |

CLEAR
NO COLOR
NO ODOR
Bladder Pump

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

March 09, 2022

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 22011434

Dear Shelly Hennessy:

Order No.: 22021386

Summit Environmental Technologies, Inc. received 14 sample(s) on 2/21/2022 for the analyses presented in the following report.

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **22021386**
Date: **3/9/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22011434

WorkOrder Narrative:
22021386: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Sample Notes:
22011434-014: One sample matrix is clear, the other sample has a "dirty" appearance through the bottle . The ID numbers on the the bottles both indicate 22011434-014B and both lids indicate "AP-13". Composite both bottles per client.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **22021386**
Date: **3/9/2022**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **22021386**
***09-Mar-22***

**CLIENT:** TEKLAB Inc,
**Project:** 22011434

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 22021386-001 | 22011434-001 | | 2/16/2022 1:34:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-002 | 22011434-002 | | 2/15/2022 11:55:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-003 | 22011434-003 | | 2/15/2022 11:31:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-004 | 22011434-004 | | 2/15/2022 11:08:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-005 | 22011434-005 | | 2/16/2022 10:05:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-006 | 22011434-006 | | 2/16/2022 10:37:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-007 | 22011434-007 | | 2/15/2022 1:46:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-008 | 22011434-008 | | 2/15/2022 2:33:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-009 | 22011434-009 | | 2/15/2022 1:12:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-010 | 22011434-010 | | 2/15/2022 3:01:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-011 | 22011434-012 | | 2/16/2022 12:51:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-012 | 22011434-013 | | 2/16/2022 12:17:00 PM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-013 | 22011434-014 | | 2/16/2022 11:34:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |
| 22021386-014 | 22011434-015 | | 2/16/2022 9:34:00 AM | 2/21/2022 1:15:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **22021386**

***09-Mar-22***

**Client:** TEKLAB Inc,

**Project:** 22011434

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 22021386-001A | 22011434-001 | 2/16/2022 1:34:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-002A | 22011434-002 | 2/15/2022 11:55:00 AM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-003A | 22011434-003 | 2/15/2022 11:31:00 AM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-004A | 22011434-004 | 2/15/2022 11:08:00 AM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-005A | 22011434-005 | 2/16/2022 10:05:00 AM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-006A | 22011434-006 | 2/16/2022 10:37:00 AM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/7/2022 1:09:18 PM | 3/8/2022 4:26:09 PM |
| 22021386-007A | 22011434-007 | 2/15/2022 1:46:00 PM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-008A | 22011434-008 | 2/15/2022 2:33:00 PM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-009A | 22011434-009 | 2/15/2022 1:12:00 PM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-010A | 22011434-010 | 2/15/2022 3:01:00 PM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-011A | 22011434-012 | 2/16/2022 12:51:00 PM | | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |

Original

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*Website: http://www.settek.com*

# DATES REPORT

WO#: **22021386**

***09-Mar-22***

**Client:** TEKLAB Inc,

**Project:** 22011434

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 22021386-012A | 22011434-013 | 2/16/2022 12:17:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:27:09 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/24/2022 12:36:54 PM | 3/3/2022 1:07:31 PM |
| 22021386-013A | 22011434-014 | 2/16/2022 11:34:00 AM | | Radium-226 (EPA 903.0) | | 2/25/2022 12:41:09 PM | 3/4/2022 3:02:37 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/25/2022 12:41:09 PM | 3/4/2022 2:38:33 PM |
| 22021386-014A | 22011434-015 | 2/16/2022 9:34:00 AM | | Radium-226 (EPA 903.0) | | 2/25/2022 12:41:09 PM | 3/4/2022 3:02:37 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/25/2022 12:41:09 PM | 3/4/2022 2:38:33 PM |

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# Analytical Report

(consolidated)

WO#: **22021386**

Date Reported: **3/9/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22011434
**Lab ID:** 22021386-001
**Client Sample ID:** 22011434-001

**Collection Date:** 2/16/2022 1:34:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **JEB** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.13 | 1 | 3/3/2022 1:27:09 PM |
| Yield | 0.880 | | | | | 1 | 3/3/2022 1:27:09 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **JEB** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.84 | 1 | 3/3/2022 1:07:31 PM |
| Yield | 0.990 | | | | | 1 | 3/3/2022 1:07:31 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **22021386**

Date Reported: **3/9/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22011434
**Lab ID:** 22021386-003
**Client Sample ID:** 22011434-003

**Collection Date:** 2/15/2022 11:31:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **JEB** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.14 | 1 | 3/3/2022 1:27:09 PM |
| Yield | 0.970 | | | | | 1 | 3/3/2022 1:27:09 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **JEB** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.8 | 1 | 3/3/2022 1:07:31 PM |
| Yield | 0.990 | | | | | 1 | 3/3/2022 1:07:31 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **22021386**

Date Reported: **3/9/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22011434
**Lab ID:** 22021386-004
**Client Sample ID:** 22011434-004

**Collection Date:** 2/15/2022 11:08:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **JEB** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.08 | 1 | 3/3/2022 1:27:09 PM |
| Yield | 0.910 | | | | | 1 | 3/3/2022 1:27:09 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **JEB** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.83 | 1 | 3/3/2022 1:07:31 PM |
| Yield | 0.880 | | | | | 1 | 3/3/2022 1:07:31 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **22021386**

Date Reported: **3/9/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22011434
**Lab ID:** 22021386-008
**Client Sample ID:** 22011434-008

**Collection Date:** 2/15/2022 2:33:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **JEB** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.19 | 1 | 3/3/2022 1:27:09 PM |
| Yield | 0.650 | | | | | 1 | 3/3/2022 1:27:09 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **JEB** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 1.16 | 1 | 3/3/2022 1:07:31 PM |
| Yield | 0.640 | | | | | 1 | 3/3/2022 1:07:31 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **22021386**

Date Reported: **3/9/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22011434
**Lab ID:** 22021386-009
**Client Sample ID:** 22011434-009

**Collection Date:** 2/15/2022 1:12:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **JEB** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.19 | 1 | 3/3/2022 1:27:09 PM |
| Yield | 0.640 | | | | | 1 | 3/3/2022 1:27:09 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **JEB** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 1 | 1 | 3/3/2022 1:07:31 PM |
| Yield | 0.720 | | | | | 1 | 3/3/2022 1:07:31 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55267**

| Sample ID: **22021386-004ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **22011434-004** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717136** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.01 | 1.00 | | 0 | 0 | | | 0.7900 | 24.4 | 30 | |
| Yield | 0.940 | | | 0 | 0 | | | 0.8800 | 6.59 | | |

| Sample ID: **22021386-003AMS** | SampType: **MS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **22011434-003** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717146** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 6.13 | 1.00 | 5.000 | 0 | 123 | 70 | 130 | | | | |
| Yield | 0.740 | | | 0.9900 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55267**

| Sample ID: **MB-55267** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717126** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-55267** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717127** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.81 | 1.00 | 5.000 | 0 | 76.2 | 70 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-55267** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717128** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.57 | 1.00 | 5.000 | 0 | 111 | 70 | 130 | 3.810 | 37.5 | 20 | R |
| Yield | 0.910 | | | 0 | 0 | | | 1.000 | 9.42 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55267**

| Sample ID: **RLC-55267** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717147** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.33 | 1.00 | 1.000 | 0 | 133 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-55267** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140953** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55267** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717148** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.12 | 1.00 | 1.000 | 0 | 112 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55267**

Sample ID: **22021386-003AMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/24/2022** RunNo: **140954**
Client ID: **22011434-003** Batch ID: **55267** TestNo: **E903.0** **E903-904** Analysis Date: **3/3/2022** SeqNo: **3717156**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.95 | 1.00 | 5.000 | 0 | 99.0 | 70 | 130 | | | | |

Sample ID: **22021386-004ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/24/2022** RunNo: **140954**
Client ID: **22011434-004** Batch ID: **55267** TestNo: **E903.0** **E903-904** Analysis Date: **3/3/2022** SeqNo: **3717164**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.870 | | | | | | | 0.9100 | 4.49 | 0 | |

Sample ID: **22021386-006ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/24/2022** RunNo: **140954**
Client ID: **22011434-006** Batch ID: **55267** TestNo: **E903.0** **E903-904** Analysis Date: **3/3/2022** SeqNo: **3717167**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.990 | | | | | | | 0.8900 | 10.6 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55267**

| Sample ID: **MB-55267** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140954** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **55267** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717150** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-55267** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140954** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **55267** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717151** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.03 | 1.00 | 5.000 | 0 | 101 | 70 | 130 | | | | |

| Sample ID: **LCSD-55267** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140954** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **55267** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717152** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.90 | 1.00 | 5.000 | 0 | 118 | 70 | 130 | 5.030 | 15.9 | 20 | |

| Sample ID: **RLC-55267** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140954** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55267** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717154** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55267**

| Sample ID: **RLC-55267** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140954** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55267** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717154** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.20 | 1.00 | 1.000 | 0 | 120 | 50 | 150 | | | | |

| Sample ID: **RLCD-55267** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/24/2022** | RunNo: **140954** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55267** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/3/2022** | SeqNo: **3717155** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.02 | 1.00 | 1.000 | 0 | 102 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**

***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55268**

Sample ID: **MB-55268** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/25/2022** RunNo: **141026**
Client ID: **PBW** Batch ID: **55268** TestNo: **E904.0** **E903-904** Analysis Date: **3/4/2022** SeqNo: **3718896**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-55268** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/25/2022** RunNo: **141026**
Client ID: **LCSW** Batch ID: **55268** TestNo: **E904.0** **E903-904** Analysis Date: **3/4/2022** SeqNo: **3718897**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.87 | 1.00 | 5.000 | 0 | 97.4 | 70 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-55268** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/25/2022** RunNo: **141026**
Client ID: **LCSS02** Batch ID: **55268** TestNo: **E904.0** **E903-904** Analysis Date: **3/4/2022** SeqNo: **3718898**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.85 | 1.00 | 5.000 | 0 | 77.0 | 70 | 130 | 4.870 | 23.4 | 20 | R |
| Yield | 0.960 | | | 0 | 0 | | | 1.000 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55268**

| Sample ID: **RLCD-55268** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141026** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 92.0 | 50 | 150 | | | | |

| Sample ID: **RLC-55268** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141026** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718919** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 78.0 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55268**

| Sample ID: **22021112-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141026** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718904** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

| Sample ID: **22021114-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141026** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718906** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.8900 | 11.6 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**

***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55268**

| Sample ID: **MB-55268** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141033** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **55268** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718970** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-55268** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141033** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **55268** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718971** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.26 | 1.00 | 5.000 | 0 | 85.2 | 70 | 130 | | | | |

| Sample ID: **LCSD-55268** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141033** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **55268** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718972** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.14 | 1.00 | 5.000 | 0 | 103 | 70 | 130 | 4.260 | 18.7 | 20 | |

| Sample ID: **RLC-55268** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141033** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718974** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55268**

| Sample ID: **RLC-55268** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141033** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3718974** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 67.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-55268** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/25/2022** | RunNo: **141033** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55268** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/4/2022** | SeqNo: **3719007** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 61.0 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22021386**

***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55391**

Sample ID: **RLCD-55391** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/7/2022** RunNo: **141176**
Client ID: **BatchQC** Batch ID: **55391** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2022** SeqNo: **3722587**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.06 | 1.00 | 1.000 | 0 | 106 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **22021558-001AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/7/2022** RunNo: **141176**
Client ID: **BatchQC** Batch ID: **55391** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2022** SeqNo: **3722588**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.63 | 1.00 | 5.000 | 0.8400 | 95.8 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

Sample ID: **22021789-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/7/2022** RunNo: **141176**
Client ID: **BatchQC** Batch ID: **55391** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2022** SeqNo: **3722594**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.05 | 1.00 | | 0 | 0 | | | 0.9300 | 12.1 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22021386**
***09-Mar-22***

**Client:** TEKLAB Inc,
**Project:** 22011434 **BatchID:** **55391**

| Sample ID: **22030062-003ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/7/2022** | RunNo: **141176** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **55391** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2022** | SeqNo: **3722596** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

| Sample ID: **MB-55391** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/7/2022** | RunNo: **141176** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **55391** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2022** | SeqNo: **3722603** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 0.940 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-55391** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/7/2022** | RunNo: **141176** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **55391** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2022** | SeqNo: **3722604** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.99 | 1.00 | 5.000 | 0 | 99.8 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22021386**

***09-Mar-22***

**Client:** TEKLAB Inc,

**Project:** 22011434 **BatchID:** **55391**

Sample ID: **RLC-55391** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/7/2022** RunNo: **141176**

Client ID: **BatchQC** Batch ID: **55391** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2022** SeqNo: **3722605**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.41 | 1.00 | 1.000 | 0 | 141 | 50 | 150 | | | | |
| Yield | 0.910 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

# TEKLAB, INC. Chain of Custody

22021386

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: J.Riley/A Bridges | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 22/228 by EPA 903.0/904.0 on your standard turn around time.
Batch QC is required for all analyses requested.

Project# 22011434

Contact: Shelly A. Hennessy | Email: shennessy@teklabinc.com
Requested Due Date: STD TAT | Billing/PO: 32473

Any changes to analysis/methods must be approved by Teklab, Inc.
Phone: (618) 344-1004 ext 36

**PLEASE NOTE:**

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - | 22011434-001 | 2/16/22 1334 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 30, 25 | | pH 1, 1 | | |
| - | 22011434-002 | 2/15/22 1155 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 6, 23 | | pH 1, 1 | | |
| | 22011434-003 | 2/15/22 1131 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 30, 40 | | pH 1, 1 | | |
| | 22011434-004 | 2/15/22 1108 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 27, 30 | | pH 1, 1 | | |
| | 22011434-005 | 2/16/22 1005 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 33, 33 | | pH 1, 1 | | |
| | 22011434-006 | 2/16/22 1037 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 27, 27 | | pH 1, 1 | | |
| | 22011434-007 | 2/15/22 1346 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 23, 37 | | pH 1, 1 | | |
| | 22011434-008 | 2/15/22 1433 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 27, 30 | | pH 1, 1 | | |
| | 22011434-009 | 2/15/22 1312 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 37, 16 | | pH 1, 1 | | |
| | 22011434-010 | 2/15/22 1501 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 27, 10 | | pH 1, 1 | | |
| | 22011434-012 | 2/16/22 1251 | HNO3 | Groundwater | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | cpm 14, 23 | | pH 1, 1 | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Mary Kupp | 2/17/22 10:00 | | 2/21/22 13:15 |

13.4-1.0=12.4°C #1
6.7-1.0=5.7°C #2
4.5-1.0=3.5°C #3
8.0-1.0=7.0°C #4

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCOCRevA 3/2/2016

# TEKLAB, INC. Chain of Custody

22021386

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: J.Riley/A Bridges | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 22/228 by EPA 903.0/904.0 on your standard turn around time.
Batch QC is required for all analyses requested.
Any changes to analysis/methods must be approved by Teklab, Inc.

Project# 22011434

Contact: Shelly A. Hennessy | Email: shennessy@teklabinc.com
Requested Due Date: STD TAT | Billing/PO: 32473 | Phone: (618) 344-1004 ext 36

PLEASE NOTE:
NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22011434-013 | 2/16/22 1217 | HNO3 | Groundwater | ✔ | | | | | | | | clm | 30 | 33 | pH | 1 |
| | 22011434-014 | 2/16/22 1134 | HNO3 | Groundwater | ✔ | | | | | | | | clm | 16 | 4 | pH | 1 |
| | 22011434-015 | 2/16/22 0934 | HNO3 | Groundwater | ✔ | | | | | | | | clm | 30 | 40 | pH | 1 |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Mary Kemp | 2/17/22 1600 | | 2/21/22 13:15 |

13.4-1.0=12.4°C #1
6.7-1.0=5.7°C #2
4.5-1.0=3.5°C #3
8.0-1.0=7.0°C #4

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SubCocRev 3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **22021386** RcptNo: **1**

| | | | |
|---|---|---|---|
| Logged by: | **John T. Woolf** | **2/21/2022 1:15:00 PM** | John T. Woolf |
| Completed By: | **John T. Woolf** | **2/21/2022 4:04:18 PM** | John T. Woolf |
| Reviewed By: | **Jennifer Woolf** | **2/21/2022 4:27:41 PM** | Jennifer Woolf |

## *Chain of Custody*

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## *Log In*

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☐ | No ☑ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☐ | No ☑ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☐ | No ☑ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## *Special Handling (if applicable)*

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

no
project address not included
combined?

**Cooler Information**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **22021386** RcptNo: **1**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 5.7 | Good | Not Present | | | |
| 3 | 3.5 | Good | Not Present | | | |
| 4 | 7.0 | Good | Not Present | | | |
| cooler | 12.4 | Good | Not Present | | | |

March 04, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 22011433

Dear Eric Staley:

TEKLAB, INC received 12 samples on 2/17/2022 11:26:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 22011433
**Report Date:** 04-Mar-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22011433

**Client Project:** Landfill Monitoring Wells **Report Date:** 04-Mar-22

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 22011433
**Client Project:** Landfill Monitoring Wells
**Report Date:** 04-Mar-22

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 22011433
**Client Project:** Landfill Monitoring Wells
**Report Date:** 04-Mar-22

**Cooler Receipt Temp:** 5.6 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 22011433

**Client Project:** Landfill Monitoring Wells

**Report Date:** 04-Mar-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2022 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2022 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2022 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2022 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2022 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 22011433
**Client Project:** Landfill Monitoring Wells
**Report Date:** 04-Mar-22
**Lab ID:** 22011433-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 02/16/2022 15:28

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 02/16/2022 15:28 | R307533 |
| Depth to water | * | -5.00 | | **11.39** | ft | 1 | 02/16/2022 15:28 | R307533 |
| Depth to water from measuring point | * | 0 | | **14.14** | ft | 1 | 02/16/2022 15:28 | R307533 |
| Elevation of groundwater surface | * | 0 | | **541.46** | ft | 1 | 02/16/2022 15:28 | R307533 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 02/16/2022 15:28 | R307533 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.5** | °F | 1 | 02/16/2022 15:28 | R307533 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.67** | | 1 | 02/16/2022 15:28 | R307533 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2210** | µmhos/cm @25C | 1 | 02/16/2022 15:28 | R307533 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.76** | mg/L | 1 | 02/18/2022 18:16 | R307238 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **0.102** | mg/L | 1 | 02/18/2022 12:07 | R307256 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | * | 50 | | **1080** | mg/L | 2.5 | 02/22/2022 10:32 | R307500 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 02/22/2022 11:17 | 187884 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **340** | mg/L | 10 | 02/22/2022 19:02 | R307405 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 1 | | **40** | mg/L | 1 | 02/22/2022 18:56 | R307406 |
| *Sample result exceeds 10 times the CCB contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7570** | µg/L | 1 | 02/21/2022 14:06 | 187851 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 02/21/2022 14:06 | 187851 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 02/21/2022 14:06 | 187851 |
| Magnesium | NELAP | 0.050 | | **80.5** | mg/L | 1 | 02/21/2022 14:06 | 187851 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 02/21/2022 14:06 | 187851 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **140** | µg/L | 5 | 02/25/2022 7:12 | 187851 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 02/25/2022 7:12 | 187851 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 02/21/2022 15:37 | 187888 |

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22011433

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 2.6 °C
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY LT63
LAB NOTES: PHV 78011/75846, Added HNO3 80456/H2SO4 80796/NaOH 78408, PM 2/17/22

Client Comments: * Dup ⊗ Filter in Lab
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn Additional NaOH(78408) to all, Nitric acid (80456) R101 MEK 2/17/22

PROJECT NAME/NUMBER: Landfill Monitoring Wells
SAMPLE COLLECTOR'S NAME: J. RILEY A. BRIDGES

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22011433-001 | R101 | 02/17/22 0730 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 002 | G110 | 02/17/22 0449 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 003 | R111 | 02/17/22 0845 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 004 | G112 | 02/17/22 0856 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 005 | G113 (X) | 02/17/22 0917 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 006 | G120 | 02/16/22 1450 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 007 | G121 * ⊗JR | 02/16/22 1406 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 008 | G122 | 02/16/22 1434 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 009 | AW-1 | 02/16/22 1528 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 010 | AW-2 | 02/16/22 1508 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 011 | RW-3 | 02/16/22 1374 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 02/17/22 1126 | | 2.17.22 1126 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

PM 2/17/22

| Well ID | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Final | Units |
| AW1 | DTW | 14.14 | | | | | 14.14 | ft |
| | DTB | | | | | | | ft |
| | MP Elev | | | | | | | ft |
| | Time | 1513 | 1522 | 1525 | 1528 | | 1528 | |
| | Temp | | 13.6 | 13.6 | 13.6 | | 13.6 | C |
| | D.O. | | | | | | | Mg/l |
| | Cond | | 2203 | 2211 | 2210 | | 2210 | uS/cm |
| | pH | | 6.67 | 6.66 | 6.67 | | 6.67 | |
| | Orp | | | | | | | mV |
| | Turbidity | | | | | | | NTU |
| | Drawdn | | | | | | | ft |
| | Volume | | 0.39 | 0.52 | 0.65 | | 0.65 | Gallon |

HIGH TURB
SUB PUMP
GREYISH
CLOUDY
NO ODOR

Field Filtered

Second Quarter 2022

July 13, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 22051753

Dear Eric Staley:

TEKLAB, INC received 15 samples on 6/2/2022 7:33:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22051753
**Report Date:** 13-Jul-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 23 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22051753

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 13-Jul-22

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 22051753

**Client Project:** Ash Pond Monitoring Wells

**Report Date:** 13-Jul-22

## Qualifiers

# - Unknown hydrocarbon

B - Analyte detected in associated Method Blank

C - RL shown is a Client Requested Quantitation Limit

E - Value above quantitation range

H - Holding times exceeded

I - Associated internal standard was outside method criteria

J - Analyte detected below quantitation limits

M - Manual Integration used to determine area response

ND - Not Detected at the Reporting Limit

R - RPD outside accepted recovery limits

S - Spike Recovery outside recovery limits

T - TIC(Tentatively identified compound)

X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22051753
**Report Date:** 13-Jul-22

**Cooler Receipt Temp:** 2.0 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22051753
**Report Date:** 13-Jul-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2022 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 22051753
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Jul-22
**Lab ID:** 22051753-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 06/01/2022 13:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 06/01/2022 13:45 | R313064 |
| Depth to water | * | -5.00 | | **6.50** | ft | 1 | 06/01/2022 13:45 | R313064 |
| Depth to water from measuring point | * | 0 | | **9.20** | ft | 1 | 06/01/2022 13:45 | R313064 |
| Elevation of groundwater surface | * | 0 | | **530.30** | ft | 1 | 06/01/2022 13:45 | R313064 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 06/01/2022 13:45 | R313064 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 06/01/2022 13:45 | R313064 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 06/01/2022 13:45 | R313064 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.5** | °F | 1 | 06/01/2022 13:45 | R313064 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.20** | | 1 | 06/01/2022 13:45 | R313064 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **783** | µmhos/cm @25C | 1 | 06/01/2022 13:45 | R313064 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **428** | mg/L | 1 | 06/02/2022 12:01 | R312777 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 20 | | **< 20** | mg/L | 2 | 06/07/2022 13:55 | R312927 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.49** | mg/L | 1 | 06/08/2022 9:27 | R312973 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **31** | mg/L | 1 | 06/07/2022 13:29 | R312931 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.138** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Barium | NELAP | 0.0025 | | **0.148** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Boron | NELAP | 0.0200 | | **0.174** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Calcium | NELAP | 0.100 | | **71.7** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Lithium | NELAP | 0.0050 | | **0.0064** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| Molybdenum | NELAP | 0.0100 | | **0.0106** | mg/L | 1 | 06/03/2022 14:21 | 193267 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:17 | 193267 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:17 | 193267 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 06/03/2022 22:17 | 193267 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 06/03/2022 10:29 | 193269 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 06/20/2022 0:00 | R314337 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 06/20/2022 0:00 | R314337 |

**Client:** City Water, Light & Power
**Work Order:** 22051753
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Jul-22
**Lab ID:** 22051753-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 05/31/2022 12:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 05/31/2022 12:12 | R313064 |
| Depth to water | * | -5.00 | | **5.46** | ft | 1 | 05/31/2022 12:12 | R313064 |
| Depth to water from measuring point | * | 0 | | **7.96** | ft | 1 | 05/31/2022 12:12 | R313064 |
| Elevation of groundwater surface | * | 0 | | **528.14** | ft | 1 | 05/31/2022 12:12 | R313064 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 05/31/2022 12:12 | R313064 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 05/31/2022 12:12 | R313064 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.9** | NTU | 1 | 05/31/2022 12:12 | R313064 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.9** | °F | 1 | 05/31/2022 12:12 | R313064 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.43** | | 1 | 05/31/2022 12:12 | R313064 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1430** | µmhos/cm @25C | 1 | 05/31/2022 12:12 | R313064 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1270** | mg/L | 1 | 06/02/2022 12:02 | R312777 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **532** | mg/L | 20 | 06/07/2022 14:20 | R312927 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.24** | mg/L | 1 | 06/08/2022 9:31 | R312973 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **35** | mg/L | 1 | 06/07/2022 14:14 | R312931 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Barium | NELAP | 0.0025 | | **0.0730** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Boron | NELAP | 0.0200 | | **4.25** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Calcium | NELAP | 0.100 | | **236** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Cobalt | NELAP | 0.0050 | | **0.0089** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Lithium | NELAP | 0.0050 | | **0.0056** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 06/03/2022 14:24 | 193267 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:28 | 193267 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:28 | 193267 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 06/03/2022 22:28 | 193267 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 06/03/2022 10:34 | 193269 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 06/20/2022 0:00 | R314337 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 06/20/2022 0:00 | R314337 |

**Client:** City Water, Light & Power
**Work Order:** 22051753
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Jul-22
**Lab ID:** 22051753-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 05/31/2022 11:47

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 05/31/2022 11:47 | R313064 |
| Depth to water | * | -5.00 | | **7.94** | ft | 1 | 05/31/2022 11:47 | R313064 |
| Depth to water from measuring point | * | 0 | | **9.64** | ft | 1 | 05/31/2022 11:47 | R313064 |
| Elevation of groundwater surface | * | 0 | | **525.76** | ft | 1 | 05/31/2022 11:47 | R313064 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 05/31/2022 11:47 | R313064 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 05/31/2022 11:47 | R313064 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.1** | NTU | 1 | 05/31/2022 11:47 | R313064 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.2** | °F | 1 | 05/31/2022 11:47 | R313064 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 05/31/2022 11:47 | R313064 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1070** | µmhos/cm @25C | 1 | 05/31/2022 11:47 | R313064 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **942** | mg/L | 1 | 06/02/2022 12:02 | R312777 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **408** | mg/L | 10 | 06/07/2022 14:27 | R312927 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.24** | mg/L | 1 | 06/08/2022 9:33 | R312973 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **42** | mg/L | 1 | 06/07/2022 14:22 | R312931 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Barium | NELAP | 0.0025 | | **0.0849** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Boron | NELAP | 0.0200 | | **14.7** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Calcium | NELAP | 0.100 | | **152** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 06/03/2022 14:26 | 193267 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:34 | 193267 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:34 | 193267 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 06/03/2022 22:34 | 193267 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 06/03/2022 10:36 | 193269 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 06/20/2022 0:00 | R314337 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 06/20/2022 0:00 | R314337 |

**Client:** City Water, Light & Power
**Work Order:** 22051753
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Jul-22
**Lab ID:** 22051753-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 06/01/2022 10:19

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 06/01/2022 10:19 | R313064 |
| Depth to water | * | -5.00 | | **7.24** | ft | 1 | 06/01/2022 10:19 | R313064 |
| Depth to water from measuring point | * | 0 | | **9.90** | ft | 1 | 06/01/2022 10:19 | R313064 |
| Elevation of groundwater surface | * | 0 | | **529.12** | ft | 1 | 06/01/2022 10:19 | R313064 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 06/01/2022 10:19 | R313064 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 06/01/2022 10:19 | R313064 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.8** | NTU | 1 | 06/01/2022 10:19 | R313064 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.9** | °F | 1 | 06/01/2022 10:19 | R313064 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.92** | | 1 | 06/01/2022 10:19 | R313064 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **923** | µmhos/cm @25C | 1 | 06/01/2022 10:19 | R313064 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **480** | mg/L | 1 | 06/02/2022 12:04 | R312777 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 06/09/2022 9:39 | R313062 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.56** | mg/L | 1 | 06/08/2022 9:41 | R312973 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 2 | | **66** | mg/L | 2 | 06/07/2022 15:10 | R312931 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0468** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Barium | NELAP | 0.0025 | | **0.130** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Boron | NELAP | 0.0200 | | **0.339** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Calcium | NELAP | 0.100 | | **64.9** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Lithium | NELAP | 0.0050 | | **0.0079** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 06/03/2022 14:33 | 193267 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:56 | 193267 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 22:56 | 193267 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 06/03/2022 22:56 | 193267 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 06/03/2022 10:54 | 193269 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 06/29/2022 0:00 | R314337 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 06/29/2022 0:00 | R314337 |

**Client:** City Water, Light & Power
**Work Order:** 22051753
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Jul-22
**Lab ID:** 22051753-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 05/31/2022 13:57

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 05/31/2022 13:57 | R313064 |
| Depth to water | * | -5.00 | | **2.13** | ft | 1 | 05/31/2022 13:57 | R313064 |
| Depth to water from measuring point | * | 0 | | **5.03** | ft | 1 | 05/31/2022 13:57 | R313064 |
| Elevation of groundwater surface | * | 0 | | **532.17** | ft | 1 | 05/31/2022 13:57 | R313064 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 05/31/2022 13:57 | R313064 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 05/31/2022 13:57 | R313064 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.0** | NTU | 1 | 05/31/2022 13:57 | R313064 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.7** | °F | 1 | 05/31/2022 13:57 | R313064 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.90** | | 1 | 05/31/2022 13:57 | R313064 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **864** | µmhos/cm @25C | 1 | 05/31/2022 13:57 | R313064 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **552** | mg/L | 1 | 06/02/2022 12:04 | R312777 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 06/07/2022 15:17 | R312927 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.31** | mg/L | 1 | 06/08/2022 9:51 | R312973 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **28** | mg/L | 1 | 06/07/2022 15:18 | R312931 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0352** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Barium | NELAP | 0.0025 | | **0.356** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Boron | NELAP | 0.0200 | | **0.0877** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Calcium | NELAP | 0.100 | | **96.5** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Lithium | NELAP | 0.0050 | | **0.0065** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 06/03/2022 14:35 | 193267 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 23:40 | 193267 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2022 23:40 | 193267 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 06/03/2022 23:40 | 193267 |
| *CCV recovered outside the upper control limits for Se and Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 06/03/2022 10:56 | 193269 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 06/28/2022 0:00 | R314337 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 06/28/2022 0:00 | R314337 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22051753
**Report Date:** 13-Jul-22

**Carrier:** Joe Riley

**Received By:** EAH

**Completed by:** Payton Yoch
**On:** 02-Jun-22

**Reviewed by:** Shelly A. Hennessy
**On:** 06-Jun-22

**Pages to follow:** Chain of custody 2 Extra pages included 43

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 2.0 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip 78198 - pyoch - 6/2/2022 8:57:41 AM

Additional Nitric Acid (82107) was needed for all 2L bottles (Radium 226-228) upon arrival at the laboratory. - pyoch - 6/2/2022 8:57:57 AM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22051753

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 2.0 °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY LTGS
LAB NOTES: Ph/Z 198, Added HNO3 (821073) to all 2 liters, CET ~~6-6-~~ 6-2-22

Client Comments: TE CET 6-6-22
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☑ No Permit on file

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: J. RILEY

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051753-001 | RW-3 | 06/01/22 1345 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | 05/31/22 1330 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | 1212 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | 1147 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | 1628 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | 1655 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | 1422 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 06/01/22 1018 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | 05/31/22 1357 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 06/01/22 1047 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | 05/31/22 1301 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 06/02/22 0733 | [signature] | 6/2/22 0733 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

[initials] 6/7/22

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 22051753

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051753-012 | AP-11 | 06/01/22 1302 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 06/01/22 1234 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 06/01/22 1204 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 05/31/22 1543 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 06/02/22 0733 | | 6/2/22 0733 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

July 12, 2022

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 22051753

Order No.: 22060560

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 15 sample(s) on 6/8/2022 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **22060560**
Date: **7/12/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22051753

WorkOrder Narrative:
22060560: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Run Comments:
145867: 22060887-001A is 22060877-001a in attached spreadsheet

Analytical Sequence Sample Notes:
22060560-013A Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD for Radium-228 due to possible sample matrix interference.

Summit Environmental Technologies, In
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Cuyahoga Falls, Ohio 4422
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# Qualifiers and Acronyms

WO#: **22060560**
Date: **7/12/2022**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **22060560**
***12-Jul-22***

**CLIENT:** TEKLAB Inc,
**Project:** 22051753

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 22060560-001 | 22051753-001 | | 6/1/2022 1:45:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-002 | 22051753-002 | | 5/31/2022 1:30:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-003 | 22051753-003 | | 5/31/2022 12:12:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-004 | 22051753-004 | | 5/31/2022 11:47:00 AM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-005 | 22051753-005 | | 5/31/2022 4:28:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-006 | 22051753-006 | | 5/31/2022 4:55:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-007 | 22051753-007 | | 5/31/2022 2:22:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-008 | 22051753-008 | | 6/1/2022 10:19:00 AM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-009 | 22051753-009 | | 5/31/2022 1:57:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-010 | 22051753-010 | | 6/1/2022 10:47:00 AM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-011 | 22051753-011 | | 5/31/2022 1:01:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-012 | 22051753-012 | | 6/1/2022 1:02:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-013 | 22051753-013 | | 6/1/2022 12:34:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-014 | 22051753-014 | | 6/1/2022 12:04:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |
| 22060560-015 | 22051753-015 | | 5/31/2022 3:43:00 PM | 6/8/2022 4:00:00 PM | Non-Potable Water |

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*Website: http://www.settek.com*

# DATES REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,

**Project:** 22051753

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 22060560-001A | 22051753-001 | 6/1/2022 1:45:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 6/15/2022 2:39:00 PM | 6/21/2022 9:38:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/15/2022 2:39:00 PM | 6/20/2022 2:31:00 PM |
| 22060560-002A | 22051753-002 | 5/31/2022 1:30:00 PM | | Radium-226 (EPA 903.0) | | 6/15/2022 2:39:00 PM | 6/21/2022 9:38:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/15/2022 2:39:00 PM | 6/20/2022 2:31:00 PM |
| 22060560-003A | 22051753-003 | 5/31/2022 12:12:00 PM | | Radium-226 (EPA 903.0) | | 6/15/2022 2:39:00 PM | 6/21/2022 9:38:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/15/2022 2:39:00 PM | 6/20/2022 2:31:00 PM |
| 22060560-004A | 22051753-004 | 5/31/2022 11:47:00 AM | | Radium-226 (EPA 903.0) | | 6/15/2022 2:39:00 PM | 6/21/2022 9:38:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/15/2022 2:39:00 PM | 6/20/2022 2:31:00 PM |
| 22060560-005A | 22051753-005 | 5/31/2022 4:28:00 PM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| 22060560-006A | 22051753-006 | 5/31/2022 4:55:00 PM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| 22060560-007A | 22051753-007 | 5/31/2022 2:22:00 PM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| 22060560-008A | 22051753-008 | 6/1/2022 10:19:00 AM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/5/2022 2:13:00 PM | 7/8/2022 3:48:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| 22060560-009A | 22051753-009 | 5/31/2022 1:57:00 PM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| 22060560-010A | 22051753-010 | 6/1/2022 10:47:00 AM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| 22060560-011A | 22051753-011 | 5/31/2022 1:01:00 PM | | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |

Original

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# DATES REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,

**Project:** 22051753

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 22060560-012A | 22051753-012 | 6/1/2022 1:02:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 6/20/2022 9:25:00 AM | 6/29/2022 9:21:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/20/2022 9:25:00 AM | 6/28/2022 2:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 7/5/2022 2:13:00 PM | 7/8/2022 3:48:00 PM |
| 22060560-013A | 22051753-013 | 6/1/2022 12:34:00 PM | | Radium-226 (EPA 903.0) | | 7/5/2022 11:10:00 AM | 7/12/2022 10:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/5/2022 11:10:00 AM | 7/11/2022 3:26:00 PM |
| 22060560-014A | 22051753-014 | 6/1/2022 12:04:00 PM | | Radium-226 (EPA 903.0) | | 7/5/2022 11:10:00 AM | 7/12/2022 10:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/5/2022 11:10:00 AM | 7/11/2022 3:26:00 PM |
| 22060560-015A | 22051753-015 | 5/31/2022 3:43:00 PM | | Radium-226 (EPA 903.0) | | 7/5/2022 11:10:00 AM | 7/12/2022 10:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/5/2022 11:10:00 AM | 7/11/2022 3:26:00 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22060560**

Date Reported: **7/12/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22051753
**Lab ID:** 22060560-001
**Client Sample ID:** 22051753-001

**Collection Date:** 6/1/2022 1:45:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.08 | 1 | 6/21/2022 9:38:00 AM |
| Yield | 1.00 | | | | | 1 | 6/21/2022 9:38:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.47 | 1 | 6/20/2022 2:31:00 PM |
| Yield | 1.00 | | | | | 1 | 6/20/2022 2:31:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22060560**

Date Reported: **7/12/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22051753
**Lab ID:** 22060560-003
**Client Sample ID:** 22051753-003

**Collection Date:** 5/31/2022 12:12:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.12 | 1 | 6/21/2022 9:38:00 AM |
| Yield | 0.970 | | | | | 1 | 6/21/2022 9:38:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.43 | 1 | 6/20/2022 2:31:00 PM |
| Yield | 0.940 | | | | | 1 | 6/20/2022 2:31:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22060560**

Date Reported: **7/12/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22051753
**Lab ID:** 22060560-004
**Client Sample ID:** 22051753-004

**Collection Date:** 5/31/2022 11:47:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.1 | 1 | 6/21/2022 9:38:00 AM |
| Yield | 1.00 | | | | | 1 | 6/21/2022 9:38:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.56 | 1 | 6/20/2022 2:31:00 PM |
| Yield | 1.00 | | | | | 1 | 6/20/2022 2:31:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **22060560**

Date Reported: **7/12/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22051753
**Lab ID:** 22060560-008
**Client Sample ID:** 22051753-008

**Collection Date:** 6/1/2022 10:19:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.14 | 1 | 6/29/2022 9:21:00 AM |
| Yield | 1.00 | | | | | 1 | 6/29/2022 9:21:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.68 | 1 | 7/8/2022 3:48:00 PM |
| Yield | 1.00 | | | | | 1 | 7/8/2022 3:48:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

*Summit Environmental Technologies, Inc.*
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*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22060560**

Date Reported: **7/12/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22051753
**Lab ID:** 22060560-009
**Client Sample ID:** 22051753-009

**Collection Date:** 5/31/2022 1:57:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.2 | 1 | 6/29/2022 9:21:00 AM |
| Yield | 1.00 | | | | | 1 | 6/29/2022 9:21:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 1.16 | 1.00 | | pCi/L | ± 0.61 | 1 | 6/28/2022 2:04:00 PM |
| Yield | 0.980 | | | | | 1 | 6/28/2022 2:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57497**

Sample ID: **MB-57497** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/15/2022** RunNo: **145859**
Client ID: **PBW** Batch ID: **57497** TestNo: **E904.0** **E903-904** Analysis Date: **6/20/2022** SeqNo: **3856765**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-57497** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/15/2022** RunNo: **145859**
Client ID: **LCSW** Batch ID: **57497** TestNo: **E904.0** **E903-904** Analysis Date: **6/20/2022** SeqNo: **3856766**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.01 | 1.00 | 5.000 | 0 | 80.2 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-57497** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/15/2022** RunNo: **145859**
Client ID: **LCSS02** Batch ID: **57497** TestNo: **E904.0** **E903-904** Analysis Date: **6/20/2022** SeqNo: **3856767**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.82 | 1.00 | 5.000 | 0 | 76.4 | 70 | 130 | 4.010 | 4.85 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57497**

Sample ID: **RLC-57497** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/15/2022** RunNo: **145859**
Client ID: **BatchQC** Batch ID: **57497** TestNo: **E904.0** **E903-904** Analysis Date: **6/20/2022** SeqNo: **3856769**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.41 | 1.00 | 1.000 | 0 | 141 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **RLCD-57497** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/15/2022** RunNo: **145859**
Client ID: **BatchQC** Batch ID: **57497** TestNo: **E904.0** **E903-904** Analysis Date: **6/20/2022** SeqNo: **3856770**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 90.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **22060815-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/15/2022** RunNo: **145859**
Client ID: **BatchQC** Batch ID: **57497** TestNo: **E904.0** **E903-904** Analysis Date: **6/20/2022** SeqNo: **3856777**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**
***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57497**

| Sample ID: **22060655-001AMS** | SampType: **MS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145859** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/20/2022** | SeqNo: **3856778** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 6.31 | 1.00 | 5.000 | 1.750 | 91.2 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

| Sample ID: **22060818-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145859** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/20/2022** | SeqNo: **3856781** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57497**

| Sample ID: **MB-57497** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856875** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-57497** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856876** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.93 | 1.00 | 5.000 | 0 | 119 | 70 | 130 | | | | |

| Sample ID: **LCSD-57497** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856877** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.99 | 1.00 | 5.000 | 0 | 99.8 | 70 | 130 | 5.930 | 17.2 | 20 | |

| Sample ID: **RLC-57497** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856879** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**
***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57497**

| Sample ID: **RLC-57497** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856879** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 91.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-57497** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856880** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 64.0 | 50 | 150 | | | | |

| Sample ID: **22060655-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856881** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.99 | 1.00 | 5.000 | 0 | 99.8 | 70 | 130 | | | | |

| Sample ID: **22060815-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856886** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | R |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57497**

| Sample ID: **22060815-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856886** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

| Sample ID: **22060818-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/15/2022** | RunNo: **145867** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57497** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/21/2022** | SeqNo: **3856890** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57568**

Sample ID: **MB-57568** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **PBW** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872590**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-57568** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **LCSW** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872591**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.51 | 1.00 | 5.000 | 0 | 110 | 70 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-57568** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **LCSS02** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872592**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.83 | 1.00 | 5.000 | 0 | 76.6 | 70 | 130 | 5.510 | 36.0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57568**

Sample ID: **RLC-57568** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **BatchQC** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872594**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 68.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **22060953-001AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **BatchQC** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872596**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.81 | 1.00 | 5.000 | 0 | 76.2 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

Sample ID: **22061131-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **BatchQC** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872599**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57568**

Sample ID: **22061131-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146400**
Client ID: **BatchQC** Batch ID: **57568** TestNo: **E904.0** **E903-904** Analysis Date: **6/28/2022** SeqNo: **3872602**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.56 | 1.00 | | 0 | 0 | | | 1.510 | 3.26 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22060560**
***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57568**

Sample ID: **MB-57568** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146405**
Client ID: **PBW** Batch ID: **57568** TestNo: **E903.0** **E903-904** Analysis Date: **6/29/2022** SeqNo: **3872696**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-57568** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146405**
Client ID: **LCSW** Batch ID: **57568** TestNo: **E903.0** **E903-904** Analysis Date: **6/29/2022** SeqNo: **3872697**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.31 | 1.00 | 5.000 | 0 | 106 | 70 | 130 | | | | |

Sample ID: **LCSD-57568** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146405**
Client ID: **LCSS02** Batch ID: **57568** TestNo: **E903.0** **E903-904** Analysis Date: **6/29/2022** SeqNo: **3872698**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.39 | 1.00 | 5.000 | 0 | 128 | 70 | 130 | 5.310 | 18.5 | 20 | |

Sample ID: **RLC-57568** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/20/2022** RunNo: **146405**
Client ID: **BatchQC** Batch ID: **57568** TestNo: **E903.0** **E903-904** Analysis Date: **6/29/2022** SeqNo: **3872700**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57568**

| Sample ID: **RLC-57568** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/20/2022** | RunNo: **146405** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57568** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/29/2022** | SeqNo: **3872700** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 93.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-57568** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/20/2022** | RunNo: **146405** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57568** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/29/2022** | SeqNo: **3872701** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.07 | 1.00 | 1.000 | 0 | 107 | 50 | 150 | | | | |

| Sample ID: **22060953-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **6/20/2022** | RunNo: **146405** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57568** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/29/2022** | SeqNo: **3875994** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.07 | 1.00 | 5.000 | 0 | 101 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57915**

Sample ID: **22060560-015AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **22051753-015** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890091**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 6.34 | 1.00 | 5.000 | 1.350 | 99.8 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

Sample ID: **22060560-013ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **22051753-013** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890098**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 1.460 | 200 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **22060560-014ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **22051753-014** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57915**

Sample ID: **MB-57915** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **PBW** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890085**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-57915** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **LCSW** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890086**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.90 | 1.00 | 5.000 | 0 | 98.0 | 70 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-57915** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **LCSS02** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890087**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 6.04 | 1.00 | 5.000 | 0 | 121 | 70 | 130 | 4.900 | 20.8 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57915**

Sample ID: **RLC-57915** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146893**
Client ID: **BatchQC** Batch ID: **57915** TestNo: **E904.0** **E903-904** Analysis Date: **7/11/2022** SeqNo: **3890089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 86.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57915**

Sample ID: **22060560-015AMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146899**
Client ID: **22051753-015** Batch ID: **57915** TestNo: **E903.0** **E903-904** Analysis Date: **7/12/2022** SeqNo: **3890536**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.33 | 1.00 | 5.000 | 0 | 86.6 | 70 | 130 | | | | |

Sample ID: **22060560-013ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146899**
Client ID: **22051753-013** Batch ID: **57915** TestNo: **E903.0** **E903-904** Analysis Date: **7/12/2022** SeqNo: **3890543**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **22060560-014ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/5/2022** RunNo: **146899**
Client ID: **22051753-014** Batch ID: **57915** TestNo: **E903.0** **E903-904** Analysis Date: **7/12/2022** SeqNo: **3890545**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57915**

| Sample ID: **MB-57915** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146899** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **57915** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/12/2022** | SeqNo: **3890530** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-57915** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146899** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **57915** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/12/2022** | SeqNo: **3890531** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.04 | 1.00 | 5.000 | 0 | 101 | 70 | 130 | | | | |

| Sample ID: **LCSD-57915** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146899** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **57915** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/12/2022** | SeqNo: **3890532** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.44 | 1.00 | 5.000 | 0 | 109 | 70 | 130 | 5.040 | 7.63 | 20 | |

| Sample ID: **RLC-57915** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146899** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57915** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/12/2022** | SeqNo: **3890534** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57915**

| Sample ID: **RLC-57915** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146899** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57915** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/12/2022** | SeqNo: **3890534** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.20 | 1.00 | 1.000 | 0 | 120 | 50 | 150 | | | | |

| Sample ID: **RLCD-57915** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146899** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57915** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/12/2022** | SeqNo: **3890535** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.14 | 1.00 | 1.000 | 0 | 114 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57916**

| Sample ID: **MB-57916** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146844** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **57916** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/8/2022** | SeqNo: **3888527** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-57916** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146844** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **57916** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/8/2022** | SeqNo: **3888528** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.67 | 1.00 | 5.000 | 0 | 73.4 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-57916** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146844** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **57916** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/8/2022** | SeqNo: **3888529** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.81 | 1.00 | 5.000 | 0 | 76.2 | 70 | 130 | 3.670 | 3.74 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22060560**

***12-Jul-22***

**Client:** TEKLAB Inc,
**Project:** 22051753 **BatchID:** **57916**

| Sample ID: **RLC-57916** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146844** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57916** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/8/2022** | SeqNo: **3888531** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 50.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **22060954-001AMS** | SampType: **MS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146844** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57916** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/8/2022** | SeqNo: **3888533** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.00 | 1.00 | 5.000 | 1.000 | 80.0 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

| Sample ID: **22060957-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/5/2022** | RunNo: **146844** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **57916** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/8/2022** | SeqNo: **3888538** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

22060560

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Cooler Temp: Sampler: Joseph Riley QC Level: 2

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Comments: **Please issue reports and invoices via email only**
Please analyze for Radium 226/228 on your standard turn around time.
Samples collected from an IL site.
Batch QC is required for all analyses requested. EDD requested..

Project# 22051753

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 32888 Phone: (618) 344-1004

PLEASE NOTE:
NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | PH |
|---|---|---|---|---|---|---|
| CPM 13, 17 | 22051753-001 | 6/1/22 1345 | HNO3 | Groundwater | ☑ | 1, 1 |
| 20, 23 | 22051753-002 | 5/31/22 1330 | HNO3 | Groundwater | ☑ | 1, 1 |
| 27, 25 | 22051753-003 | 5/31/22 1212 | HNO3 | Groundwater | ☑ | 1, 1 |
| 23, 28 | 22051753-004 | 5/31/22 1147 | HNO3 | Groundwater | ☑ | 1, 1 |
| 20, 26 | 22051753-005 | 5/31/22 1628 | HNO3 | Groundwater | ☑ | 1, 1 |
| 16, 21 | 22051753-006 | 5/31/22 1655 | HNO3 | Groundwater | ☑ | 1, 1 |
| 16, 18 | 22051753-007 | 5/31/22 1422 | HNO3 | Groundwater | ☑ | 1, 1 |
| 33, 39 | 22051753-008 | 6/1/22 1019 | HNO3 | Groundwater | ☑ | 1, 1 |
| 23, 28 | 22051753-009 | 5/31/22 1357 | HNO3 | Groundwater | ☑ | 1, 1 |
| 20, 21 | 22051753-010 | 6/1/22 1047 | HNO3 | Groundwater | ☑ | 1, 1 |
| 37, 41 | 22051753-011 | 5/31/22 1301 | HNO3 | Groundwater | ☑ | 1, 1 |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | (FedEx) 6/3/22 1600 | [signature] | 06/08/22 1600 |

19.7-0.1=19.6 Fedex Cooler 1600 2 cont pc Sample

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

 22060560

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: Joseph Riley QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 on your standard turn around time.
Samples collected from an IL site.
Batch QC is required for all analyses requested. EDD requested..

Project# 22051753

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 32888 Phone: (618) 344-1004

**PLEASE NOTE:**

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CPM 37,40 | 22051753-012 | 6/1/22 1302 | HNO3 | Groundwater | ✔ | | | | | | | | | | | | PH 1,1 |
| 16,20 | 22051753-013 | 6/1/22 1234 | HNO3 | Groundwater | ✔ | | | | | | | | | | | | 1,1 |
| 23,29 | 22051753-014 | 6/1/22 1204 | HNO3 | Groundwater | ✔ | | | | | | | | | | | | 1,1 |
| 16,19 | 22051753-015 | 5/31/22 1543 | HNO3 | Groundwater | ✔ | | | | | | | | | | | | 1,1 |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ✔ | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] (Fedex) | 6/3/22 1600 | [signature] | 06/08/22 1600 |
| | | | |
| | | | |
| | | | |

19.7-0.1 = 19.6 Fedex cooler 1600 2 cont per sample

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **22060560** RcptNo: **1**

| | | | |
|---|---|---|---|
| Logged by: | **Anthony W. Britton** | **6/8/2022 4:00:00 PM** | Anthony Britton |
| Completed By: | **Anthony W. Britton** | **6/9/2022 9:11:31 AM** | Anthony Britton |
| Reviewed By: | **Jennifer Woolf** | **6/10/2022 6:39:39 PM** | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☐ | No ☑ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

**Cooler Information**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| box | 19.6 | Good | Not Present | | | |

June 17, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells G1-G2-G3 **WorkOrder:** 22051752

Dear Eric Staley:

TEKLAB, INC received 12 samples on 6/3/2022 7:42:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 22051752
**Client Project:** Landfill Monitoring Wells G1-G2-G3
**Report Date:** 17-Jun-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 67 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 17-Jun-22

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3

**Report Date:** 17-Jun-22

## Qualifiers

# - Unknown hydrocarbon

B - Analyte detected in associated Method Blank

C - RL shown is a Client Requested Quantitation Limit

E - Value above quantitation range

H - Holding times exceeded

I - Associated internal standard was outside method criteria

J - Analyte detected below quantitation limits

M - Manual Integration used to determine area response

ND - Not Detected at the Reporting Limit

R - RPD outside accepted recovery limits

S - Spike Recovery outside recovery limits

T - TIC(Tentatively identified compound)

X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 22051752
**Client Project:** Landfill Monitoring Wells G1-G2-G3
**Report Date:** 17-Jun-22

**Cooler Receipt Temp:** 0.4 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3

**Report Date:** 17-Jun-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2022 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 17-Jun-22

**Lab ID:** 22051752-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 06/02/2022 12:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 06/02/2022 12:32 | R313095 |
| Depth to water | * | -5.00 | | **11.30** | ft | 1 | 06/02/2022 12:32 | R313095 |
| Depth to water from measuring point | * | 0 | | **14.05** | ft | 1 | 06/02/2022 12:32 | R313095 |
| Elevation of groundwater surface | * | 0 | | **541.55** | ft | 1 | 06/02/2022 12:32 | R313095 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 06/02/2022 12:32 | R313095 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.0** | °F | 1 | 06/02/2022 12:32 | R313095 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.66** | | 1 | 06/02/2022 12:32 | R313095 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1490** | µmhos/cm @25C | 1 | 06/02/2022 12:32 | R313095 |
| **EPA 1664A** | | | | | | | | |
| Hexane Extractable Material | NELAP | 6 | | **23** | mg/L | 1 | 06/07/2022 13:07 | R312918 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.89** | mg/L | 1 | 06/08/2022 23:38 | R312968 |
| **EPA 600 350.1 (TOTAL)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | S | **1.87** | mg/L | 1 | 06/08/2022 22:24 | R312968 |
| *Matrix spike did not recover within control limits due to matrix interference.* | | | | | | | | |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **< 0.050** | mg/L | 1 | 06/03/2022 18:49 | R312831 |
| **EPA 600 353.2 R2.0 (TOTAL)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **< 0.050** | mg/L | 1 | 06/03/2022 18:01 | R312831 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1060** | mg/L | 2.5 | 06/06/2022 9:03 | R312900 |
| **STANDARD METHODS 5210 B 2001, 2011** | | | | | | | | |
| Biochemical Oxygen Demand | NELAP | 10 | | **< 10** | mg/L | 1 | 06/03/2022 13:59 | 193313 |
| **STANDARD METHODS 5220 D (TOTAL) 1997** | | | | | | | | |
| Chemical Oxygen Demand | NELAP | 50 | | **< 50** | mg/L | 1 | 06/10/2022 15:18 | R313098 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 06/06/2022 14:14 | 193326 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **343** | mg/L | 10 | 06/08/2022 15:54 | R312990 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **344** | mg/L | 10 | 06/08/2022 16:56 | R312990 |
| **SW-846 9060** | | | | | | | | |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | **2.9** | mg/L | 1 | 06/06/2022 20:01 | R312819 |
| **SW-846 9066 (TOTAL)** | | | | | | | | |
| Phenols | NELAP | 5 | | **7** | µg/L | 1 | 06/07/2022 9:53 | R312896 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 06/08/2022 10:51 | R312973 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 1 | | **39** | mg/L | 1 | 06/07/2022 18:46 | R312931 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **40** | mg/L | 1 | 06/07/2022 21:26 | R312931 |

**Client:** City Water, Light & Power **Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 17-Jun-22

**Lab ID:** 22051752-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 06/02/2022 12:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 100 | | **7720** | µg/L | 5 | 06/09/2022 18:01 | 193316 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 06/08/2022 16:54 | 193316 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 06/08/2022 16:54 | 193316 |
| Magnesium | NELAP | 0.050 | | **77.4** | mg/L | 1 | 06/08/2022 16:54 | 193316 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 06/08/2022 16:54 | 193316 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **1690** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Barium | NELAP | 2.5 | | **640** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Boron | NELAP | 20.0 | | **8240** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Calcium | NELAP | 0.100 | | **195** | mg/L | 1 | 06/07/2022 15:18 | 193395 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Iron | NELAP | 40.0 | | **41900** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Magnesium | NELAP | 0.050 | | **84.6** | mg/L | 1 | 06/07/2022 15:18 | 193395 |
| Manganese | NELAP | 7.0 | | **204** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Potassium | NELAP | 0.100 | | **2.29** | mg/L | 1 | 06/07/2022 15:18 | 193395 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Sodium | NELAP | 0.050 | | **32.3** | mg/L | 1 | 06/07/2022 15:18 | 193395 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| Zinc | NELAP | 10.0 | | **11.2** | µg/L | 1 | 06/07/2022 15:18 | 193395 |
| *Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **143** | µg/L | 5 | 06/09/2022 23:39 | 193316 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 06/09/2022 23:39 | 193316 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 06/09/2022 22:42 | 193395 |
| Arsenic | NELAP | 1.0 | | **148** | µg/L | 5 | 06/08/2022 0:42 | 193395 |
| Lead | NELAP | 1.0 | | **1.8** | µg/L | 5 | 06/08/2022 0:42 | 193395 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 06/09/2022 22:42 | 193395 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 06/09/2022 9:44 | 193455 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 06/08/2022 11:59 | 193411 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 06/08/2022 20:54 | 193425 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |

**Client:** City Water, Light & Power **Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 17-Jun-22

**Lab ID:** 22051752-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 06/02/2022 12:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| gamma-BHC | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Heptachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Heptachlor epoxide | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Methoxychlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Toxaphene | NELAP | 1.00 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Chlordane | NELAP | 0.10 | | **ND** | µg/L | 1 | 06/09/2022 17:47 | 193477 |
| Surr: Decachlorobiphenyl | * | 5-135 | | **63.3** | %REC | 1 | 06/09/2022 17:47 | 193477 |
| Surr: Tetrachloro-m-xylene | * | 12-145 | | **118.1** | %REC | 1 | 06/09/2022 17:47 | 193477 |
| **SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD** | | | | | | | | |
| Polychlorinated Biphenyls (Total) | NELAP | 0.500 | | **ND** | µg/L | 1 | 06/09/2022 18:09 | 193477 |
| Surr: Decachlorobiphenyl | * | 5-174 | | **62.2** | %REC | 1 | 06/09/2022 18:09 | 193477 |
| Surr: Tetrachloro-meta-xylene | * | 22.2-139 | | **115.6** | %REC | 1 | 06/09/2022 18:09 | 193477 |
| **SW-846 3510C, 8151A, CHLORINATED HERBICIDES BY GC/ECD** | | | | | | | | |
| 2,4,5-TP (Silvex) | NELAP | 0.20 | | **ND** | µg/L | 1 | 06/10/2022 19:06 | 193385 |
| 2,4-D | NELAP | 0.20 | | **ND** | µg/L | 1 | 06/10/2022 19:06 | 193385 |
| Dalapon | NELAP | 1.30 | | **ND** | µg/L | 1 | 06/10/2022 19:06 | 193385 |
| Dinoseb | NELAP | 0.20 | | **ND** | µg/L | 1 | 06/10/2022 19:06 | 193385 |
| Pentachlorophenol | NELAP | 0.10 | | **ND** | µg/L | 1 | 06/10/2022 19:06 | 193385 |
| Picloram | NELAP | 0.20 | | **ND** | µg/L | 1 | 06/10/2022 19:06 | 193385 |
| Surr: 2,4-Dichlorophenylacetic acid | * | 18.4-136 | | **80.1** | %REC | 1 | 06/10/2022 19:06 | 193385 |
| **SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS** | | | | | | | | |
| Aldicarb | * | 1.00 | | **ND** | µg/L | 1 | 06/09/2022 16:22 | 193448 |
| Atrazine | NELAP | 0.08 | | **ND** | µg/L | 1 | 06/09/2022 16:22 | 193448 |
| Benzo(a)pyrene | NELAP | 0.20 | | **ND** | µg/L | 1 | 06/09/2022 16:22 | 193448 |
| Carbofuran | NELAP | 0.60 | | **ND** | µg/L | 1 | 06/09/2022 16:22 | 193448 |
| Simazine | NELAP | 0.55 | | **ND** | µg/L | 1 | 06/09/2022 16:22 | 193448 |
| Surr: 2-Fluorobiphenyl | * | 20.6-86.8 | | **66.8** | %REC | 1 | 06/09/2022 16:22 | 193448 |
| Surr: 2-Fluorophenol | * | 13.8-63 | | **51.8** | %REC | 1 | 06/09/2022 16:22 | 193448 |
| Surr: Nitrobenzene-d5 | * | 22.7-90.9 | | **74.4** | %REC | 1 | 06/09/2022 16:22 | 193448 |
| Surr: Phenol-d5 | * | 7.73-44.6 | | **35.4** | %REC | 1 | 06/09/2022 16:22 | 193448 |
| Surr: p-Terphenyl-d14 | * | 38-99.7 | | **75.0** | %REC | 1 | 06/09/2022 16:22 | 193448 |
| **SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS (TOTAL)** | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | NELAP | 6.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Bis(chloromethyl)ether | * | 10.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Butyl benzyl phthalate | NELAP | 5.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Diethyl phthalate | NELAP | 10.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Dimethyl phthalate | NELAP | 10.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Di-n-butyl phthalate | NELAP | 10.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Isophorone | NELAP | 10.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| m,p-Cresol | NELAP | 10.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Parathion | NELAP | 5.0 | | **ND** | µg/L | 1 | 06/09/2022 14:55 | 193430 |
| Surr: 2,4,6-Tribromophenol | * | 28.4-122 | | **72.5** | %REC | 1 | 06/09/2022 14:55 | 193430 |
| Surr: 2-Fluorobiphenyl | * | 36.3-102 | | **63.4** | %REC | 1 | 06/09/2022 14:55 | 193430 |
| Surr: 2-Fluorophenol | * | 12.3-72.5 | | **40.8** | %REC | 1 | 06/09/2022 14:55 | 193430 |
| Surr: Nitrobenzene-d5 | * | 32.3-100 | | **57.3** | %REC | 1 | 06/09/2022 14:55 | 193430 |
| Surr: Phenol-d5 | * | 10-62.5 | | **35.3** | %REC | 1 | 06/09/2022 14:55 | 193430 |
| Surr: p-Terphenyl-d14 | * | 10-112 | | **31.7** | %REC | 1 | 06/09/2022 14:55 | 193430 |

**Client:** City Water, Light & Power **Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 17-Jun-22

**Lab ID:** 22051752-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 06/02/2022 12:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 8011, DBCP & EDB BY GC/ECD** | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | * | 0.05 | | ND | µg/L | 1 | 06/07/2022 19:25 | 193386 |
| 1,2-Dibromoethane | * | 0.05 | | ND | µg/L | 1 | 06/07/2022 19:25 | 193386 |
| **SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,1,1-Trichloroethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,1,2,2-Tetrachloroethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,1,2-Trichloroethane | NELAP | 0.50 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,1-Dichloroethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,1-Dichloroethene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,2,3-Trichlorobenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,2,3-Trichloropropane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,2,4-Trimethylbenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,2-Dichlorobenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,2-Dichloroethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,2-Dichloropropane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,3,5-Trimethylbenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,3-Dichlorobenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,3-Dichloropropane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,4-Dichlorobenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 2,2-Dichloropropane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 2-Butanone | NELAP | 5.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 2-Chlorotoluene | NELAP | 1.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 2-Hexanone | NELAP | 10.0 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 4-Chlorotoluene | NELAP | 1.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 4-Methyl-2-pentanone | NELAP | 5.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Acetone | NELAP | 5.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Acrolein | NELAP | 5.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Acrylonitrile | NELAP | 5.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Benzene | NELAP | 0.50 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Bromobenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Bromochloromethane | NELAP | 1.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Bromodichloromethane | NELAP | 1.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Bromoform | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Bromomethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Carbon disulfide | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Carbon tetrachloride | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Chlorobenzene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Chloroethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Chloroform | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Chloromethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| cis-1,2-Dichloroethene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| cis-1,3-Dichloropropene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Dibromochloromethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Dibromomethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Dichlorodifluoromethane | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Ethylbenzene | NELAP | 1.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Hexachlorobutadiene | NELAP | 2.00 | | ND | µg/L | 1 | 06/04/2022 0:04 | 193354 |

**Client:** City Water, Light & Power **Work Order:** 22051752

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 17-Jun-22

**Lab ID:** 22051752-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 06/02/2022 12:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS** | | | | | | | | |
| Iodomethane | NELAP | 3.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Isopropylbenzene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| m,p-Xylenes | NELAP | 1.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Methylene chloride | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Naphthalene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| n-Butylbenzene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| n-Propylbenzene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| o-Xylene | NELAP | 1.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| p-Isopropyltoluene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| sec-Butylbenzene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Styrene | NELAP | 1.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| tert-Butylbenzene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Tetrachloroethene | NELAP | 0.50 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Tetrahydrofuran | NELAP | 5.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Toluene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| trans-1,2-Dichloroethene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| trans-1,3-Dichloropropene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| trans-1,4-Dichloro-2-butene | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Trichloroethene | NELAP | 1.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Trichlorofluoromethane | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Vinyl acetate | NELAP | 5.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Vinyl chloride | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Xylenes, Total | NELAP | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| 1,3-Dichloropropene, Total | * | 2.00 | | **ND** | µg/L | 1 | 06/04/2022 0:04 | 193354 |
| Surr: 1,2-Dichloroethane-d4 | * | 80-120 | | **97.4** | %REC | 1 | 06/04/2022 0:04 | 193354 |
| Surr: 4-Bromofluorobenzene | * | 80-120 | | **100.4** | %REC | 1 | 06/04/2022 0:04 | 193354 |
| Surr: Dibromofluoromethane | * | 80-120 | | **102.3** | %REC | 1 | 06/04/2022 0:04 | 193354 |
| Surr: Toluene-d8 | * | 80-120 | | **97.4** | %REC | 1 | 06/04/2022 0:04 | 193354 |

*Allowable Marginal Exceedance of trans-1,4-dichloro-2-butene and 1,2,3-trichloropropane in the laboratory control sample duplicate is verified per the TNI Standard.*

*Allowable Marginal Exceedance of trans-1,4-dichloro-2-butene in the laboratory control sample is verified per the TNI Standard.*

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 22051752
**Client Project:** Landfill Monitoring Wells G1-G2-G3
**Report Date:** 17-Jun-22

**Carrier:** Joe Riley
**Received By:** EAH

**Completed by:** Payton Yoch
**On:** 03-Jun-22

**Reviewed by:** Shelly A. Hennessy
**On:** 06-Jun-22

**Pages to follow:** Chain of custody 2 Extra pages included 0

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 0.4 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☑ | No ☐ | No VOA vials ☐ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Additional Nitric Acid (82107), Sulfuric Acid (80586), and Sodium Hydroxide (81662) preservatives were needed upon arrival at the laboratory. - pyoch - 6/3/2022 9:27:50 AM

pH strip 78198/75846. - pyoch - 6/3/2022 9:29:22 AM

1250 amber glass jar for G113 was damaged in transit. - pyoch - 6/3/2022 9:37:25 AM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22051752

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☐ No
Are these samples known to be hazardous? ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☐ No

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 0.4 °c LIG.3
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (82107) to sample R101 and dup. added H2SO4 (80586) to sample R101, added NaOH (81602). Samples G113, G120 and G121 not preserved.

Client Comments: (*) Jmp missing sample G113 1250 amber glass unpreserved. Added H2SO4 (80586) to G112 and R111 samples for NaOH preserve from DUP and AW-2.
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

CEK 6-3-22

PROJECT NAME/NUMBER: Landfill Monitoring Wells G1-G2-G3
SAMPLE COLLECTOR'S NAME: ERIC STALEY

RESULTS REQUESTED: ☐ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22051752-001 | R101 * | 06/02/22 1492 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 * | 1515 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 * | 1302 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 * | 1326 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 * | 1408 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 (*) | 1144 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | 0956 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | 1025 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | 1232 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 * | 1059 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 * | 06/01/22 1345 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 06/03/22 0742 | | 6/3/22 0742 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CEK 6-3-2022

Third Quarter 2022

October 11, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 22081061

Dear Eric Staley:

TEKLAB, INC received 15 samples on 8/26/2022 8:00:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22081061
**Report Date:** 11-Oct-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 22 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22081061

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 11-Oct-22

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 22081061
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 11-Oct-22

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22081061
**Report Date:** 11-Oct-22

**Cooler Receipt Temp:** 3.0 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22081061
**Report Date:** 11-Oct-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 22081061
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 11-Oct-22
**Lab ID:** 22081061-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 08/23/2022 11:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 08/23/2022 11:45 | R316831 |
| Depth to water | * | -5.00 | | **7.08** | ft | 1 | 08/23/2022 11:45 | R316831 |
| Depth to water from measuring point | * | 0 | | **9.78** | ft | 1 | 08/23/2022 11:45 | R316831 |
| Elevation of groundwater surface | * | 0 | | **529.72** | ft | 1 | 08/23/2022 11:45 | R316831 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 08/23/2022 11:45 | R316831 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 08/23/2022 11:45 | R316831 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 08/23/2022 11:45 | R316831 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.4** | °F | 1 | 08/23/2022 11:45 | R316831 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.11** | | 1 | 08/23/2022 11:45 | R316831 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **744** | µmhos/cm @25C | 1 | 08/23/2022 11:45 | R316831 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **428** | mg/L | 1 | 08/26/2022 12:12 | R316361 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | S | **< 10** | mg/L | 1 | 08/29/2022 13:31 | R316392 |
| *Matrix spike did not recover within control limits due to matrix interference.* | | | | | | | | |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.48** | mg/L | 1 | 08/30/2022 16:45 | R316443 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **31** | mg/L | 1 | 08/29/2022 13:31 | R316398 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.110** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Barium | NELAP | 0.0025 | | **0.158** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Boron | NELAP | 0.0200 | | **0.177** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Calcium | NELAP | 0.100 | | **72.3** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Lithium | NELAP | 0.0050 | | **0.0064** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/29/2022 16:00 | 196039 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 17:30 | 196039 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 17:30 | 196039 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/30/2022 17:30 | 196039 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/29/2022 10:52 | 196051 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |

**Client:** City Water, Light & Power
**Work Order:** 22081061
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 11-Oct-22
**Lab ID:** 22081061-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 08/23/2022 10:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 08/23/2022 10:29 | R316831 |
| Depth to water | * | -5.00 | | **6.37** | ft | 1 | 08/23/2022 10:29 | R316831 |
| Depth to water from measuring point | * | 0 | | **8.87** | ft | 1 | 08/23/2022 10:29 | R316831 |
| Elevation of groundwater surface | * | 0 | | **527.23** | ft | 1 | 08/23/2022 10:29 | R316831 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 08/23/2022 10:29 | R316831 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 08/23/2022 10:29 | R316831 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 08/23/2022 10:29 | R316831 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.0** | °F | 1 | 08/23/2022 10:29 | R316831 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.45** | | 1 | 08/23/2022 10:29 | R316831 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1710** | µmhos/cm @25C | 1 | 08/23/2022 10:29 | R316831 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1360** | mg/L | 1 | 08/26/2022 12:13 | R316361 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **545** | mg/L | 20 | 08/29/2022 14:23 | R316392 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.24** | mg/L | 1 | 08/30/2022 16:56 | R316443 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **34** | mg/L | 1 | 08/29/2022 14:17 | R316398 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Barium | NELAP | 0.0025 | | **0.0751** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Boron | NELAP | 0.0200 | | **4.32** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Calcium | NELAP | 0.100 | | **241** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Cobalt | NELAP | 0.0050 | | **0.0115** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Lithium | NELAP | 0.0050 | | **0.0055** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/29/2022 16:07 | 196039 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 17:43 | 196039 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 17:43 | 196039 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/30/2022 17:43 | 196039 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/29/2022 10:56 | 196051 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |

**Client:** City Water, Light & Power
**Work Order:** 22081061
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 11-Oct-22
**Lab ID:** 22081061-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 08/23/2022 10:05

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 08/23/2022 10:05 | R316831 |
| Depth to water | * | -5.00 | | **9.31** | ft | 1 | 08/23/2022 10:05 | R316831 |
| Depth to water from measuring point | * | 0 | | **11.01** | ft | 1 | 08/23/2022 10:05 | R316831 |
| Elevation of groundwater surface | * | 0 | | **524.39** | ft | 1 | 08/23/2022 10:05 | R316831 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 08/23/2022 10:05 | R316831 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 08/23/2022 10:05 | R316831 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.0** | NTU | 1 | 08/23/2022 10:05 | R316831 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.9** | °F | 1 | 08/23/2022 10:05 | R316831 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.60** | | 1 | 08/23/2022 10:05 | R316831 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1090** | µmhos/cm @25C | 1 | 08/23/2022 10:05 | R316831 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1030** | mg/L | 1 | 08/26/2022 12:13 | R316361 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **384** | mg/L | 10 | 08/29/2022 14:43 | R316392 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.23** | mg/L | 1 | 08/30/2022 16:58 | R316443 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **47** | mg/L | 1 | 08/29/2022 14:25 | R316398 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Barium | NELAP | 0.0025 | | **0.0883** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Boron | NELAP | 0.0200 | | **14.8** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Calcium | NELAP | 0.100 | | **157** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/29/2022 16:11 | 196039 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 18:14 | 196039 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 18:14 | 196039 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/30/2022 18:14 | 196039 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/29/2022 10:58 | 196051 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |

**Client:** City Water, Light & Power
**Work Order:** 22081061
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 11-Oct-22
**Lab ID:** 22081061-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 08/25/2022 11:49

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 08/25/2022 11:49 | R316831 |
| Depth to water | * | -5.00 | | **8.55** | ft | 1 | 08/25/2022 11:49 | R316831 |
| Depth to water from measuring point | * | 0 | | **11.21** | ft | 1 | 08/25/2022 11:49 | R316831 |
| Elevation of groundwater surface | * | 0 | | **527.81** | ft | 1 | 08/25/2022 11:49 | R316831 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 08/25/2022 11:49 | R316831 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 08/25/2022 11:49 | R316831 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 08/25/2022 11:49 | R316831 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.7** | °F | 1 | 08/25/2022 11:49 | R316831 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.12** | | 1 | 08/25/2022 11:49 | R316831 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **525** | µmhos/cm @25C | 1 | 08/25/2022 11:49 | R316831 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **290** | mg/L | 1 | 08/26/2022 12:14 | R316361 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **15** | mg/L | 1 | 08/29/2022 15:39 | R316392 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.37** | mg/L | 1 | 08/30/2022 17:06 | R316443 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **36** | mg/L | 1 | 08/29/2022 15:39 | R316398 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0376** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Barium | NELAP | 0.0025 | | **0.119** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Boron | NELAP | 0.0200 | | **0.204** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Calcium | NELAP | 0.100 | | **46.4** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/29/2022 16:22 | 196039 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 18:33 | 196039 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 18:33 | 196039 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/30/2022 18:33 | 196039 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/29/2022 11:17 | 196051 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |

**Client:** City Water, Light & Power
**Work Order:** 22081061
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 11-Oct-22
**Lab ID:** 22081061-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 08/23/2022 13:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 08/23/2022 13:29 | R316831 |
| Depth to water | * | -5.00 | | **4.40** | ft | 1 | 08/23/2022 13:29 | R316831 |
| Depth to water from measuring point | * | 0 | | **7.30** | ft | 1 | 08/23/2022 13:29 | R316831 |
| Elevation of groundwater surface | * | 0 | | **529.90** | ft | 1 | 08/23/2022 13:29 | R316831 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 08/23/2022 13:29 | R316831 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 08/23/2022 13:29 | R316831 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 08/23/2022 13:29 | R316831 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.6** | °F | 1 | 08/23/2022 13:29 | R316831 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.76** | | 1 | 08/23/2022 13:29 | R316831 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **814** | µmhos/cm @25C | 1 | 08/23/2022 13:29 | R316831 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **540** | mg/L | 2.5 | 08/26/2022 12:15 | R316361 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 08/29/2022 15:47 | R316392 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.30** | mg/L | 1 | 08/30/2022 17:08 | R316443 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **27** | mg/L | 1 | 08/29/2022 15:47 | R316398 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0377** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Barium | NELAP | 0.0025 | | **0.355** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Boron | NELAP | 0.0200 | | **0.0839** | mg/L | 1 | 08/30/2022 13:12 | 196039 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Calcium | NELAP | 0.100 | | **96.1** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Lithium | NELAP | 0.0050 | | **0.0065** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/29/2022 16:52 | 196039 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 18:39 | 196039 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/30/2022 18:39 | 196039 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/30/2022 18:39 | 196039 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/29/2022 11:19 | 196051 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 09/28/2022 0:00 | R319286 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22081061
**Report Date:** 11-Oct-22

**Carrier:** Adam Bridges

**Received By:** EAH

**Completed by:** Reannan Willis
**On:** 26-Aug-22

**Reviewed by:** Elizabeth A. Hurley
**On:** 26-Aug-22

**Pages to follow:** Chain of custody 2 Extra pages included 36

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.0 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip #82999. - BNB/rwillis - 8/26/2022 9:15:00 AM

Additional Nitric Acid (83663) was needed in all samples for Ra226/228 analysis except on AP-13 container upon arrival at the laboratory. - rwillis - 8/26/2022 9:15:03 AM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22081061

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 3.0 °C
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY LTh 3
LAB NOTES: 82999. BLB 8/26/22
Added HNO3(83663) to all Sub 2L bottles except AP-13 Secon

Client Comments: Sub bottle. Rmw 8/26/22
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☑ No Permit on file

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME:

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

# and Type of Containers / INDICATE ANALYSIS REQUESTED

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22081061-001 | RW-3 | 08/23/22 1145 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | 08/23/22 1056 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | 08/23/22 1029 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | 08/23/22 1005 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | 08/23/22 1444 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | 08/23/22 1508 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | 08/23/22 1408 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 08/25/22 1149 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | 08/23/22 1329 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 08/25/22 1249 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | 08/23/22 1245 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 08/26/22 | [signature] | 08-26-22 0750 |
| [signature] | 08-26-22 0800 | [signature] | 8/26/22 0800 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

GAH 8/26/22

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# CHAIN OF CUSTODY

 Workorder # 22081061

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22081061-012 | AP-11 | 08/25/22 1425 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 08/25/22 1411 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 08/25/22 1351 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 08/24/22 1709 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 08/26/22 | [signature] | 8-26-22 0750 |
| [signature] | 8-26-22 0800 | [signature] | 8/26/22 0800 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

October 11, 2022

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 22081061

Order No.: 22090086

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 15 sample(s) on 8/31/2022 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **22090086**
Date: **10/11/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22081061

WorkOrder Narrative:
22090086: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:
22090086-001A Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD for Radium-228 possibly due to sample matrix interference.
22090086-002A Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD for Radium-228 possibly due to sample matrix interference.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **22090086**
Date: **10/11/2022**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **22090086**
***11-Oct-22***

**CLIENT:** TEKLAB Inc,
**Project:** 22081061

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 22090086-001 | 22081061-001 | | 8/23/2022 11:45:00 AM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-002 | 22081061-002 | | 8/23/2022 10:56:00 AM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-003 | 22081061-003 | | 8/23/2022 10:29:00 AM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-004 | 22081061-004 | | 8/23/2022 10:05:00 AM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-005 | 22081061-005 | | 8/23/2022 2:44:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-006 | 22081061-006 | | 8/23/2022 3:08:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-007 | 22081061-007 | | 8/23/2022 2:08:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-008 | 22081061-008 | | 8/25/2022 11:49:00 AM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-009 | 22081061-009 | | 8/23/2022 1:29:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-010 | 22081061-010 | | 8/25/2022 12:49:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-011 | 22081061-011 | | 8/23/2022 12:45:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-012 | 22081061-012 | | 8/25/2022 2:25:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-013 | 22081061-013 | | 8/25/2022 2:11:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-014 | 22081061-014 | | 8/25/2022 1:51:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |
| 22090086-015 | 22081061-015 | | 8/24/2022 5:09:00 PM | 8/31/2022 2:50:00 PM | Non-Potable Water |

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*Website: http://www.settek.com*

# DATES REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,

**Project:** 22081061

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 22090086-001A | 22081061-001 | 8/23/2022 11:45:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-002A | 22081061-002 | 8/23/2022 10:56:00 AM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-003A | 22081061-003 | 8/23/2022 10:29:00 AM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-004A | 22081061-004 | 8/23/2022 10:05:00 AM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-005A | 22081061-005 | 8/23/2022 2:44:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-006A | 22081061-006 | 8/23/2022 3:08:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-007A | 22081061-007 | 8/23/2022 2:08:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-008A | 22081061-008 | 8/25/2022 11:49:00 AM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-009A | 22081061-009 | 8/23/2022 1:29:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-010A | 22081061-010 | 8/25/2022 12:49:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-011A | 22081061-011 | 8/23/2022 12:45:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-012A | 22081061-012 | 8/25/2022 2:25:00 PM | | Radium-226 (EPA 903.0) | | 9/19/2022 12:05:00 PM | 9/30/2022 11:26:00 AM |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# DATES REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,

**Project:** 22081061

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 22090086-012A | 22081061-012 | 8/25/2022 2:25:00 PM | Non-Potable Water | Radium-228 (EPA 904.0) | | 9/19/2022 12:05:00 PM | 9/28/2022 4:07:00 PM |
| 22090086-013A | 22081061-013 | 8/25/2022 2:11:00 PM | | Radium-226 (EPA 903.0) | | 9/21/2022 10:25:00 AM | 10/8/2022 10:50:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/21/2022 10:25:00 AM | 10/7/2022 2:53:00 PM |
| 22090086-014A | 22081061-014 | 8/25/2022 1:51:00 PM | | Radium-226 (EPA 903.0) | | 9/21/2022 10:25:00 AM | 10/8/2022 10:50:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/21/2022 10:25:00 AM | 10/7/2022 2:53:00 PM |
| 22090086-015A | 22081061-015 | 8/24/2022 5:09:00 PM | | Radium-226 (EPA 903.0) | | 9/21/2022 10:25:00 AM | 10/8/2022 10:50:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/21/2022 10:25:00 AM | 10/7/2022 2:53:00 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22090086**

Date Reported: **10/11/2022**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 8/23/2022 11:45:00 AM
**Project:** 22081061
**Lab ID:** 22090086-001
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 22081061-001

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.1 | 1 | 9/30/2022 11:26:00 AM |
| Yield | 0.960 | | | | | 1 | 9/30/2022 11:26:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | QDR | pCi/L | ± 0.53 | 1 | 9/28/2022 4:07:00 PM |
| Yield | 1.00 | | | | | 1 | 9/28/2022 4:07:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

*Summit Environmental Technologies, Inc.*
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*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22090086**

Date Reported: **10/11/2022**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 8/23/2022 10:29:00 AM
**Project:** 22081061
**Lab ID:** 22090086-003
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 22081061-003

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.08 | 1 | 9/30/2022 11:26:00 AM |
| Yield | 0.960 | | | | | 1 | 9/30/2022 11:26:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.66 | 1 | 9/28/2022 4:07:00 PM |
| Yield | 1.00 | | | | | 1 | 9/28/2022 4:07:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **22090086**

Date Reported: **10/11/2022**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 8/23/2022 10:05:00 AM
**Project:** 22081061
**Lab ID:** 22090086-004
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 22081061-004

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.09 | 1 | 9/30/2022 11:26:00 AM |
| Yield | 0.970 | | | | | 1 | 9/30/2022 11:26:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.56 | 1 | 9/28/2022 4:07:00 PM |
| Yield | 1.00 | | | | | 1 | 9/28/2022 4:07:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

*Summit Environmental Technologies, Inc.*
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# Analytical Report

(consolidated)

WO#: **22090086**

Date Reported: **10/11/2022**

**CLIENT:** TEKLAB Inc,
**Project:** 22081061
**Lab ID:** 22090086-008
**Client Sample ID:** 22081061-008

**Collection Date:** 8/25/2022 11:49:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.05 | 1 | 9/30/2022 11:26:00 AM |
| Yield | 0.980 | | | | | 1 | 9/30/2022 11:26:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.76 | 1 | 9/28/2022 4:07:00 PM |
| Yield | 1.00 | | | | | 1 | 9/28/2022 4:07:00 PM |

| **Qualifiers:** | | | | |
|---|---|---|---|---|
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| | MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| | ND | Not Detected | OG1 | |
| | P | Second column confirmation exceeds | PL | Permit Limit |

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **22090086**

Date Reported: **10/11/2022**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/23/2022 1:29:00 PM

**Project:** 22081061

**Lab ID:** 22090086-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 22081061-009

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.16 | 1 | 9/30/2022 11:26:00 AM |
| Yield | 1.00 | | | | | 1 | 9/30/2022 11:26:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.55 | 1 | 9/28/2022 4:07:00 PM |
| Yield | 1.00 | | | | | 1 | 9/28/2022 4:07:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59620**

Sample ID: **22090086-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/19/2022** RunNo: **151169**
Client ID: **22081061-001** Batch ID: **59620** TestNo: **E904.0** **E903-904** Analysis Date: **9/28/2022** SeqNo: **4020063**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.01 | 1.00 | | 0 | 0 | | | 0 | 200 | 30 | R |
| Yield | 0.970 | | | 0 | 0 | | | 1.000 | 3.05 | | |

Sample ID: **22090086-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/19/2022** RunNo: **151169**
Client ID: **22081061-002** Batch ID: **59620** TestNo: **E904.0** **E903-904** Analysis Date: **9/28/2022** SeqNo: **4020065**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59620**

| Sample ID: **MB-59620** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151169** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **59620** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/28/2022** | SeqNo: **4019852** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-59620** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151169** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **59620** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/28/2022** | SeqNo: **4019854** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.63 | 1.00 | 5.000 | 0 | 72.6 | 70 | 130 | 2.870 | 23.4 | 20 | |
| Yield | 0.760 | | | 0 | 0 | | | 1.000 | 27.3 | | |

| Sample ID: **RLCD-59620** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151169** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59620** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/28/2022** | SeqNo: **4019857** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 70.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,

**Project:** 22081061 **BatchID:** **59620**

Sample ID: **22090083-001AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/19/2022** RunNo: **151169**

Client ID: **BatchQC** Batch ID: **59620** TestNo: **E904.0** **E903-904** Analysis Date: **9/28/2022** SeqNo: **4019858**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.22 | 1.00 | 5.000 | 0.8500 | 87.4 | 70 | 130 | | | | |
| Yield | 0.650 | | | 1.000 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59620**

Sample ID: **22090086-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/19/2022** RunNo: **151257**
Client ID: **22081061-001** Batch ID: **59620** TestNo: **E903.0** **E903-904** Analysis Date: **9/30/2022** SeqNo: **4022516**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.900 | | | | | | | 0.9600 | 6.45 | 0 | |

Sample ID: **22090086-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/19/2022** RunNo: **151257**
Client ID: **22081061-002** Batch ID: **59620** TestNo: **E903.0** **E903-904** Analysis Date: **9/30/2022** SeqNo: **4022518**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59620**

| Sample ID: **MB-59620** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151257** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **59620** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/30/2022** | SeqNo: **4022506** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.920 | | | | | | | | | | |

| Sample ID: **LCS-59620** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151257** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **59620** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/30/2022** | SeqNo: **4022507** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.42 | 1.00 | 5.000 | 0 | 108 | 70 | 130 | | | | |

| Sample ID: **RLC-59620** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151257** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59620** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/30/2022** | SeqNo: **4022510** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.20 | 1.00 | 1.000 | 0 | 120 | 50 | 150 | | | | |

| Sample ID: **RLCD-59620** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/19/2022** | RunNo: **151257** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59620** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/30/2022** | SeqNo: **4022511** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,

**Project:** 22081061 **BatchID:** **59620**

Sample ID: **RLCD-59620** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/19/2022** RunNo: **151257**

Client ID: **BatchQC** Batch ID: **59620** TestNo: **E903.0** **E903-904** Analysis Date: **9/30/2022** SeqNo: **4022511**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.11 | 1.00 | 1.000 | 0 | 111 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59674**

| Sample ID: **MB-59674** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151629** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **59674** | TestNo: **E904.0** | **E903-904** | Analysis Date: **10/7/2022** | SeqNo: **4035726** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 0.950 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-59674** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151629** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **59674** | TestNo: **E904.0** | **E903-904** | Analysis Date: **10/7/2022** | SeqNo: **4035728** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.83 | 1.00 | 5.000 | 0 | 76.6 | 70 | 130 | 1.950 | 65.1 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.5500 | 58.1 | | |

| Sample ID: **RLCD-59674** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151629** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59674** | TestNo: **E904.0** | **E903-904** | Analysis Date: **10/7/2022** | SeqNo: **4035731** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.17 | 1.00 | 1.000 | 0 | 117 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22090086**
***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59674**

| Sample ID: **22090315-001AMS** | SampType: **MS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151629** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59674** | TestNo: **E904.0** | **E903-904** | Analysis Date: **10/7/2022** | SeqNo: **4035732** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.71 | 1.00 | 5.000 | 0 | 74.2 | 70 | 130 | | | | |
| Yield | 0.740 | | | 1.000 | 0 | | | | | | |

| Sample ID: **22090381-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151629** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59674** | TestNo: **E904.0** | **E903-904** | Analysis Date: **10/7/2022** | SeqNo: **4035746** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 0.970 | | | 0 | 0 | | | 0.8700 | 10.9 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22090086**

***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59674**

| Sample ID: **MB-59674** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151642** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **59674** | TestNo: **E903.0** | **E903-904** | Analysis Date: **10/8/2022** | SeqNo: **4036069** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | ND | | | | | | | | | | |

| Sample ID: **LCS-59674** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151642** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **59674** | TestNo: **E903.0** | **E903-904** | Analysis Date: **10/8/2022** | SeqNo: **4036070** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.91 | 1.00 | 5.000 | 0 | 118 | 70 | 130 | | | | |

| Sample ID: **LCSD-59674** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151642** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **59674** | TestNo: **E903.0** | **E903-904** | Analysis Date: **10/8/2022** | SeqNo: **4036071** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.17 | 1.00 | 5.000 | 0 | 103 | 70 | 130 | 5.910 | 13.4 | 20 | |

| Sample ID: **RLC-59674** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151642** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59674** | TestNo: **E903.0** | **E903-904** | Analysis Date: **10/8/2022** | SeqNo: **4036073** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **22090086**
***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59674**

Sample ID: **RLC-59674** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/21/2022** RunNo: **151642**
Client ID: **BatchQC** Batch ID: **59674** TestNo: **E903.0** **E903-904** Analysis Date: **10/8/2022** SeqNo: **4036073**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.11 | 1.00 | 1.000 | 0 | 111 | 50 | 150 | | | | |

Sample ID: **RLCD-59674** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/21/2022** RunNo: **151642**
Client ID: **BatchQC** Batch ID: **59674** TestNo: **E903.0** **E903-904** Analysis Date: **10/8/2022** SeqNo: **4036074**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.12 | 1.00 | 1.000 | 0 | 112 | 50 | 150 | | | | |

Sample ID: **22090315-001AMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/21/2022** RunNo: **151642**
Client ID: **BatchQC** Batch ID: **59674** TestNo: **E903.0** **E903-904** Analysis Date: **10/8/2022** SeqNo: **4036075**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.51 | 1.00 | 5.000 | 0 | 110 | 70 | 130 | | | | |

Sample ID: **22090347-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/21/2022** RunNo: **151642**
Client ID: **BatchQC** Batch ID: **59674** TestNo: **E903.0** **E903-904** Analysis Date: **10/8/2022** SeqNo: **4036084**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **22090086**
***11-Oct-22***

**Client:** TEKLAB Inc,
**Project:** 22081061 **BatchID:** **59674**

| Sample ID: **22090347-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151642** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59674** | TestNo: **E903.0** | **E903-904** | Analysis Date: **10/8/2022** | SeqNo: **4036084** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yield | ND | | | | | | | 0 | 0 | 0 | |

| Sample ID: **22090381-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/21/2022** | RunNo: **151642** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **59674** | TestNo: **E903.0** | **E903-904** | Analysis Date: **10/8/2022** | SeqNo: **4036087** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | ND | | | | | | | 0 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

22090086

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: ____ Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226 and 228) by method EPA903.0/904.0
on your standard turnaround time.
Batch QC is required with the report. Receipt summary requested. State of Origin: IL

Project# 22081061

Contact: Shelly A. Hennessy Email: SHennessy@TekLabInc.com
Requested Due Date: 20 business days or less Billing/PO: 33267 Phone: (618) 344-1004

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | | | | | | | | | | pH | CPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22081061-001 | 8/23/22 1145 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 24,28 |
| | 22081061-002 | 8/23/22 1056 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 30,25 |
| | 22081061-003 | 8/23/22 1029 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 23,14 |
| | 22081061-004 | 8/23/22 1005 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 15,19 |
| | 22081061-005 | 8/23/22 1444 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 17,27 |
| | 22081061-006 | 8/23/22 1508 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 21,23 |
| | 22081061-007 | 8/23/22 1408 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 22,32 |
| | 22081061-008 | 8/25/22 1149 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 25,21 |
| | 22081061-009 | 8/23/22 1329 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 23,13 |
| | 22081061-010 | 8/25/22 1249 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 30,27 |
| | 22081061-011 | 8/23/22 1245 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | | | | 23,6 |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Brannan Willis | 8/29/22 1800 | Fed ex | |
| | | | |
| | | | |
| | | | |
| | | [signature] | 8-31-22/1450 |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

[illegible] 19.0 18.2 18.8 17.8 / [illegible]

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: ____ Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226 and 228) by method EPA903.0/904.0
on your standard turnaround time.
Batch QC is required with the report. Receipt summary requested. State of Origin: IL

Project# 22081061

Contact: Shelly A. Hennessy Email: SHennessy@TekLabInc.com
Requested Due Date: 20 business days or less Billing/PO: 33267 Phone: (618) 344-1004

PLEASE NOTE

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | | | | | | | | pH | | CPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22081061-012 | 8/25/22 1425 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | 1 | | 6, 10 |
| | 22081061-013 | 8/25/22 1411 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | 1 | | 33, 23 |
| | 22081061-014 | 8/25/22 1351 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | 1 | | 22, 3 |
| | 22081061-015 | 8/24/22 1709 | HNO3 | Aqueous | ✓ | ✓ | | | | | | | | 1 | | 27, 6 |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Reannan Willis | 8/29/22 1800 | Fedex | |
| | | | |
| | | | |
| | | [signature] | 8-31-22 / 1450 |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization, and proprietary rights.

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **22090086** RcptNo: **1**

| | | | |
|---|---|---|---|
| Logged by: | **Anthony W. Britton** | **8/31/2022 2:50:00 PM** | Anthony Britton |
| Completed By: | **Anthony W. Britton** | **9/1/2022 5:41:25 PM** | Anthony Britton |
| Reviewed By: | **Jennifer Woolf** | **9/6/2022 1:02:42 PM** | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☐ | No ☑ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

**Cooler Information**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 19.0 | Good | Not Present | | | |
| 2 | 18.2 | Good | Not Present | | | |
| 3 | 18.8 | Good | Not Present | | | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **22090086** RcptNo: **1**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 4 | 17.8 | Good | Not Present | | | |

September 19, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 22081060

Dear Eric Staley:

TEKLAB, INC received 12 samples on 8/25/2022 9:21:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 22081060
**Report Date:** 19-Sep-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22081060

**Client Project:** Landfill Monitoring Wells **Report Date:** 19-Sep-22

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 22081060

**Client Project:** Landfill Monitoring Wells
**Report Date:** 19-Sep-22

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

**Client:** City Water, Light & Power
**Work Order:** 22081060
**Client Project:** Landfill Monitoring Wells
**Report Date:** 19-Sep-22

**Cooler Receipt Temp:** 5.8 °C

An employee of Teklab, Inc. collected the sample(s).

G110 was not collected; the well was broken.

## Locations

### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 22081060

**Client Project:** Landfill Monitoring Wells

**Report Date:** 19-Sep-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 22081060
**Client Project:** Landfill Monitoring Wells
**Report Date:** 19-Sep-22
**Lab ID:** 22081060-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 08/24/2022 12:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 08/24/2022 12:15 | R316840 |
| Depth to water | * | -5.00 | | **13.54** | ft | 1 | 08/24/2022 12:15 | R316840 |
| Depth to water from measuring point | * | 0 | | **16.29** | ft | 1 | 08/24/2022 12:15 | R316840 |
| Elevation of groundwater surface | * | 0 | | **539.31** | ft | 1 | 08/24/2022 12:15 | R316840 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 08/24/2022 12:15 | R316840 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.3** | °F | 1 | 08/24/2022 12:15 | R316840 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 08/24/2022 12:15 | R316840 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1450** | µmhos/cm @25C | 1 | 08/24/2022 12:15 | R316840 |
| **EPA 1664A** | | | | | | | | |
| Hexane Extractable Material | NELAP | 6 | | **< 6** | mg/L | 1 | 08/29/2022 9:13 | R316376 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.86** | mg/L | 1 | 08/29/2022 16:20 | R316348 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **< 0.050** | mg/L | 1 | 08/25/2022 16:14 | R316284 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1090** | mg/L | 2.5 | 08/26/2022 9:02 | R316361 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 08/26/2022 12:35 | 196008 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **343** | mg/L | 10 | 08/29/2022 12:25 | R316392 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 1 | | **40** | mg/L | 1 | 08/29/2022 12:19 | R316398 |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7360** | µg/L | 1 | 08/26/2022 19:11 | 196021 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 08/26/2022 19:11 | 196021 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 08/26/2022 19:11 | 196021 |
| Magnesium | NELAP | 0.050 | | **80.1** | mg/L | 1 | 08/26/2022 19:11 | 196021 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 08/26/2022 19:11 | 196021 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7780** | µg/L | 1 | 08/29/2022 17:10 | 166607 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **163** | µg/L | 5 | 08/26/2022 14:21 | 196021 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 08/26/2022 14:21 | 196021 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **192** | µg/L | 5 | 08/29/2022 20:06 | 166607 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 08/26/2022 14:27 | 196019 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 22081060
**Report Date:** 19-Sep-22

**Carrier:** Joseph Riley

**Completed by:** Elizabeth A. Hurley
**On:** 25-Aug-22

**Received By:** EAH

**Reviewed by:** Shelly A Hennessy
**On:** 25-Aug-22

**Pages to follow:** Chain of custody 2 Extra pages included 10

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 5.8 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

R111 and G113 were filtered and preserved with nitric acid (83663) and sulfuric acid (83463) for the dissolved parameters upon arrival at the laboratory. - RMW/ehurley - 8/25/2022 9:55:42 AM

Additional sodium hydroxide (81662) was needed in R101, G112, G113, G120, G121, G122, AW-1, AW-2, RW-3, and DUP upon arrival at the laboratory; only RW-3 reached the desired pH range. Additional nitric acid (83663) was needed in G120, DUP, G111, and G113. - RMW/BNB/ehurley - 8/25/2022 9:56:39 AM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22081060

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.8 °C
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY 1761
LAB NOTES: Added NaOH (81662) to R101, G112, G113, G120, G121, G122, AW1, AW2, RW3 + Dup. Only RW3 preserved.

Client Comments: (X) Filter in Lab ☆ DUP
Quarters 1, 3, & 4 Added (83663) HNO3 to G120 and Duplicate, G111, and G112. Added H2SO4 (83663) to R113 and R111.
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Bis(2-ethylhexyl)phthalate

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
J. RILEY

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Nitrate Ammonia (D) | Metals (D)** | Cyanide | Cl SO4 TDS (D) | BOD | Mn (T) | NH3 As K (T) | Nitrate (T) | Phenols | B Mg (T) | NH3 B SVOC*** | B (T) | As(T) | Oil and Grease |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22081060-001 | R101 | 08/24/22 1419 | Groundwater | 2 | 2 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 002 | G110 | BROKEN | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | |
| 003 | R111 (X) | 08/24/22 1259 | Groundwater | 2 | 2 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | | | | | |
| 004 | G112 | 08/24/22 1325 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | | |
| 005 | G113 (X) | 08/24/22 1356 | Groundwater | 2 | 1 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | | | |
| 006 | G120 | 08/23/22 1639 | Groundwater | 2 | 2 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | | | | |
| 007 | G121 | 08/23/22 1601 | Groundwater | 3 | 2 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | ✓ | | | | |
| 008 | G122 | 08/24/22 1540 | Groundwater | 2 | 2 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | ✓ | | | |
| 009 | AW-1 | 08/24/22 1215 | Groundwater | 2 | 2 | 1 | 2 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | ✓ | ✓ | X | |
| 010 | AW-2 ☆ | 08/24/22 1239 | Groundwater | 2 | 2 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | ✓ | | | |
| 011 | RW-3 | 08/24/22 1145 | Groundwater | 2 | 2 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | ✓ | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 08/25/22 0921 | Elizabeth A Hurley | 8/25/22 0921 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

RMW/SRA 8/25/22

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 22081060

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22081060-012 | DUPLICATE | 08/24/22 1239 | Groundwater | 1 | 1 | 1 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8/25/22 0921 | | 8/25/22 0921 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

| Well ID | Date | Time | DTW | Drawdown | Temp C | pH | Cond. | DO | Turbidity | ORP | Clarity | Purge | DTB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-1 | | 1130 | 16.29 | | | | | | | | | | |
| | | 1209 | 18.32 | 2.03 | 15.7 | 6.63 | 1450 | | | | | | |
| | | 1212 | 18.48 | 0.16 | 15.7 | 6.64 | 1450 | | | | | | |
| | | 1215 | 18.5 | 0.02 | 15.7 | 6.64 | 1450 | | Slight | | SL Cloud | 1.95 | |
| Final | 8/24/2022 | 1215 | 16.29 | 0.02 | 15.7 | 6.64 | 1450 | | Slight | | SL Cloud | 1.95 | |
| | | | | | | | | Lt brown<br>no odor | | | | | |

Fourth Quarter 2022

December 19, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 22110359

Dear Eric Staley:

TEKLAB, INC received 15 samples on 11/10/2022 8:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22110359
**Report Date:** 19-Dec-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 23 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22110359

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 19-Dec-22

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 22110359
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 19-Dec-22

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22110359
**Report Date:** 19-Dec-22

**Cooler Receipt Temp:** 4.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Pace Analytical National. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22110359

**Report Date:** 19-Dec-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 22110359

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 19-Dec-22

**Lab ID:** 22110359-001 **Client Sample ID:** RW-3

**Matrix:** GROUNDWATER **Collection Date:** 11/08/2022 13:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 11/08/2022 13:33 | R321096 |
| Depth to water | * | -5.00 | | **8.09** | ft | 1 | 11/08/2022 13:33 | R321096 |
| Depth to water from measuring point | * | 0 | | **10.79** | ft | 1 | 11/08/2022 13:33 | R321096 |
| Elevation of groundwater surface | * | 0 | | **528.71** | ft | 1 | 11/08/2022 13:33 | R321096 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 11/08/2022 13:33 | R321096 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 11/08/2022 13:33 | R321096 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 11/08/2022 13:33 | R321096 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.5** | °F | 1 | 11/08/2022 13:33 | R321096 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.21** | | 1 | 11/08/2022 13:33 | R321096 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1030** | µmhos/cm @25C | 1 | 11/08/2022 13:33 | R321096 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **425** | mg/L | 2.5 | 11/15/2022 7:05 | R321202 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | S | **< 10** | mg/L | 1 | 11/23/2022 10:36 | R321591 |
| *Matrix spike did not recover within control limits. Results verified by reanalysis at dilution.* | | | | | | | | |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.43** | mg/L | 1 | 11/14/2022 14:43 | R321052 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **30** | mg/L | 1 | 11/23/2022 10:36 | R321589 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.142** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Barium | NELAP | 0.0025 | | **0.166** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Boron | NELAP | 0.0200 | | **0.192** | mg/L | 1 | 11/16/2022 21:05 | 199975 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Calcium | NELAP | 0.100 | | **72.7** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/14/2022 17:54 | 199975 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2022 11:17 | 199975 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2022 11:17 | 199975 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2022 11:17 | 199975 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/11/2022 21:27 | 199972 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/06/2022 0:00 | R322549 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/06/2022 0:00 | R322549 |

**Client:** City Water, Light & Power
**Work Order:** 22110359
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 19-Dec-22
**Lab ID:** 22110359-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 11/08/2022 10:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 11/08/2022 10:56 | R321096 |
| Depth to water | * | -5.00 | | **5.36** | ft | 1 | 11/08/2022 10:56 | R321096 |
| Depth to water from measuring point | * | 0 | | **7.86** | ft | 1 | 11/08/2022 10:56 | R321096 |
| Elevation of groundwater surface | * | 0 | | **528.24** | ft | 1 | 11/08/2022 10:56 | R321096 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 11/08/2022 10:56 | R321096 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 11/08/2022 10:56 | R321096 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 11/08/2022 10:56 | R321096 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.4** | °F | 1 | 11/08/2022 10:56 | R321096 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.52** | | 1 | 11/08/2022 10:56 | R321096 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2170** | µmhos/cm @25C | 1 | 11/08/2022 10:56 | R321096 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1310** | mg/L | 1 | 11/15/2022 7:06 | R321202 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **643** | mg/L | 20 | 11/23/2022 11:24 | R321591 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.22** | mg/L | 1 | 11/14/2022 14:48 | R321052 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **34** | mg/L | 1 | 11/23/2022 11:18 | R321589 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Barium | NELAP | 0.0025 | | **0.0734** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Boron | NELAP | 0.0200 | | **4.08** | mg/L | 1 | 11/17/2022 16:05 | 199975 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Calcium | NELAP | 0.100 | | **248** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Cobalt | NELAP | 0.0050 | | **0.0111** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/14/2022 18:01 | 199975 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2022 11:30 | 199975 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2022 11:30 | 199975 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2022 11:30 | 199975 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/11/2022 21:41 | 199972 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/06/2022 0:00 | R322549 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/06/2022 0:00 | R322549 |

**Client:** City Water, Light & Power
**Work Order:** 22110359
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 19-Dec-22
**Lab ID:** 22110359-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 11/08/2022 10:40

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 11/08/2022 10:40 | R321096 |
| Depth to water | * | -5.00 | | **8.06** | ft | 1 | 11/08/2022 10:40 | R321096 |
| Depth to water from measuring point | * | 0 | | **9.76** | ft | 1 | 11/08/2022 10:40 | R321096 |
| Elevation of groundwater surface | * | 0 | | **525.64** | ft | 1 | 11/08/2022 10:40 | R321096 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 11/08/2022 10:40 | R321096 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 11/08/2022 10:40 | R321096 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 11/08/2022 10:40 | R321096 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.8** | °F | 1 | 11/08/2022 10:40 | R321096 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.65** | | 1 | 11/08/2022 10:40 | R321096 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1680** | µmhos/cm @25C | 1 | 11/08/2022 10:40 | R321096 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **920** | mg/L | 2.5 | 11/15/2022 7:06 | R321202 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **444** | mg/L | 20 | 11/23/2022 11:31 | R321591 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.21** | mg/L | 1 | 11/14/2022 15:00 | R321052 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **55** | mg/L | 5 | 11/23/2022 11:26 | R321589 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Barium | NELAP | 0.0025 | | **0.0951** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Boron | NELAP | 0.200 | | **14.6** | mg/L | 10 | 11/17/2022 15:45 | 199975 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Calcium | NELAP | 0.100 | | **160** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Cobalt | NELAP | 0.0050 | | **0.0054** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/14/2022 19:15 | 199975 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2022 11:37 | 199975 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2022 11:37 | 199975 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2022 11:37 | 199975 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/11/2022 21:43 | 199972 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/06/2022 0:00 | R322549 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/06/2022 0:00 | R322549 |

**Client:** City Water, Light & Power
**Work Order:** 22110359
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 19-Dec-22
**Lab ID:** 22110359-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 11/09/2022 9:04

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 11/09/2022 9:04 | R321096 |
| Depth to water | * | -5.00 | | **8.86** | ft | 1 | 11/09/2022 9:04 | R321096 |
| Depth to water from measuring point | * | 0 | | **11.52** | ft | 1 | 11/09/2022 9:04 | R321096 |
| Elevation of groundwater surface | * | 0 | | **527.50** | ft | 1 | 11/09/2022 9:04 | R321096 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 11/09/2022 9:04 | R321096 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 11/09/2022 9:04 | R321096 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 11/09/2022 9:04 | R321096 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.6** | °F | 1 | 11/09/2022 9:04 | R321096 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.17** | | 1 | 11/09/2022 9:04 | R321096 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **959** | µmhos/cm @25C | 1 | 11/09/2022 9:04 | R321096 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **348** | mg/L | 1 | 11/15/2022 7:07 | R321202 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **13** | mg/L | 1 | 11/23/2022 12:30 | R321591 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.39** | mg/L | 1 | 11/14/2022 15:09 | R321052 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **58** | mg/L | 5 | 11/23/2022 12:36 | R321589 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Barium | NELAP | 0.0025 | | **0.130** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Boron | NELAP | 0.0200 | | **0.260** | mg/L | 1 | 11/17/2022 9:35 | 199975 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Calcium | NELAP | 0.100 | S | **44.8** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/14/2022 19:30 | 199975 |
| *Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/19/2022 2:52 | 199975 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/21/2022 14:36 | 199975 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/19/2022 2:52 | 199975 |
| *CCV recovered outside the upper control limits Se. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/11/2022 21:52 | 199972 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/25/2022 0:00 | R322549 |

**Client:** City Water, Light & Power
**Work Order:** 22110359
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 19-Dec-22
**Lab ID:** 22110359-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 11/09/2022 9:04

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/25/2022 0:00 | R322549 |

**Client:** City Water, Light & Power
**Work Order:** 22110359
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 19-Dec-22
**Lab ID:** 22110359-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 11/08/2022 11:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 11/08/2022 11:30 | R321096 |
| Depth to water | * | -5.00 | | **3.75** | ft | 1 | 11/08/2022 11:30 | R321096 |
| Depth to water from measuring point | * | 0 | | **6.65** | ft | 1 | 11/08/2022 11:30 | R321096 |
| Elevation of groundwater surface | * | 0 | | **530.55** | ft | 1 | 11/08/2022 11:30 | R321096 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 11/08/2022 11:30 | R321096 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 11/08/2022 11:30 | R321096 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.7** | NTU | 1 | 11/08/2022 11:30 | R321096 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.3** | °F | 1 | 11/08/2022 11:30 | R321096 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.99** | | 1 | 11/08/2022 11:30 | R321096 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1290** | µmhos/cm @25C | 1 | 11/08/2022 11:30 | R321096 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **505** | mg/L | 2.5 | 11/15/2022 7:08 | R321202 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 11/23/2022 12:38 | R321591 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.27** | mg/L | 1 | 11/14/2022 15:10 | R321052 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **26** | mg/L | 1 | 11/23/2022 12:38 | R321589 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0340** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Barium | NELAP | 0.0025 | | **0.371** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Boron | NELAP | 0.0200 | | **0.0927** | mg/L | 1 | 11/16/2022 21:20 | 199975 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Calcium | NELAP | 0.100 | | **100** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/14/2022 19:41 | 199975 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/13/2022 4:26 | 199975 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/13/2022 4:26 | 199975 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/13/2022 4:26 | 199975 |
| *CCV recovered outside the upper control limits for Se and TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/11/2022 21:55 | 199972 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/25/2022 0:00 | R322549 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/25/2022 0:00 | R322549 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 22110359
**Report Date:** 19-Dec-22

**Carrier:** Joseph Riley

**Completed by:** Timothy W. Mathis
**On:** 10-Nov-22

**Received By:** ERH

**Reviewed by:** Shelly A. Hennessy
**On:** 11-Nov-22

**Pages to follow:** Chain of custody 2 Extra pages included 30

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 4.8 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #83856 PRY. - TMathis - 11/10/2022 4:08:42 PM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22110359

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 4 x 8 °C UTG1

Preserved in: ☐ LAB ☑ FIELD

FOR LAB USE ONLY

LAB NOTES: PM/ 83856. PAT 11/10/22

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☑ No Permit on file

**Client Comments:**

*elevations, pH, conductivity, temperature

**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo

Quarterly monitoring

**PROJECT NAME/NUMBER**

Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

J. RILEY C. Collins

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22110359 001 | RW-3 | 11/8/22 1333 ~~1334~~ JR | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | 11/8/22 1111 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | 11/8/22 1056 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | 11/8/22 1040 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | 11/8/22 1251 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | 11/8/22 1220 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | 11/8/22 1147 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 11/9/22 904 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | 11/8/22 1130 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 11/9/22 926 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | 11/8/22 1009 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11/10/22 0820 | Ellie Hopkins | 11/10/22 0820 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

PAT 11/10/22

Print PDF

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 22110359

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 012 | AP-11 | 11/9/22 1012 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 1029 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 1043 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 11/8/22 1316 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11/10/22 0820 | | 11/10/22 0820 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# ANALYTICAL REPORT

December 14, 2022



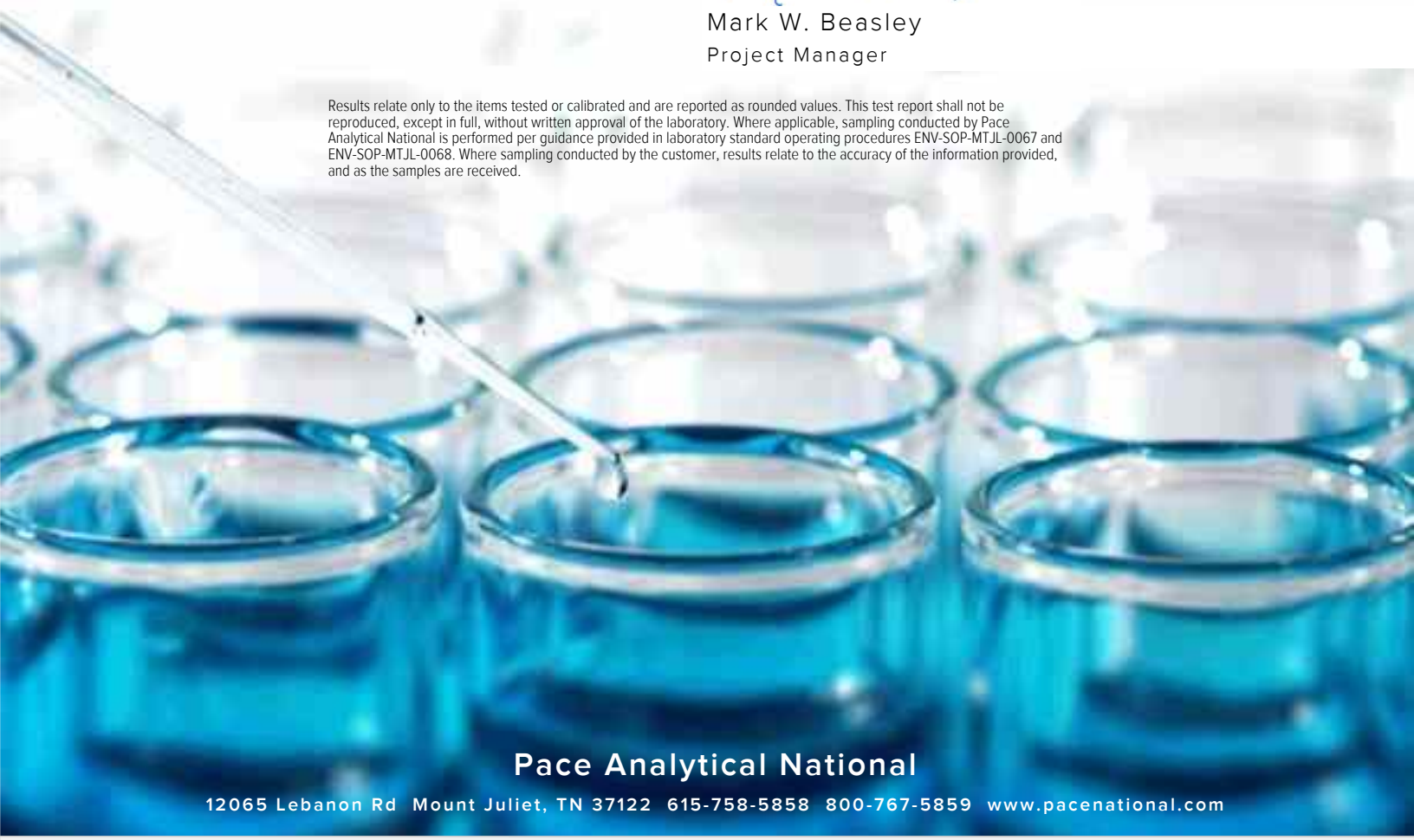
## TEKLAB, Inc.

| | |
|---|---|
| Sample Delivery Group: | L1557781 |
| Samples Received: | 11/14/2022 |
| Project Number: | 22110359 |
| Description: | |
| Site: | 006 |
| Report To: | Elizabeth Hurley<br>5445 Horseshoe Lake Road<br>Collinsville, IL 62234 |

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## 22110359-006 L1557781-01 Non-Potable Water

Collected by | Collected date/time 11/08/22 12:20 | Received date/time 11/14/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-007 L1557781-02 Non-Potable Water

Collected by | Collected date/time 11/08/22 11:47 | Received date/time 11/14/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-008 L1557781-03 Non-Potable Water

Collected by | Collected date/time 11/08/22 09:04 | Received date/time 11/14/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-009 L1557781-04 Non-Potable Water

Collected by | Collected date/time 11/08/22 11:30 | Received date/time 11/14/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-010 L1557781-05 Non-Potable Water

Collected by | Collected date/time 11/08/22 09:26 | Received date/time 11/14/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-011 L1557781-06 Non-Potable Water

Collected by | Collected date/time 11/08/22 10:09 | Received date/time 11/14/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-012 L1557781-07 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/09/22 10:12 | 11/14/22 10:30 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-013 L1557781-08 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/09/22 10:29 | 11/14/22 10:30 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 08:37 | RGT | Mt. Juliet, TN |

## 22110359-014 L1557781-09 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/09/22 10:43 | 11/14/22 10:30 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

## 22110359-015 L1557781-10 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/08/22 13:16 | 11/14/22 10:30 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1960584 | 1 | 11/18/22 11:52 | 11/25/22 15:42 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

## 22110359-001 L1557781-11 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/08/22 13:33 | 11/16/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1961949 | 1 | 11/22/22 10:36 | 12/08/22 10:43 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/08/22 10:43 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

## 22110359-002 L1557781-12 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/08/22 11:11 | 11/16/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1961949 | 1 | 11/22/22 10:36 | 12/08/22 10:43 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/08/22 10:43 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

## 22110359-003 L1557781-13 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/08/22 10:56 | 11/16/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1961949 | 1 | 11/22/22 10:36 | 12/08/22 10:43 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/08/22 10:43 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

## 22110359-004 L1557781-14 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/08/22 10:40 | 11/16/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1961949 | 1 | 11/22/22 10:36 | 12/08/22 10:43 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/08/22 10:43 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

## 22110359-005 L1557781-15 Non-Potable Water

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 11/08/22 12:51 | 11/16/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Radiochemistry by Method 904/9320 | WG1961949 | 1 | 11/22/22 10:36 | 12/08/22 10:43 | SWM | Mt. Juliet, TN |
| Radiochemistry by Method Calculation | WG1966869 | 1 | 12/02/22 10:53 | 12/08/22 10:43 | RGT | Mt. Juliet, TN |
| Radiochemistry by Method SM7500Ra B M | WG1966869 | 1 | 12/02/22 10:53 | 12/06/22 10:12 | RGT | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Project Manager

## Radiochemistry by Method 904/9320

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-228 | -0.199 | U | 0.419 | 0.768 | 11/25/2022 15:42 | WG1960584 |
| *(T) Barium* | *89.1* | | | *30.0-143* | *11/25/2022 15:42* | WG1960584 |
| *(T) Yttrium* | *65.6* | | | *30.0-136* | *11/25/2022 15:42* | WG1960584 |

## Radiochemistry by Method Calculation

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| Combined Radium | 0.382 | J | 0.513 | 0.840 | 12/06/2022 08:37 | WG1966869 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-226 | 0.382 | | 0.296 | 0.341 | 12/06/2022 08:37 | WG1966869 |
| *(T) Barium-133* | *93.2* | | | *30.0-143* | *12/06/2022 08:37* | WG1966869 |

## Radiochemistry by Method 904/9320

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-228 | 0.385 | J | 0.483 | 0.865 | 11/25/2022 15:42 | WG1960584 |
| *(T) Barium* | *96.1* | | | *30.0-143* | *11/25/2022 15:42* | WG1960584 |
| *(T) Yttrium* | *54.3* | | | *30.0-136* | *11/25/2022 15:42* | WG1960584 |

## Radiochemistry by Method Calculation

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| Combined Radium | 1.95 | | 0.693 | 0.895 | 12/06/2022 08:37 | WG1966869 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-226 | 1.57 | | 0.497 | 0.230 | 12/06/2022 08:37 | WG1966869 |
| *(T) Barium-133* | *92.0* | | | *30.0-143* | *12/06/2022 08:37* | WG1966869 |

## Radiochemistry by Method 904/9320

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-228 | 0.161 | U | 0.300 | 0.550 | 12/08/2022 10:43 | WG1961949 |
| *(T) Barium* | *98.8* | | | *30.0-143* | *12/08/2022 10:43* | WG1961949 |
| *(T) Yttrium* | *114* | | | *30.0-136* | *12/08/2022 10:43* | WG1961949 |

## Radiochemistry by Method Calculation

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| Combined Radium | 0.432 | J | 0.351 | 0.568 | 12/08/2022 10:43 | WG1966869 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result | Qualifier | Uncertainty | MDA | Analysis Date | Batch |
|---|---|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l | date / time | |
| RADIUM-226 | 0.271 | | 0.183 | 0.142 | 12/06/2022 10:12 | WG1966869 |
| *(T) Barium-133* | *96.6* | | | *30.0-143* | *12/06/2022 10:12* | WG1966869 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| RADIUM-228 | 0.332 | J | 0.223 | 0.403 | 12/08/2022 10:43 | WG1961949 |
| *(T) Barium* | *93.6* | | | *30.0-143* | *12/08/2022 10:43* | WG1961949 |
| *(T) Yttrium* | *112* | | | *30.0-136* | *12/08/2022 10:43* | WG1961949 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.431 | J | 0.261 | 0.450 | 12/08/2022 10:43 | WG1966869 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| RADIUM-226 | 0.0990 | J | 0.136 | 0.200 | 12/06/2022 10:12 | WG1966869 |
| *(T) Barium-133* | *101* | | | *30.0-143* | *12/06/2022 10:12* | WG1966869 |

## Radiochemistry by Method 904/9320

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| RADIUM-228 | 0.460 | | 0.233 | 0.417 | 12/08/2022 10:43 | WG1961949 |
| *(T) Barium* | *92.0* | | | *30.0-143* | *12/08/2022 10:43* | WG1961949 |
| *(T) Yttrium* | *132* | | | *30.0-136* | *12/08/2022 10:43* | WG1961949 |

## Radiochemistry by Method Calculation

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| Combined Radium | 0.505 | | 0.269 | 0.482 | 12/08/2022 10:43 | WG1966869 |

## Radiochemistry by Method SM7500Ra B M

| Analyte | Result pCi/l | Qualifier | Uncertainty + / - | MDA pCi/l | Analysis Date date / time | Batch |
|---|---|---|---|---|---|---|
| RADIUM-226 | 0.0446 | U | 0.134 | 0.241 | 12/06/2022 10:12 | WG1966869 |
| *(T) Barium-133* | *96.1* | | | *30.0-143* | *12/06/2022 10:12* | WG1966869 |

## Method Blank (MB)

(MB) R3867956-1 11/25/22 15:42

| Analyte | MB Result pCi/l | MB Qualifier | MB Uncertainty + / - pCi/l | MB MDA pCi/l |
|---|---|---|---|---|
| Radium-228 | -0.345 | U | 0.257 | 0.480 |
| *(T) Barium* | *94.5* | | *94.5* | |
| *(T) Yttrium* | *60.6* | | *60.6* | |

## L1552433-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1552433-10 11/30/22 15:39 • (DUP) R3867956-5 11/30/22 15:39

| Analyte | Original Result pCi/l | Original Uncertainty + / - | Original MDA pCi/l | DUP Result pCi/l | DUP Uncertainty + / - | DUP MDA pCi/l | Dilution | DUP RPD % | DUP RER | DUP Qualifier | DUP RPD Limits % | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.519 | 0.414 | 0.751 | -0.850 | 0.640 | 0.751 | 1 | 200 | 1.80 | U | 20 | 3 |
| *(T) Barium* | *96.0* | | | *89.4* | *89.4* | | | | | | | |
| *(T) Yttrium* | *64.2* | | | *57.2* | *57.2* | | | | | | | |

## Laboratory Control Sample (LCS)

(LCS) R3867956-2 11/25/22 15:42

| Analyte | Spike Amount pCi/l | LCS Result pCi/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Radium-228 | 5.00 | 5.48 | 110 | 80.0-120 | |
| *(T) Barium* | | | *97.2* | | |
| *(T) Yttrium* | | | *70.2* | | |

## L1552433-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552433-01 11/25/22 15:42 • (MS) R3867956-3 11/25/22 15:42 • (MSD) R3867956-4 11/25/22 15:42

| Analyte | Spike Amount pCi/l | Original Result pCi/l | MS Result pCi/l | MSD Result pCi/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | MS RER | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 10.0 | 1.58 | 13.2 | 12.3 | 117 | 107 | 1 | 70.0-130 | | | 7.20 | | 20 |
| *(T) Barium* | | *85.3* | | | *92.5* | *100* | | | | | | | |
| *(T) Yttrium* | | *57.3* | | | *60.5* | *64.7* | | | | | | | |

## Method Blank (MB)

(MB) R3870220-1 12/08/22 10:43

| Analyte | MB Result pCi/l | MB Qualifier | MB Uncertainty + / - pCi/l | MB MDA pCi/l |
|---|---|---|---|---|
| Radium-228 | -0.105 | U | 0.152 | 0.290 |
| *(T) Barium* | *98.1* | | *98.1* | |
| *(T) Yttrium* | *105* | | *105* | |

## L1552442-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552442-01 12/08/22 10:43 • (DUP) R3870220-5 12/08/22 10:43

| Analyte | Original Result pCi/l | Original Uncertainty + / - | Original MDA pCi/l | DUP Result pCi/l | DUP Uncertainty + / - | DUP MDA pCi/l | Dilution | DUP RPD % | DUP RER | DUP Qualifier | DUP RPD Limits % | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.845 | 0.219 | 0.385 | 0.551 | 0.285 | 0.385 | 1 | 42.1 | 0.818 | | 20 | 3 |
| *(T) Barium* | *98.7* | | | *107* | *107* | | | | | | | |
| *(T) Yttrium* | *111* | | | *107* | *107* | | | | | | | |

## Laboratory Control Sample (LCS)

(LCS) R3870220-2 12/08/22 10:43

| Analyte | Spike Amount pCi/l | LCS Result pCi/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Radium-228 | 5.00 | 4.49 | 89.8 | 80.0-120 | |
| *(T) Barium* | | | *99.9* | | |
| *(T) Yttrium* | | | *103* | | |

## L1552437-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552437-16 12/08/22 10:43 • (MS) R3870220-3 12/08/22 10:43 • (MSD) R3870220-4 12/08/22 10:43

| Analyte | Spike Amount pCi/l | Original Result pCi/l | MS Result pCi/l | MSD Result pCi/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | MS RER | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 10.0 | -0.124 | 9.64 | 9.63 | 96.4 | 96.3 | 1 | 70.0-130 | | | 0.0415 | | 20 |
| *(T) Barium* | | *95.0* | | | *92.4* | *105* | | | | | | | |
| *(T) Yttrium* | | *106* | | | *112* | *104* | | | | | | | |

## Method Blank (MB)

(MB) R3871343-1 12/05/22 21:01

| Analyte | MB Result | MB Qualifier | MB Uncertainty | MB MDA |
|---|---|---|---|---|
| | pCi/l | | + / - | pCi/l |
| Radium-226 | -0.0469 | U | 0.0294 | 0.0704 |
| *(T) Barium-133* | *91.4* | | *91.4* | |

## L1557781-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1557781-15 12/06/22 10:12 • (DUP) R3871343-5 12/06/22 08:37

| Analyte | Original Result | Original Uncertainty | Original MDA | DUP Result | DUP Uncertainty | DUP MDA | Dilution | DUP RPD | DUP RER | DUP Qualifier | DUP RPD Limits | DUP RER Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | + / - | pCi/l | pCi/l | + / - | pCi/l | | % | | | % | |
| Radium-226 | 0.495 | 0.267 | 0.231 | 0.387 | 0.288 | 0.231 | 1 | 24.6 | 0.277 | | 20 | 3 |
| *(T) Barium-133* | *101* | | | *98.8* | *98.8* | | | | | | | |

## Laboratory Control Sample (LCS)

(LCS) R3871343-2 12/06/22 08:37

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | pCi/l | pCi/l | % | % | |
| Radium-226 | 5.02 | 5.39 | 107 | 80.0-120 | |
| *(T) Barium-133* | | | *96.5* | | |

## L1557781-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1557781-01 12/06/22 08:37 • (MS) R3871343-3 12/06/22 08:37 • (MSD) R3871343-4 12/06/22 08:37

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | MS RER | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pCi/l | pCi/l | pCi/l | pCi/l | % | % | | % | | | % | | % |
| Radium-226 | 20.0 | 0.0344 | 20.6 | 20.3 | 103 | 101 | 1 | 75.0-125 | | | 1.42 | | 20 |
| *(T) Barium-133* | | *87.6* | | | *92.2* | *95.8* | | | | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDA | Minimum Detectable Activity. |
| Rec. | Recovery. |
| RER | Replicate Error Ratio. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (T) | Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation. |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| U | Below Detectable Limits: Indicates that the analyte was not detected. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

A010

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO O With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Client | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 22/228.
ICollected at an IL site.
Batch QC is required for all analyses requested. EDD requested.

Project# 22110359

Contact: Shelly Hennessey | Email: shennessy@teklabinc.com
Requested Due Date: 10-15 day TAT | Billing/PO: 3365 | Phone: 618-344-1004

L557781

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | RAD 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -01 | 22110359-001 | 11/8/22 1333 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -02 | 22110359-002 | 11/8/22 1111 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| | 22110359-003 | 11/8/22 1056 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| | 22110359-004 | 11/8/22 1040 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| | 22110359-005 | 11/8/22 1251 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -01 | 22110359-006 | 11/8/22 1220 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -02 | 22110359-007 | 11/8/22 1147 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -03 | 22110359-008 | 11/8/22 0904 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -04 | 22110359-009 | 11/8/22 1130 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -05 | 22110359-010 | 11/8/22 0926 | HN03 | Groundwater | ✔ | | | | | | | | | | | |
| -06 | 22110359-011 | 11/8/22 1009 | HN03 | Groundwater | ✔ | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11/11/22 1100 | | Within 1030 |
| | | | |
| | | | |
| | | | |
| | | | |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO O With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Client | QC Level: 2

Project# 22110359

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 22/228.
ICollected at an IL site.
Batch QC is required for all analyses requested. EDD requested.

Contact: Shelly Hennessey | Email: shennessy@teklabinc.com
Requested Due Date: 10-15 day TAT | Billing/PO: 33615 | Phone: 618-344-1004

U557781

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | RAD 226/228 |
|---|---|---|---|---|---|
| -07 | 22110359-012 | 11/9/22 1012 | HN03 | Groundwater | ✔ |
| -06 | 22110359-013 | 11/9/22 1029 | HN03 | Groundwater | ✔ |
| -09 | 22110359-014 | 11/9/22 1043 | HN03 | Groundwater | ✔ |
| -10 | 22110359-015 | 11/8/22 1316 | HN03 | Groundwater | ✔ |
| | | | HN03 | Groundwater | ✔ |
| | | | HN03 | Groundwater | ✔ |
| | | | 03 | Groundwater | ✔ |
| | | | 03 | Groundwater | ✔ |
| | | | 03 | Groundwater | ✔ |
| | | | 03 | Groundwater | ✔ |
| | | | 03 | Groundwater | ✔ |

Sample Receipt Checklist

| | | | |
|---|---|---|---|
| COC Seal Present/Intact: | Y N | If Applicable | |
| COC Signed/Accurate: | Y N | VOA Zero Headspace: | Y N |
| Bottles arrive intact: | Y N | Pres.Correct/Check: | Y N |
| Correct bottles used: | Y N | | |
| Sufficient volume sent: | Y N | | |
| RAD Screen <0.5 mR/hr: | Y N | | |

Amb

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11/11/22 1700 | | 11/14/22 1030 |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

LI557761

| Tracking Numbers | Temperature |
| --- | --- |
| FEDEx GROUND | Amb |
| ↓ | Amb |
| | |
| | |
| | |
| | |

## 11/15-NCF-L1557781 TEKLABIL

R5

**Time estimate:** oh **Time spent:** oh

**Members**

HM Hailey Melson (responsible) MB Mark Beasley

Due on *18 November 2022 8:00 AM* for target *Done*

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

**Comments**

*Hailey Melson* *15 November 2022 12:50 PM*

Missing IDs: 22110359-001, -002, -003, -004, -005

*Hailey Melson* *16 November 2022 1:34 PM*

Samples received today 11/16 and added.

November 28, 2022

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 22110358

Dear Eric Staley:

TEKLAB, INC received 12 samples on 11/10/2022 8:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 22110358
**Report Date:** 28-Nov-22

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 22110358

**Client Project:** Landfill Monitoring Wells **Report Date:** 28-Nov-22

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 22110358

**Client Project:** Landfill Monitoring Wells

**Report Date:** 28-Nov-22

## Qualifiers

| | |
|---|---|
| # - | Unknown hydrocarbon |
| B - | Analyte detected in associated Method Blank |
| C - | RL shown is a Client Requested Quantitation Limit |
| E - | Value above quantitation range |
| H - | Holding times exceeded |
| I - | Associated internal standard was outside method criteria |
| J - | Analyte detected below quantitation limits |
| M - | Manual Integration used to determine area response |
| ND - | Not Detected at the Reporting Limit |
| R - | RPD outside accepted recovery limits |
| S - | Spike Recovery outside recovery limits |
| T - | TIC(Tentatively identified compound) |
| X - | Value exceeds Maximum Contaminant Level |

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 22110358
**Report Date:** 28-Nov-22

**Cooler Receipt Temp:** 4.8 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 22110358
**Client Project:** Landfill Monitoring Wells
**Report Date:** 28-Nov-22

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2023 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2023 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 22110358
**Client Project:** Landfill Monitoring Wells
**Report Date:** 28-Nov-22
**Lab ID:** 22110358-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 11/09/2022 12:26

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 11/09/2022 12:26 | R321383 |
| Depth to water | * | -5.00 | | **12.15** | ft | 1 | 11/09/2022 12:26 | R321383 |
| Depth to water from measuring point | * | 0 | | **14.90** | ft | 1 | 11/09/2022 12:26 | R321383 |
| Elevation of groundwater surface | * | 0 | | **540.70** | ft | 1 | 11/09/2022 12:26 | R321383 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 11/09/2022 12:26 | R321383 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.5** | °F | 1 | 11/09/2022 12:26 | R321383 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.83** | | 1 | 11/09/2022 12:26 | R321383 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1740** | µmhos/cm @25C | 1 | 11/09/2022 12:26 | R321383 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 11/14/2022 10:32 | R321026 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.250 | | **1.29** | mg/L | 5 | 11/10/2022 18:40 | R320983 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1100** | mg/L | 2.5 | 11/16/2022 7:38 | R321282 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 11/17/2022 14:01 | 200165 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **344** | mg/L | 10 | 11/21/2022 23:00 | R321457 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 8 | | **40** | mg/L | 2 | 11/21/2022 22:55 | R321468 |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7160** | µg/L | 1 | 11/15/2022 19:27 | 199980 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 11/15/2022 19:27 | 199980 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 11/15/2022 19:27 | 199980 |
| Magnesium | NELAP | 0.050 | | **75.6** | mg/L | 1 | 11/15/2022 19:27 | 199980 |
| Zinc | NELAP | 10.0 | | **11.9** | µg/L | 1 | 11/15/2022 19:27 | 199980 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **20.8** | µg/L | 5 | 11/15/2022 9:35 | 199980 |
| Lead | NELAP | 1.0 | | **1.6** | µg/L | 5 | 11/15/2022 9:35 | 199980 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 11/11/2022 20:46 | 199966 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 22110358
**Report Date:** 28-Nov-22

**Carrier:** Joseph Riley

**Completed by:** Timothy W. Mathis
**On:** 10-Nov-22

**Received By:** ERH

**Reviewed by:** Elizabeth A. Hurley
**On:** 10-Nov-22

**Pages to follow:** Chain of custody 2 Extra pages included 0

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 4.8 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

R101, G110, R111, G112, G113, G120, and G121 were filtered and preserved for the dissolved parameters upon arrival at the laboratory. - TMathis - 11/10/2022 4:11:48 PM

pH strip #83856/83857. - TMathis - 11/10/2022 4:12:54 PM

Additional nitric acid (83726) was needed in G122 and AW-1; additional sodium hydroxide (81662) was needed in all cynide containers upon arrival at the laboratory. - TMathis - 11/10/2022 4:13:15 PM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 22110358

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 4.8 °C LTG#
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: ADDED TO ALL CYANIDE CONT. ADDED HNO3 TO G122 AND AW-2

Client Comments: *DUP X FILTER IN LAB
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
D. RILEY C. Collins

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22110358-001 | R101 | X | 11/9/22 1337 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | X | 1401 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | X | 1255 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | X | 1310 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | X | 1324 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | X | 1210 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | X | 1133 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | 1121 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | 1226 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | * | 1154 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | 11/8/22 1334 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11/10/22 0820 | Allen Hoskins | 11/10/22 0820 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

Print PDF

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 2211035 8

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

**Client Comments:**

Quarters 1, 3, & 4

*elevations, pH, conductivity, temperature

**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**

Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TOS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | | | | | | | | | | | | |
| 2211035B-012 | DUPLICATE * | 11/9/22 1154 | Groundwater | 1 | 1 | 1 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11/10/22 0820 | [illegible] | 11/10/22 0820 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

First Quarter 2023

March 13, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 23020985

Dear Eric Staley:

TEKLAB, INC received 7 samples on 2/17/2023 8:50:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23020985
**Report Date:** 13-Mar-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 14 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23020985

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 13-Mar-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
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| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 23020985

**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Mar-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23020985
**Report Date:** 13-Mar-23

**Cooler Receipt Temp:** 1.2 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 23020985
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Mar-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23020985
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 13-Mar-23
**Lab ID:** 23020985-001
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 02/16/2023 14:54

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 02/16/2023 14:54 | R325158 |
| Depth to water | * | -5.00 | | **10.82** | ft | 1 | 02/16/2023 14:54 | R325158 |
| Depth to water from measuring point | * | 0 | | **13.48** | ft | 1 | 02/16/2023 14:54 | R325158 |
| Elevation of groundwater surface | * | 0 | | **525.54** | ft | 1 | 02/16/2023 14:54 | R325158 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 02/16/2023 14:54 | R325158 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 02/16/2023 14:54 | R325158 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **22** | NTU | 1 | 02/16/2023 14:54 | R325158 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **51.4** | °F | 1 | 02/16/2023 14:54 | R325158 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.20** | | 1 | 02/16/2023 14:54 | R325158 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **626** | µmhos/cm @25C | 1 | 02/16/2023 14:54 | R325158 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **328** | mg/L | 1 | 02/20/2023 9:58 | R325069 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **16** | mg/L | 1 | 02/27/2023 16:13 | R325321 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.36** | mg/L | 1 | 02/24/2023 9:35 | R325243 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **45** | mg/L | 2 | 02/27/2023 16:40 | R325333 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Barium | NELAP | 0.0025 | | **0.111** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Boron | NELAP | 0.0200 | | **0.180** | mg/L | 1 | 02/22/2023 17:56 | 203052 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Calcium | NELAP | 0.100 | | **49.3** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/21/2023 23:57 | 203052 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2023 20:58 | 203052 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2023 20:58 | 203052 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2023 20:58 | 203052 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/18/2023 9:22 | 203036 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 03/08/2023 0:00 | R325892 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 03/08/2023 0:00 | R325892 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23020985
**Report Date:** 13-Mar-23

**Carrier:** Joe Riley

**Received By:** ANC

**Completed by:** Timothy W. Mathis
**On:** 17-Feb-23

**Reviewed by:** Elizabeth A. Hurley
**On:** 17-Feb-23

**Pages to follow:** Chain of custody 2 Extra pages included 19

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 1.2 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #87147. - CET/ehurley - 2/17/2023 11:18:53 AM

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23021159 / 23020985

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 1.2 °C CT
Preserved in: [ ] LAB [X] FIELD
FOR LAB USE ONLY
LAB NOTES: PW871147-CRT 2-17-23.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [X] No
Are these samples known to be hazardous? [ ] Yes [X] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [X] Yes [X] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
J. RILEY

**RESULTS REQUESTED**
[X] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | CL F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~BW-3~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-1~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-2~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-3~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-4~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-5~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-6~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 23020985 01 | AP-7 | 02/16/23 1454 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ~~AP-8~~ | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-9 | 02/16/23 1517 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-10 | 02/16/23 1134 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 02/17/23 0850 | Allison Colin | 2/17/23 850 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CRS 2-17-23

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # _____

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
J. KELLEY

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23020885 004 | AP-11 | 02/16/23 1254 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-12 | 02/16/23 1310 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-13 | 02/16/23 1328 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-14 | 02/16/23 1213 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 02/17/23 0850 | Allison Colin | 2/17/23 850 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

March 10, 2023

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 23020985

Order No.: 23021632

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 7 sample(s) on 2/22/2023 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **23021632**
Date: **3/10/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23020985

WorkOrder Narrative:
23021632: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:
23021632-001A thru -007A Radium-228_NPW(904.0): Samples contained sediment

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **23021632**
Date: **3/10/2023**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **23021632**
***10-Mar-23***

**CLIENT:** TEKLAB Inc,
**Project:** 23020985

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 23021632-001 | 23020985-001 | | 2/16/2023 2:54:00 PM | 2/22/2023 11:10:00 AM | Non-Potable Water |
| 23021632-002 | 23020985-002 | | 2/16/2023 3:11:00 PM | 2/22/2023 11:10:00 AM | Non-Potable Water |
| 23021632-003 | 23020985-003 | | 2/16/2023 11:34:00 AM | 2/22/2023 11:10:00 AM | Non-Potable Water |
| 23021632-004 | 23020985-004 | | 2/16/2023 12:54:00 PM | 2/22/2023 11:10:00 AM | Non-Potable Water |
| 23021632-005 | 23020985-005 | | 2/16/2023 1:10:00 PM | 2/22/2023 11:10:00 AM | Non-Potable Water |
| 23021632-006 | 23020985-006 | | 2/16/2023 1:25:00 PM | 2/22/2023 11:10:00 AM | Non-Potable Water |
| 23021632-007 | 23020985-007 | | 2/16/2023 12:13:00 PM | 2/22/2023 11:10:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **23021632**

***10-Mar-23***

**Client:** TEKLAB Inc,

**Project:** 23020985

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23021632-001A | 23020985-001 | 2/16/2023 2:54:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |
| 23021632-002A | 23020985-002 | 2/16/2023 3:11:00 PM | | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |
| 23021632-003A | 23020985-003 | 2/16/2023 11:34:00 AM | | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |
| 23021632-004A | 23020985-004 | 2/16/2023 12:54:00 PM | | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |
| 23021632-005A | 23020985-005 | 2/16/2023 1:10:00 PM | | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |
| 23021632-006A | 23020985-006 | 2/16/2023 1:25:00 PM | | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |
| 23021632-007A | 23020985-007 | 2/16/2023 12:13:00 PM | | Radium-226 (EPA 903.0) | | 2/27/2023 11:11:00 AM | 3/9/2023 2:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/27/2023 11:11:00 AM | 3/8/2023 2:24:00 PM |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23021632**

Date Reported: **3/10/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23020985
**Lab ID:** 23021632-001
**Client Sample ID:** 23020985-001

**Collection Date:** 2/16/2023 2:54:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.12 | 1 | 3/9/2023 2:05:00 PM |
| Yield | 1.00 | | | | | 1 | 3/9/2023 2:05:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.45 | 1 | 3/8/2023 2:24:00 PM |
| Yield | 1.00 | | | | | 1 | 3/8/2023 2:24:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23021632**

***10-Mar-23***

**Client:** TEKLAB Inc,
**Project:** 23020985 **BatchID:** **63147**

| Sample ID: **MB-63147** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159591** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **63147** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2023** | SeqNo: **4241639** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-63147** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159591** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **63147** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2023** | SeqNo: **4241641** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 1.00 | 5.000 | 0 | 72.4 | 70 | 130 | 2.390 | 40.9 | 20 | R |
| Yield | 0.950 | | | 0 | 0 | | | 0.9900 | 4.12 | | |

| Sample ID: **RLC-63147** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159591** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **63147** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2023** | SeqNo: **4241643** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 81.0 | 50 | 150 | | | | |
| Yield | 0.970 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23021632**
***10-Mar-23***

**Client:** TEKLAB Inc,
**Project:** 23020985 **BatchID:** **63147**

Sample ID: **RLCD-63147** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/27/2023** RunNo: **159591**
Client ID: **BatchQC** Batch ID: **63147** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2023** SeqNo: **4241644**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.15 | 1.00 | 1.000 | 0 | 115 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **23021630-001AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/27/2023** RunNo: **159591**
Client ID: **BatchQC** Batch ID: **63147** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2023** SeqNo: **4241645**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.99 | 1.00 | 5.000 | 0 | 79.8 | 70 | 130 | | | | |
| Yield | 0.850 | | | 0.9400 | 0 | | | | | | |

Sample ID: **23021631-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/27/2023** RunNo: **159591**
Client ID: **BatchQC** Batch ID: **63147** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2023** SeqNo: **4241650**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23021632**

***10-Mar-23***

**Client:** TEKLAB Inc,
**Project:** 23020985 **BatchID:** **63147**

Sample ID: **23021637-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/27/2023** RunNo: **159591**
Client ID: **BatchQC** Batch ID: **63147** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2023** SeqNo: **4241652**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23021632**

***10-Mar-23***

**Client:** TEKLAB Inc,
**Project:** 23020985 **BatchID:** **63147**

| Sample ID: **MB-63147** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241980** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-63147** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241981** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 70 | 130 | | | | |

| Sample ID: **LCSD-63147** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241982** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.46 | 1.00 | 5.000 | 0 | 109 | 70 | 130 | 5.760 | 5.35 | 20 | |

| Sample ID: **RLC-63147** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241984** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23021632**
***10-Mar-23***

**Client:** TEKLAB Inc,
**Project:** 23020985 **BatchID:** **63147**

| Sample ID: **RLC-63147** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241984** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 85.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-63147** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241985** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.24 | 1.00 | 1.000 | 0 | 124 | 50 | 150 | | | | |

| Sample ID: **23021637-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/27/2023** | RunNo: **159596** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **63147** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/9/2023** | SeqNo: **4241987** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 0.9600 | 4.08 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

23021632

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Cooler Temp: ____ Sampler: CLIENT QC Level: 2

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Comments: **Please issue reports and invoices via email only**
Please analyze for Radium (226 and 228) by method EPA903.0/904.0
on your standard turnaround time.
Batch QC is required with the report. Receipt summary requested.

Project# 23020985

Contact: Shelly Hennessey Email: shennessey@teklabinc.com
Requested Due Date: 20 business days or less Billing/PO: 34003
Phone: (618) 344-1004 ext. State of Origin: IL

PLEASE NOTE:
NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | cpm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23020985-001 | 2/16/23 1454 | HNO3 | Aqueous | ☑ | ☑ | 40 | 1 | | | | | | | | | | |
| | 23020985-002 | 2/16/23 1511 | HNO3 | Aqueous | ☑ | ☑ | 20 | 1 | | | | | | | | | | |
| | 23020985-003 | 2/16/23 1134 | HNO3 | Aqueous | ☑ | ☑ | 23 | 1 | | | | | | | | | | |
| | 23020985-004 | 2/16/23 1254 | HNO3 | Aqueous | ☑ | ☑ | 21 | 1 | | | | | | | | | | |
| | 23020985-005 | 2/16/23 1310 | HNO3 | Aqueous | ☑ | ☑ | 11 | 1 | | | | | | | | | | |
| | 23020985-006 | 2/16/23 1325 | HNO3 | Aqueous | ☑ | ☑ | 20 | 1 | | | | | | | | | | |
| | 23020985-007 | 2/16/23 1213 | HNO3 | Aqueous | ☑ | ☑ | 30 | 1 | | | | | | | | | | |
| | | | Unpres | Aqueous | ☐ | ☐ | | | | | | | | | | | | |
| | | | Unpres | Aqueous | ☐ | ☐ | | | | | | | | | | | | |
| | | | Unpres | Aqueous | ☐ | ☐ | | | | | | | | | | | | |
| | | | Unpres | Aqueous | ☐ | ☐ | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 2-20-23 | | 2/22/23 1110 |
| | | | 17.0+0.3=17.3 |

Fedex Cooler noice

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights,

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **23021632** RcptNo: **1**

| | | | |
|---|---|---|---|
| Logged by: | **Anthony W. Britton** | **2/22/2023 11:10:00 AM** | Anthony Britton |
| Completed By: | **Anthony W. Britton** | **2/24/2023 9:19:09 AM** | Anthony Britton |
| Reviewed By: | **Jennifer Woolf** | **2/24/2023 10:27:12 AM** | Jennifer Woolf |

## *Chain of Custody*

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## *Log In*

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☐ | No ☑ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | **Not required** | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

**Cooler Information**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 17.3 | Good | Not Present | | | |

March 07, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 23010325

Dear Eric Staley:

TEKLAB, INC received 15 samples on 1/30/2023 9:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

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# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23010325
**Report Date:** 07-Mar-23

**This reporting package includes the following:**


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| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23010325

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 07-Mar-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 23010325
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 07-Mar-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23010325
**Report Date:** 07-Mar-23

**Cooler Receipt Temp:** 0.0 °C

An employee of Teklab, Inc. collected the sample(s).

Wells AP-7, AP-9, AP-10, AP-11, AP-12, AP-13 and AP-14 were frozen and could not be collected. JR/JC 1/30/23

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

| | |
|---|---|
| **Address** | 3920 Pintail Dr<br>Springfield, IL 62711-9415 |
| **Phone** | (217) 698-1004 |
| **Fax** | (217) 698-1005 |
| **Email** | KKlostermann@teklabinc.com |

### Kansas City

| | |
|---|---|
| **Address** | 8421 Nieman Road<br>Lenexa, KS 66214 |
| **Phone** | (913) 541-1998 |
| **Fax** | (913) 541-1998 |
| **Email** | jhriley@teklabinc.com |

### Collinsville Air

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | EHurley@teklabinc.com |

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@teklabinc.com |

**Client:** City Water, Light & Power
**Work Order:** 23010325
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 07-Mar-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23010325
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 07-Mar-23
**Lab ID:** 23010325-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 01/26/2023 14:40

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 01/26/2023 14:40 | R324367 |
| Depth to water | * | -5.00 | | **6.60** | ft | 1 | 01/26/2023 14:40 | R324367 |
| Depth to water from measuring point | * | 0 | | **9.30** | ft | 1 | 01/26/2023 14:40 | R324367 |
| Elevation of groundwater surface | * | 0 | | **530.20** | ft | 1 | 01/26/2023 14:40 | R324367 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 01/26/2023 14:40 | R324367 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 01/26/2023 14:40 | R324367 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **170** | NTU | 1 | 01/26/2023 14:40 | R324367 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **41.9** | °F | 1 | 01/26/2023 14:40 | R324367 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.15** | | 1 | 01/26/2023 14:40 | R324367 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1640** | µmhos/cm @25C | 1 | 01/26/2023 14:40 | R324367 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **435** | mg/L | 2.5 | 01/31/2023 8:38 | R324271 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/06/2023 13:57 | R324440 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.46** | mg/L | 1 | 02/07/2023 9:56 | R324472 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **29** | mg/L | 1 | 02/06/2023 13:57 | R324453 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.169** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Barium | NELAP | 0.0025 | | **0.168** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Boron | NELAP | 0.0200 | | **0.175** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Calcium | NELAP | 0.100 | | **67.8** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| Lithium | NELAP | 0.0050 | | **0.0179** | mg/L | 1 | 02/06/2023 17:28 | 202449 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/02/2023 12:40 | 202449 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2023 0:32 | 202449 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/03/2023 16:36 | 202449 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/03/2023 16:36 | 202449 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/01/2023 18:13 | 202480 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |

**Client:** City Water, Light & Power
**Work Order:** 23010325
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 07-Mar-23
**Lab ID:** 23010325-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 01/27/2023 10:55

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 01/27/2023 10:55 | R324367 |
| Depth to water | * | -5.00 | | **4.40** | ft | 1 | 01/27/2023 10:55 | R324367 |
| Depth to water from measuring point | * | 0 | | **6.90** | ft | 1 | 01/27/2023 10:55 | R324367 |
| Elevation of groundwater surface | * | 0 | | **529.20** | ft | 1 | 01/27/2023 10:55 | R324367 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 01/27/2023 10:55 | R324367 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 01/27/2023 10:55 | R324367 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.9** | NTU | 1 | 01/27/2023 10:55 | R324367 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.6** | °F | 1 | 01/27/2023 10:55 | R324367 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.46** | | 1 | 01/27/2023 10:55 | R324367 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2440** | µmhos/cm @25C | 1 | 01/27/2023 10:55 | R324367 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1180** | mg/L | 2.5 | 01/31/2023 8:39 | R324271 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **485** | mg/L | 20 | 02/06/2023 14:45 | R324440 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.24** | mg/L | 1 | 02/07/2023 10:00 | R324472 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **36** | mg/L | 1 | 02/06/2023 14:27 | R324453 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Barium | NELAP | 0.0025 | | **0.0744** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Boron | NELAP | 0.0200 | | **3.94** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Calcium | NELAP | 0.100 | | **217** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Cobalt | NELAP | 0.0050 | | **0.0091** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| Lithium | NELAP | 0.0050 | | **0.0476** | mg/L | 1 | 02/06/2023 17:30 | 202449 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/02/2023 13:13 | 202449 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2023 1:00 | 202449 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/03/2023 16:09 | 202449 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/03/2023 16:09 | 202449 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/01/2023 18:17 | 202480 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |

**Client:** City Water, Light & Power
**Work Order:** 23010325
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 07-Mar-23
**Lab ID:** 23010325-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 01/27/2023 10:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 01/27/2023 10:35 | R324367 |
| Depth to water | * | -5.00 | | **7.77** | ft | 1 | 01/27/2023 10:35 | R324367 |
| Depth to water from measuring point | * | 0 | | **9.47** | ft | 1 | 01/27/2023 10:35 | R324367 |
| Elevation of groundwater surface | * | 0 | | **525.93** | ft | 1 | 01/27/2023 10:35 | R324367 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 01/27/2023 10:35 | R324367 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 01/27/2023 10:35 | R324367 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **< 1.0** | NTU | 1 | 01/27/2023 10:35 | R324367 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.9** | °F | 1 | 01/27/2023 10:35 | R324367 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 01/27/2023 10:35 | R324367 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2090** | µmhos/cm @25C | 1 | 01/27/2023 10:35 | R324367 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1040** | mg/L | 2.5 | 01/31/2023 8:39 | R324271 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **461** | mg/L | 10 | 02/06/2023 14:53 | R324440 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.22** | mg/L | 1 | 02/07/2023 10:01 | R324472 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 5 | | **60** | mg/L | 5 | 02/06/2023 14:48 | R324453 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Barium | NELAP | 0.0025 | | **0.111** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Boron | NELAP | 0.0200 | | **14.5** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Calcium | NELAP | 0.100 | | **161** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| Lithium | NELAP | 0.0050 | | **0.0501** | mg/L | 1 | 02/06/2023 17:44 | 202449 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/02/2023 13:15 | 202449 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2023 1:05 | 202449 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/03/2023 16:14 | 202449 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/03/2023 16:14 | 202449 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/01/2023 18:24 | 202480 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |

**Client:** City Water, Light & Power
**Work Order:** 23010325
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 07-Mar-23
**Lab ID:** 23010325-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 01/27/2023 11:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 01/27/2023 11:45 | R324367 |
| Depth to water | * | -5.00 | | **2.30** | ft | 1 | 01/27/2023 11:45 | R324367 |
| Depth to water from measuring point | * | 0 | | **5.20** | ft | 1 | 01/27/2023 11:45 | R324367 |
| Elevation of groundwater surface | * | 0 | | **532.00** | ft | 1 | 01/27/2023 11:45 | R324367 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 01/27/2023 11:45 | R324367 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 01/27/2023 11:45 | R324367 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.0** | NTU | 1 | 01/27/2023 11:45 | R324367 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.5** | °F | 1 | 01/27/2023 11:45 | R324367 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.86** | | 1 | 01/27/2023 11:45 | R324367 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1570** | µmhos/cm @25C | 1 | 01/27/2023 11:45 | R324367 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **555** | mg/L | 2.5 | 01/31/2023 8:51 | R324271 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/06/2023 15:47 | R324440 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.30** | mg/L | 1 | 02/07/2023 10:09 | R324472 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 1 | | **26** | mg/L | 1 | 02/06/2023 15:46 | R324453 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0336** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Barium | NELAP | 0.0025 | | **0.360** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Boron | NELAP | 0.0200 | | **0.0849** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Calcium | NELAP | 0.100 | | **95.1** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| Lithium | NELAP | 0.0050 | | **0.0201** | mg/L | 1 | 02/06/2023 17:49 | 202449 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/02/2023 13:21 | 202449 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2023 1:27 | 202449 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2023 1:27 | 202449 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/07/2023 1:27 | 202449 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/01/2023 18:38 | 202480 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/14/2023 0:00 | R325259 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23010325
**Report Date:** 07-Mar-23

**Carrier:** John Riley

**Completed by:** Lindsey Maddox
**On:** 30-Jan-23

**Received By:** ANC

**Reviewed by:** Shelly A. Hennessy
**On:** 30-Jan-23

**Pages to follow:** Chain of custody 2 Extra pages included 23

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 0.0 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #87147 TSM. - lmaddox - 1/30/2023 10:36:29 AM

Additional Nitric Acid (86511) was needed in the 2 liter containers of AP-1, AP-2, AP-3, AP-4(2 of 2) upon arrival at the laboratory. - lmaddox - 1/30/2023 10:36:48 AM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23010325

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 0 °C #5
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: 87147 TM Added $HNO_3$(86511) to AP-1 (1 of 2), AP-2, AP-3, AP-4 (1 of 2)

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [✓] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TRILLEY/J. COLP

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23010325-001 | RW-3 *14:40 FE SM | 01/26/23 *1400 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 *11:19 3/7/23 | 01/27/23 *1310 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 01/27/23 1056 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | 01/27/23 1035 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 01/26/23 1351 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 01/27/23 1240 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 01/27/23 1205 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 01/27/23 1145 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 01/30/23 0920 | Allison Cohn | 1/30/23 0920 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23010325

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23010325-012 | AP-11 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | FROZEN | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 01/31/23 0720 | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

February 22, 2023

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 23010325

Order No.: 23020178

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 8 sample(s) on 2/2/2023 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **23020178**
Date: **2/22/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23010325

WorkOrder Narrative:
23020178: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCSD-62679 Radium-226_DW(903.0): LCSD-62679 exhibited a high recovery and RPD, the batch is in control by LCS/QCS-62679

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **23020178**
Date: **2/22/2023**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
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*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **23020178**
***22-Feb-23***

**CLIENT:** TEKLAB Inc,
**Project:** 23010325

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 23020178-001 | 23010325-001 | | 1/26/2023 2:20:00 PM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-002 | 23010325-002 | | 1/27/2023 1:19:00 PM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-003 | 23010325-003 | | 1/27/2023 10:55:00 AM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-004 | 23010325-004 | | 1/27/2023 10:35:00 AM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-005 | 23010325-005 | | 1/26/2023 1:51:00 PM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-006 | 23010325-006 | | 1/27/2023 12:40:00 PM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-007 | 23010325-007 | | 1/27/2023 12:05:00 PM | 2/2/2023 1:05:00 PM | Non-Potable Water |
| 23020178-008 | 23010325-009 | | 1/27/2023 11:45:00 AM | 2/2/2023 1:05:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,

**Project:** 23010325

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020178-001A | 23010325-001 | 1/26/2023 2:20:00 PM | Non-Potable Water | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-002A | 23010325-002 | 1/27/2023 1:19:00 PM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-003A | 23010325-003 | 1/27/2023 10:55:00 AM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-004A | 23010325-004 | 1/27/2023 10:35:00 AM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-005A | 23010325-005 | 1/26/2023 1:51:00 PM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-006A | 23010325-006 | 1/27/2023 12:40:00 PM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-007A | 23010325-007 | 1/27/2023 12:05:00 PM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |
| | | | | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |
| 23020178-008A | 23010325-009 | 1/27/2023 11:45:00 AM | | Combined Radium (EPA903+904) | | 2/7/2023 10:11:00 AM | 2/17/2023 5:17:57 PM |
| | | | | Radium-226 (EPA 903.0) | | 2/7/2023 10:11:00 AM | 2/15/2023 |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# DATES REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,

**Project:** 23010325

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020178-008A | 23010325-009 | 1/27/2023 11:45:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 2/7/2023 10:11:00 AM | 2/14/2023 1:39:00 PM |

Original

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# Analytical Report

(consolidated)

WO#: **23020178**

Date Reported: **2/22/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 1/26/2023 2:20:00 PM

**Project:** 23010325

**Lab ID:** 23020178-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23010325-001

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | **E903-904** | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.28 | 2.00 | U | pCi/L | ± 0.54 | 1 | 2/17/2023 5:17:57 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.28 | 1.00 | U | pCi/L | ± 0.11 | 1 | 2/15/2023 |
| Yield | 1 | | | | | 1 | 2/15/2023 |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | -0.37 | 1.00 | U | pCi/L | ± 0.43 | 1 | 2/14/2023 1:39:00 PM |
| Yield | 0.98 | | | | | 1 | 2/14/2023 1:39:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23020178**

Date Reported: **2/22/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 1/27/2023 10:55:00 AM
**Project:** 23010325
**Lab ID:** 23020178-003
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 23010325-003

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | **E903-904** | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.87 | 2.00 | U | pCi/L | ± 0.56 | 1 | 2/17/2023 5:17:57 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.41 | 1.00 | U | pCi/L | ± 0.14 | 1 | 2/15/2023 |
| Yield | 0.91 | | | | | 1 | 2/15/2023 |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.46 | 1.00 | U | pCi/L | ± 0.42 | 1 | 2/14/2023 1:39:00 PM |
| Yield | 0.92 | | | | | 1 | 2/14/2023 1:39:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23020178**

Date Reported: **2/22/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 1/27/2023 10:35:00 AM

**Project:** 23010325

**Lab ID:** 23020178-004
**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23010325-004

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | **E903-904** | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.54 | 2.00 | U | pCi/L | ± 0.53 | 1 | 2/17/2023 5:17:57 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.13 | 1.00 | U | pCi/L | ± 0.08 | 1 | 2/15/2023 |
| Yield | 0.97 | | | | | 1 | 2/15/2023 |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.41 | 1.00 | U | pCi/L | ± 0.45 | 1 | 2/14/2023 1:39:00 PM |
| Yield | 0.97 | | | | | 1 | 2/14/2023 1:39:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23020178**

Date Reported: **2/22/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 1/27/2023 11:45:00 AM

**Project:** 23010325

**Lab ID:** 23020178-008
**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23010325-009

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | **E903-904** | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 1.98 | 2.00 | U | pCi/L | ± 0.75 | 1 | 2/17/2023 5:17:57 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 1.11 | 1.00 | | pCi/L | ± 0.21 | 1 | 2/15/2023 |
| Yield | 1 | | | | | 1 | 2/15/2023 |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.87 | 1.00 | J | pCi/L | ± 0.54 | 1 | 2/14/2023 1:39:00 PM |
| Yield | 1 | | | | | 1 | 2/14/2023 1:39:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# QC SUMMARY REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,
**Project:** 23010325 **BatchID:** **62679**

Sample ID: **23020178-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/7/2023** RunNo: **158366**
Client ID: **23010325-001** Batch ID: **62679** TestNo: **E904.0** **E903-904** Analysis Date: **2/14/2023** SeqNo: **4210556**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.44 | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | U |
| Yield | 1 | | | 0 | 0 | | | 0.9800 | 2.02 | | |

Sample ID: **23020178-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/7/2023** RunNo: **158366**
Client ID: **23010325-002** Batch ID: **62679** TestNo: **E904.0** **E903-904** Analysis Date: **2/14/2023** SeqNo: **4210558**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.24 | 1.00 | | 0 | 0 | | | 0.9300 | 28.6 | 30 | |
| Yield | 1 | | | 0 | 0 | | | 0.9600 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,
**Project:** 23010325 **BatchID:** **62679**

| Sample ID: **MB-62679** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158366** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **62679** | TestNo: **E904.0** | **E903-904** | Analysis Date: **2/14/2023** | SeqNo: **4210547** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | U |
| Yield | 0.810 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-62679** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158366** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **62679** | TestNo: **E904.0** | **E903-904** | Analysis Date: **2/14/2023** | SeqNo: **4210548** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.71 | 1.00 | 5.000 | 0 | 74.2 | 70 | 130 | | | | |
| Yield | 0.920 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-62679** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158366** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **62679** | TestNo: **E904.0** | **E903-904** | Analysis Date: **2/14/2023** | SeqNo: **4210549** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.54 | 1.00 | 5.000 | 0 | 70.8 | 70 | 130 | 3.710 | 4.69 | 20 | |
| Yield | 0.860 | | | 0 | 0 | | | 0.9200 | 6.74 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,
**Project:** 23010325 **BatchID:** **62679**

| Sample ID: **RLC-62679** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158366** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E904.0** | **E903-904** | Analysis Date: **2/14/2023** | SeqNo: **4210551** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.21 | 1.00 | 1.000 | 0 | 121 | 50 | 150 | | | | |
| Yield | 0.920 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-62679** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158366** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E904.0** | **E903-904** | Analysis Date: **2/14/2023** | SeqNo: **4210552** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.900 | 1.00 | 1.000 | 0 | 90.0 | 50 | 150 | | | | J |
| Yield | 0.910 | | | 0 | 0 | | | | | | |

| Sample ID: **23020315-001AMS** | SampType: **MS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158366** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E904.0** | **E903-904** | Analysis Date: **2/14/2023** | SeqNo: **4210553** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.22 | 1.00 | 5.000 | 0 | 84.4 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0.9700 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,
**Project:** 23010325 **BatchID:** **62679**

Sample ID: **23020178-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/7/2023** RunNo: **158369**
Client ID: **23010325-001** Batch ID: **62679** TestNo: **E903.0** **E903-904** Analysis Date: **2/15/2023** SeqNo: **4210647**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 0.39 | 1.00 | | | | | | 0 | 0 | 30 | U |
| Yield | 0.99 | | | | | | | 1.000 | 1.01 | 0 | |

Sample ID: **23020178-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/7/2023** RunNo: **158369**
Client ID: **23010325-002** Batch ID: **62679** TestNo: **E903.0** **E903-904** Analysis Date: **2/15/2023** SeqNo: **4210649**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 0.64 | 1.00 | | | | | | 0 | 0 | 30 | U |
| Yield | 0.98 | | | | | | | 0.9600 | 2.06 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,
**Project:** 23010325 **BatchID:** **62679**

| Sample ID: **MB-62679** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158369** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **62679** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/15/2023** | SeqNo: **4210638** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | U |
| Yield | 0.850 | | | | | | | | | | |

| Sample ID: **LCS-62679** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158369** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **62679** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/15/2023** | SeqNo: **4210639** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.28 | 1.00 | 5.000 | 0 | 106 | 70 | 130 | | | | QLR |

| Sample ID: **RLC-62679** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158369** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/15/2023** | SeqNo: **4210642** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.29 | 1.00 | 1.000 | 0 | 129 | 50 | 150 | | | | |

| Sample ID: **RLCD-62679** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158369** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/15/2023** | SeqNo: **4210643** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23020178**

***22-Feb-23***

**Client:** TEKLAB Inc,
**Project:** 23010325 **BatchID:** **62679**

| Sample ID: **RLCD-62679** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158369** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/15/2023** | SeqNo: **4210643** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.22 | 1.00 | 1.000 | 0 | 122 | 50 | 150 | | | | |

| Sample ID: **23020315-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/7/2023** | RunNo: **158369** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **62679** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/15/2023** | SeqNo: **4210644** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.63 | 1.00 | 5.000 | 0 | 113 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: QC Level: 3

Comments: **Please issue reports and invoices via email only**
Please analyze for Radium (226, 228, and combined) by method EPA903.0/904.0
on standard TAT Please include negative values (no ND).
Batch QC and CCR EDD are required. Receipt summary requested

23020178

Project# 23010325

Contact: Shelly A Hennessy Email: SHennessy@TeklabInc.com
Requested Due Date: 20 business days or less Billing/PO: 33924 Phone: 618-344-1004

State of Origin:

**PLEASE NOTE:**
NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.
Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | Combined Radium | GPM | | pH | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23010325-001 | 1/26/23 1420 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 37 | 23 | 1 | 1 | | | | | | |
| | 23010325-002 | 1/27/23 1319 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 24 | 23 | 1 | 1 | | | | | | |
| | 23010325-003 | 1/27/23 1055 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 20 | 23 | 1 | 1 | | | | | | |
| | 23010325-004 | 1/27/23 1035 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 30 | 10 | 1 | 1 | | | | | | |
| | 23010325-005 | 1/26/23 1351 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 16 | 20 | 1 | 1 | | | | | | |
| | 23010325-006 | 1/27/23 1240 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 20 | 27 | 1 | 1 | | | | | | |
| | 23010325-007 | 1/27/23 1205 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 23 | 27 | 1 | 1 | | | | | | |
| | 23010325-009 | 1/27/23 1145 | HNO3 | Groundwater | ✔ | ✔ | ✔ | 16 | 40 | 1 | 1 | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 1/30/23 | | |
| | | | |
| | | | |
| | | | |
| | | Fedex | 2/2/23 1325 |

2 coolers @ 4.6+0.3 = 4.9 @ 4.5+0.3 = 4.8

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **23020178** RcptNo: **1**

| | | | |
|---|---|---|---|
| Logged by: | **Anthony W. Britton** | **2/2/2023 1:05:00 PM** | Anthony Britton |
| Completed By: | **Anthony W. Britton** | **2/2/2023 7:00:57 PM** | Anthony Britton |
| Reviewed By: | **Jennifer Woolf** | **2/3/2023 10:02:23 AM** | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☐ | No ☑ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

IL per email
project address not included

**Cooler Information**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 4.8 | Good | Not Present | | | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **23020178** RcptNo: **1**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 4.9 | Good | Not Present | | | |

March 07, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 23010324

Dear Eric Staley:

TEKLAB, INC received 12 samples on 1/27/2023 8:00:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23010324
**Report Date:** 07-Mar-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23010324

**Client Project:** Landfill Monitoring Wells **Report Date:** 07-Mar-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 23010324
**Client Project:** Landfill Monitoring Wells
**Report Date:** 07-Mar-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23010324
**Report Date:** 07-Mar-23

**Cooler Receipt Temp:** 0.6 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

| | |
|---|---|
| **Address** | 3920 Pintail Dr<br>Springfield, IL 62711-9415 |
| **Phone** | (217) 698-1004 |
| **Fax** | (217) 698-1005 |
| **Email** | KKlostermann@teklabinc.com |

### Kansas City

| | |
|---|---|
| **Address** | 8421 Nieman Road<br>Lenexa, KS 66214 |
| **Phone** | (913) 541-1998 |
| **Fax** | (913) 541-1998 |
| **Email** | jhriley@teklabinc.com |

### Collinsville Air

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | EHurley@teklabinc.com |

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@teklabinc.com |

**Client:** City Water, Light & Power

**Work Order:** 23010324

**Client Project:** Landfill Monitoring Wells

**Report Date:** 07-Mar-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2023 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2023 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23010324
**Client Project:** Landfill Monitoring Wells
**Report Date:** 07-Mar-23
**Lab ID:** 23010324-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 01/26/2023 9:57

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 01/26/2023 9:57 | R324169 |
| Depth to water | * | -5.00 | | **10.40** | ft | 1 | 01/26/2023 9:57 | R324169 |
| Depth to water from measuring point | * | 0 | | **13.15** | ft | 1 | 01/26/2023 9:57 | R324169 |
| Elevation of groundwater surface | * | 0 | | **542.45** | ft | 1 | 01/26/2023 9:57 | R324169 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 01/26/2023 9:57 | R324169 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.9** | °F | 1 | 01/26/2023 9:57 | R324169 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 01/26/2023 9:57 | R324169 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1940** | µmhos/cm @25C | 1 | 01/26/2023 9:57 | R324169 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.20 | | **2.05** | mg/L | 2 | 02/01/2023 11:55 | R324270 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **< 0.050** | mg/L | 1 | 01/27/2023 13:28 | R324122 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1150** | mg/L | 2.5 | 01/31/2023 8:58 | R324271 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 01/30/2023 20:10 | 202398 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **378** | mg/L | 10 | 02/01/2023 14:14 | R324278 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 4 | | **41** | mg/L | 1 | 02/01/2023 14:09 | R324295 |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7580** | µg/L | 1 | 01/30/2023 18:14 | 202413 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 01/30/2023 18:14 | 202413 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 01/30/2023 18:14 | 202413 |
| Magnesium | NELAP | 0.050 | | **75.5** | mg/L | 1 | 01/30/2023 18:14 | 202413 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 01/30/2023 18:14 | 202413 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **133** | µg/L | 5 | 02/01/2023 18:54 | 202413 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 02/01/2023 18:54 | 202413 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 02/01/2023 17:59 | 202480 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23010324
**Report Date:** 07-Mar-23

**Carrier:** Jospeh Riley

**Completed by:** Timothy W. Mathis
**On:** 27-Jan-23

**Received By:** ANC

**Reviewed by:** Shelly A. Hennessy
**On:** 27-Jan-23

**Pages to follow:** Chain of custody 2 Extra pages included 0

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 0.6 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

G110, R111, and G113 were filtered and preserved for the dissolved parameters upon arrival at the laboratory. - TMathis - 1/27/2023 10:23:28 AM

pH strip #79929/87147 ANC. - TMathis - 1/27/2023 10:24:14 AM

Additional nitric acid (86511) and sulfuric acid (86787) was added to G110 and R111; additional sodium hydroxide was needed for R101 and G113 upon arrival at the laboratory. - SHennessy - 1/27/2023 11:25:21 AM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23010324

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 0.6 °C #3
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3(86511) to G110, R111, H2SO4(86787) to G110, R111 NaOH(81662) to R101, G113
PH 79929 87147 *Samples are partially frozen

Client Comments: ☆ Dup ⊗ Filter in LAB
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

PROJECT NAME/NUMBER: Landfill Monitoring Wells
SAMPLE COLLECTOR'S NAME: J. RILEY / J. COLP

RESULTS REQUESTED: [✓] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

# and Type of Containers / INDICATE ANALYSIS REQUESTED

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Courier |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23010324-001 | R101 | 01/26/23 1252 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 002 | G110 ⊗ | 01/26/23 1314 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 003 | R111 ⊗ | 01/26/23 1157 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 004 | G112 | 01/26/23 1216 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 005 | G113 ⊗ | 01/26/23 1234 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 006 | G120 | 01/26/23 1017 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 007 | G121 | 01/26/23 1130 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 008 | G122 | 01/26/23 1108 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 009 | AW-1 | 01/26/23 0957 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 010 | AW-2 ☆ | 01/26/23 1040 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 011 | RW-3 1440 | 01/26/23 ~~1351~~ | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 01/27/23 0800 | Allison Colin | 1/27/23 0800 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

Print PDF

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23010324

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

**Client Comments:**

Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**: Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**:

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23010324-012 | DUPLICATE | 01/26/23 1040 | Groundwater | 1 | 1 | 1 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 01/27/23 0800 | Allison Cole | 1/27/23 0800 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

Second Quarter 2023

May 24, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 23040094

Dear Eric Staley:

TEKLAB, INC received 15 samples on 4/17/2023 6:34:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23040094
**Report Date:** 24-May-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 22 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23040094

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 24-May-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 23040094
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-May-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23040094
**Report Date:** 24-May-23

**Cooler Receipt Temp:** 7.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23040094
**Report Date:** 24-May-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23040094
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-May-23
**Lab ID:** 23040094-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 04/11/2023 12:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 04/11/2023 12:24 | R327742 |
| Depth to water | * | -5.00 | | **6.04** | ft | 1 | 04/11/2023 12:24 | R327742 |
| Depth to water from measuring point | * | 0 | | **8.74** | ft | 1 | 04/11/2023 12:24 | R327742 |
| Elevation of groundwater surface | * | 0 | | **530.76** | ft | 1 | 04/11/2023 12:24 | R327742 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 04/11/2023 12:24 | R327742 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 04/11/2023 12:24 | R327742 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.5** | NTU | 1 | 04/11/2023 12:24 | R327742 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.6** | °F | 1 | 04/11/2023 12:24 | R327742 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.06** | | 1 | 04/11/2023 12:24 | R327742 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **749** | µmhos/cm @25C | 1 | 04/11/2023 12:24 | R327742 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **426** | mg/L | 1 | 04/14/2023 10:00 | R327370 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 04/17/2023 20:21 | R327359 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.52** | mg/L | 1 | 04/13/2023 11:01 | R327239 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **31** | mg/L | 1 | 04/17/2023 20:21 | R327452 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.145** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Barium | NELAP | 0.0025 | | **0.172** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Boron | NELAP | 0.0200 | | **0.186** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Calcium | NELAP | 0.100 | | **70.5** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/14/2023 16:13 | 204956 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 19:30 | 204956 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 19:30 | 204956 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/17/2023 19:30 | 204956 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/14/2023 15:00 | 204954 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |

**Client:** City Water, Light & Power
**Work Order:** 23040094
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-May-23
**Lab ID:** 23040094-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 04/12/2023 14:49

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 04/12/2023 14:49 | R327742 |
| Depth to water | * | -5.00 | | **4.74** | ft | 1 | 04/12/2023 14:49 | R327742 |
| Depth to water from measuring point | * | 0 | | **7.24** | ft | 1 | 04/12/2023 14:49 | R327742 |
| Elevation of groundwater surface | * | 0 | | **528.86** | ft | 1 | 04/12/2023 14:49 | R327742 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 04/12/2023 14:49 | R327742 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 04/12/2023 14:49 | R327742 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.2** | NTU | 1 | 04/12/2023 14:49 | R327742 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.6** | °F | 1 | 04/12/2023 14:49 | R327742 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.44** | | 1 | 04/12/2023 14:49 | R327742 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1470** | µmhos/cm @25C | 1 | 04/12/2023 14:49 | R327742 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1100** | mg/L | 1 | 04/14/2023 10:00 | R327370 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **462** | mg/L | 20 | 04/17/2023 20:42 | R327359 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.22** | mg/L | 1 | 04/13/2023 11:05 | R327239 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **37** | mg/L | 1 | 04/17/2023 20:36 | R327452 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Barium | NELAP | 0.0025 | | **0.0656** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Boron | NELAP | 0.0200 | | **3.70** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Calcium | NELAP | 0.100 | | **210** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Cobalt | NELAP | 0.0050 | | **0.0102** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/14/2023 16:20 | 204956 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 19:43 | 204956 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 19:43 | 204956 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/17/2023 19:43 | 204956 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/14/2023 15:04 | 204954 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |

**Client:** City Water, Light & Power
**Work Order:** 23040094
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-May-23
**Lab ID:** 23040094-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 04/12/2023 15:26

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 04/12/2023 15:26 | R327742 |
| Depth to water | * | -5.00 | | **7.93** | ft | 1 | 04/12/2023 15:26 | R327742 |
| Depth to water from measuring point | * | 0 | | **9.63** | ft | 1 | 04/12/2023 15:26 | R327742 |
| Elevation of groundwater surface | * | 0 | | **525.77** | ft | 1 | 04/12/2023 15:26 | R327742 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 04/12/2023 15:26 | R327742 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 04/12/2023 15:26 | R327742 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.2** | NTU | 1 | 04/12/2023 15:26 | R327742 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.6** | °F | 1 | 04/12/2023 15:26 | R327742 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 04/12/2023 15:26 | R327742 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1300** | µmhos/cm @25C | 1 | 04/12/2023 15:26 | R327742 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **984** | mg/L | 1 | 04/14/2023 10:01 | R327370 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **483** | mg/L | 10 | 04/17/2023 21:05 | R327359 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.22** | mg/L | 1 | 04/13/2023 11:06 | R327239 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **59** | mg/L | 5 | 04/17/2023 21:00 | R327452 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **< 0.0250** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Barium | NELAP | 0.0025 | | **0.103** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Boron | NELAP | 0.0200 | | **14.3** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Calcium | NELAP | 0.100 | | **168** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Cobalt | NELAP | 0.0050 | | **0.0054** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/14/2023 16:39 | 204956 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 19:49 | 204956 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 19:49 | 204956 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/17/2023 19:49 | 204956 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/14/2023 15:11 | 204954 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |

**Client:** City Water, Light & Power
**Work Order:** 23040094
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-May-23
**Lab ID:** 23040094-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 04/17/2023 15:59

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 04/17/2023 15:59 | R327742 |
| Depth to water | * | -5.00 | | **7.80** | ft | 1 | 04/17/2023 15:59 | R327742 |
| Depth to water from measuring point | * | 0 | | **10.46** | ft | 1 | 04/17/2023 15:59 | R327742 |
| Elevation of groundwater surface | * | 0 | | **528.56** | ft | 1 | 04/17/2023 15:59 | R327742 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 04/17/2023 15:59 | R327742 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 04/17/2023 15:59 | R327742 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **25** | NTU | 1 | 04/17/2023 15:59 | R327742 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.7** | °F | 1 | 04/17/2023 15:59 | R327742 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.11** | | 1 | 04/17/2023 15:59 | R327742 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **712** | µmhos/cm @25C | 1 | 04/17/2023 15:59 | R327742 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **444** | mg/L | 1 | 04/19/2023 9:21 | R327565 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 05/01/2023 17:23 | R328161 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.53** | mg/L | 1 | 04/21/2023 12:41 | R327650 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **70** | mg/L | 2 | 05/01/2023 17:28 | R328107 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0462** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Barium | NELAP | 0.0025 | | **0.162** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Boron | NELAP | 0.0200 | | **0.391** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Calcium | NELAP | 0.100 | | **53.6** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| Lithium | NELAP | 0.0050 | | **0.0113** | mg/L | 1 | 04/24/2023 18:16 | 205144 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/20/2023 18:41 | 205144 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/20/2023 22:08 | 205144 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/20/2023 22:08 | 205144 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/20/2023 22:08 | 205144 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/19/2023 15:17 | 205181 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |

**Client:** City Water, Light & Power
**Work Order:** 23040094
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-May-23
**Lab ID:** 23040094-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 04/12/2023 12:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 04/12/2023 12:12 | R327742 |
| Depth to water | * | -5.00 | | **1.45** | ft | 1 | 04/12/2023 12:12 | R327742 |
| Depth to water from measuring point | * | 0 | | **4.35** | ft | 1 | 04/12/2023 12:12 | R327742 |
| Elevation of groundwater surface | * | 0 | | **532.85** | ft | 1 | 04/12/2023 12:12 | R327742 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 04/12/2023 12:12 | R327742 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 04/12/2023 12:12 | R327742 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 04/12/2023 12:12 | R327742 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.0** | °F | 1 | 04/12/2023 12:12 | R327742 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.77** | | 1 | 04/12/2023 12:12 | R327742 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **970** | µmhos/cm @25C | 1 | 04/12/2023 12:12 | R327742 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **544** | mg/L | 1 | 04/14/2023 11:15 | R327370 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 04/17/2023 21:32 | R327359 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.33** | mg/L | 1 | 04/13/2023 11:10 | R327239 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **26** | mg/L | 1 | 04/17/2023 21:32 | R327452 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0250 | | **0.0348** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Barium | NELAP | 0.0025 | | **0.375** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Boron | NELAP | 0.0200 | | **0.110** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Calcium | NELAP | 0.100 | | **99.1** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/14/2023 16:46 | 204956 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 20:01 | 204956 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/17/2023 20:01 | 204956 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/17/2023 20:01 | 204956 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/14/2023 15:16 | 204954 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |
| Radium-228 | * | 0 | | **See attached** | pci/L | 1 | 05/09/2023 0:00 | R329224 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23040094
**Report Date:** 24-May-23

**Carrier:** Tracy Carroll

**Completed by:** Lindsey Maddox
**On:** 18-Apr-23

**Received By:** LM

**Reviewed by:** Elizabeth A. Hurley
**On:** 18-Apr-23

**Pages to follow:** Chain of custody 6 Extra pages included 52

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 7.8 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

RW-3 was received on 4/11/23 at 1745 (on ice 10.2C - LTG1). - EAH 4/13/23

pH strip #87147. - acolin - 4/12/2023 12:43:58 PM

AP-1, AP-2, AP-3, AP-6, AP-8, and AP-10 were received on 4/12/23 at 1755 (on ice 3.8C - LTG 1). - EAH 4/13/23

pH strip #88374. - CET/TMathis - 4/13/2023 7:45:17 AM

AP-4, AP-5, and AP-14 were received on 4/13/23 at 1510 (on ice 9.0C - LTG 1). - EAH 4/13/23

AP-7, AP-9, AP-11, AP-12 and AP-13 were received on 4/17/23 at 1634 (on ice 7.8C - LTG 5). - lmaddox 4/18/23

pH strip #88374. - CET/lmaddox - 4/18/2023 9:26:13 AM

Additional Nitric Acid (89071) was needed in AP-11 upon arrival at the laboratory. - CET/lmaddox - 4/18/2023 9:26:50 AM

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040094

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 10.2 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: PH 87147 AC 4/12/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: JCalp / TCarroll

RESULTS REQUESTED: [✓] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

# and Type of Containers / INDICATE ANALYSIS REQUESTED

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040094-001 | RW-3 8.74 | 4-11-23/ 1224 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Sent 4/13/23

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 4/11/23 1745 | [signature] | 4/11/23 1745 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040094

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 3.8 °C CTG
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: PWS 88374.005 4-12-23.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Kolp + Carroll

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040094-001 | RW-3 | ~~9.14~~ | ~~4-12-23/ 1224~~ | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | 9.92 | 4-12-23/ 1249 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | 7.24 | 4-12-23/ 1449 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | 9.63 | 4-12-23/ 1526 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | 7.43 | 4-12-23/ 1103 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | 4.35 | 4-12-23/ 1212 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | 3.05 | 4-12-23/ 1350 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Jenny Carroll J. Glo | 4-12-23 1755 | | 4-12-23 1755 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CTG 4-12-23

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040094

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 9.0 °C 576
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: ph 88374, CES 4-13-23.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
JColp & Tcarroll

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040094-001 | RW-3 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 9.52 | 4-13-23 / 1013 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 13.05 | 4-13-23 / 1127 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

# and Type of Containers: HNO3 2 (Sd 4/13/23)

INDICATE ANALYSIS REQUESTED

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Terry Carroll J. Sd | 4-13-23 / 1449 | Morgan Peña | 4/13/23 ~~1510~~ 1449 temp |
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*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CES 4-13-23

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23040094

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
J Colp & T Carroll

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | CIF SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040094-012 | AP-11 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 2.40 | 4-13-23 1106 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | | Groundwater | | | | | | | | | | | | | | | |
| | | | | Groundwater | | | | | | | | | | | | | | | |
| | | | | Groundwater | | | | | | | | | | | | | | | |
| | | | | Groundwater | | | | | | | | | | | | | | | |
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| | | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Jason Carroll J. Colp | 4-13-23 1449 | Maryan Peña | 4/13/23 1449 |
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*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040094

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 7.8 °C
Preserved in: [X] LAB [X] FIELD TE CET 4-18-23 FOR LAB USE ONLY LTG5
LAB NOTES: phr 88374. Added HNO3 (89071) to 2L Apll.
CET 4-18-23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
JCalp & TCarrell

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040094-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 10.46 | 4-17-23 / 1559 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 12.13 | 4-17-23 / 1521 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carrell | 4/17/23 18:34 | [illegible] | 4/17/23 18:34 |
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CET 4-18-23

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23040094

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb Se Tl (ICPMS) As Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
T Carroll JCalp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040094-012 | AP-11 14.20 | 4-17-23 1349 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 14.96 | 4-17-23 1312 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 13.91 | 4-17-23 1134 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
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| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 4/17/23 1834 | | 4/17/23 1834 |

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# WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

## PROJECT INFORMATION

Site: CWLP  Client:

Project Number:  Task #:  Start Date:  Time:

Field Personnel: J. Cobb / T. Carroll  Finish Date: 4-11-23  Time: 1224

## WELL INFORMATION

Well ID: RW-3

Casing ID:  inches

## EVENT TYPE

Well Development  Low-Flow / Low Stress Sampling Other

Well Volume Approach Sampling  (Specify): Low Flow

## WATER QUALITY INDICATOR PARAMETERS (continued)

| Sampling Stage | Time (military) | Volume Removed (gallons) | Depth to Water (Feet) | Drawdown (Feet) | Temp. (°C) | pH (SU) | SEC or Cond. (µs/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | ORP (mV) | Visual Clarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1157 | | 8.74 | | | | | | | | |
| | 1212 | 0.65 | | | 14.1 | 7.13 | 737 | 2.24 | 12.81 | -108.0 | |
| | 1215 | 0.78 | | | 14.1 | 7.11 | 740 | 2.12 | 9.92 | -110.2 | |
| | 1218 | 0.91 | | | 14.1 | 7.09 | 743 | 2.00 | 8.42 | -112.5 | |
| | 1221 | 1.04 | | | 14.2 | 7.08 | 745 | 1.89 | 4.80 | -114.4 | |
| | 1224 | 1.17 | | 14.90 | 14.2 | 7.06 | 749 | 1.78 | 4.49 | -116.3 | |
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## NOTES (continued)

Bladder pump / Clear / No turbidity / Slight odor

## ABBREVIATIONS

Cond. - Actual Conductivity
FT BTOC - Feet Below Top of Casing na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
Temp - Temperature
°C - Degrees Celcius

# WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

## PROJECT INFORMATION

Site: CCP  Client:

Project Number:  Task #:  Start Date:  Time:

Field Personnel: J. Cobb / T. Carroll  Finish Date: 4-12-23  Time: 1449

## WELL INFORMATION

Well ID: AP-2

Casing ID:  inches

## EVENT TYPE

Well Development  Low-Flow / Low Stress Sampling Other

Well Volume Approach Sampling  (Specify): Low Flow

## WATER QUALITY INDICATOR PARAMETERS (continued)

| Sampling Stage | Time (military) | Volume Removed (gallons) | Depth to Water (Feet) | Drawdown (Feet) | Temp. (°C) | pH (SU) | SEC or Cond. (µs/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | ORP (mV) | Visual Clarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1401 | | 7.24 | | | | | | | | |
| | 1437 | 1.56 | | | 13.1 | 6.45 | 1450 | 0.70 | 11.34 | -2.1 | |
| | 1440 | 1.69 | | | 13.1 | 6.45 | 1453 | 0.69 | 11.01 | -2.4 | |
| | 1443 | 1.82 | | | 13.0 | 6.45 | 1460 | 0.67 | 10.17 | -2.7 | |
| | 1446 | 1.82 | | | 13.1 | 6.45 | 1465 | 0.66 | 8.94 | -2.9 | |
| | 1449 | 1.95 | | 7.38 | 13.1 | 6.44 | 1469 | 0.64 | 9.24 | -3.2 | |
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## NOTES (continued)

Bladder Pump / Slight turbidity / Strong odor / Clear

## ABBREVIATIONS

Cond. - Actual Conductivity
FT BTOC - Feet Below Top of Casing na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
Temp - Temperature
°C - Degrees Celcius

# WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

## PROJECT INFORMATION

Site: CWLP  Client:

Project Number:  Task #:  Start Date:  Time:

Field Personnel: J.Gold/T. Carroll  Finish Date: 4-12-23  Time: 1526

## WELL INFORMATION

Well ID: AR3

Casing ID:  inches

## EVENT TYPE

Well Development  Low-Flow / Low Stress Sampling Other

Well Volume Approach Sampling  (Specify):Low Flow

## WATER QUALITY INDICATOR PARAMETERS (continued)

| Sampling Stage | Time (military) | Volume Removed (gallons) | Depth to Water (Feet) | Drawdown (Feet) | Temp. (°C) | pH (SU) | SEC or Cond. (µs/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | ORP (mV) | Visual Clarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1505 | | 9.63 | | | | | | | | |
| | 1520 | 0.65 | | | 13.1 | 6.64 | 1302 | 1.09 | 7.99 | -78.7 | |
| | 1523 | 0.78 | | | 13.0 | 6.64 | 1303 | 0.99 | 6.92 | -79.7 | |
| | 1526 | 0.91 | | 9.70 | 13.1 | 6.64 | 1300 | 0.91 | 6.21 | -80.6 | |
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## NOTES (continued)

Bladder Pump / Clear / no odor / no turbidity

## ABBREVIATIONS

Cond. - Actual Conductivity
FT BTOC - Feet Below Top of Casing na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
Temp - Temperature
°C - Degrees Celcius

## WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

### PROJECT INFORMATION

Site: CWLP
Client:
Project Number:
Task #:
Start Date:
Time:
Field Personnel: J-Cap / T. Carroll
Finish Date: 4-17-23
Time: 1559

### WELL INFORMATION

Well ID: AP-7
Casing ID: inches

### EVENT TYPE

☐ Well Development
☐ Well Volume Approach Sampling
☐ Low-Flow / Low Stress Sampling
☐ Other (Specify):

### WATER QUALITY INDICATOR PARAMETERS (continued)

| Sampling Stage | Time (military) | Volume Removed (gallons) | Depth to Water (Feet) | Drawdown (Feet) | Temp. (°C) | pH (SU) | SEC or Cond. (µs/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | ORP (mV) | Visual Clarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1532 | | 10.46 | | | | | | | | |
| | 1547 | 0.65 | | | 12.5 | 7.10 | 675 | 3.4 | 19.88 | -96.9 | |
| | 1550 | 0.78 | | | 12.5 | 7.09 | 681 | 3.1 | 26.30 | -99.4 | |
| | 1553 | 0.91 | | | 12.5 | 7.08 | 689 | 2.8 | 30.59 | -102.2 | |
| | 1556 | 1.04 | | | 12.6 | 7.09 | 698 | 2.7 | 25.70 | -104.0 | |
| | 1559 | 1.17 | | 19.15 | 12.6 | 7.11 | 712 | 2.6 | 27.53 | -104.4 | |
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### NOTES (continued)

Bladder Pump / odor moderate / clear / slight turbidity /

### ABBREVIATIONS

Cond. - Actual Conductivity
FT BTOC - Feet Below Top of Casing
na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential
SEC - Specific Electrical Conductance
SU - Standard Units
Temp - Temperature
°C - Degrees Celcius

# WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

## PROJECT INFORMATION

Site: CWLP  Client:

Project Number:  Task #:  Start Date:  Time:

Field Personnel: J. Cap / T. Carroll  Finish Date: 4-12-23  Time: 1212

## WELL INFORMATION

Well ID: AO-8

Casing ID:  inches

## EVENT TYPE

Well Development  Low-Flow / Low Stress Sampling Other

Well Volume Approach Sampling  (Specify): Low Flow

## WATER QUALITY INDICATOR PARAMETERS (continued)

| Sampling Stage | Time (military) | Volume Removed (gallons) | Depth to Water (Feet) | Drawdown (Feet) | Temp. (°C) | pH (SU) | SEC or Cond. (µs/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | ORP (mV) | Visual Clarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1127 | | 4.35 | | | | | | | | |
| | 1154 | 1.17 | | | 13.6 | 6.80 | 971 | 0.76 | 22.90 | -159.8 | |
| | 1157 | 1.30 | | | 13.6 | 6.80 | 970 | 0.73 | 22.41 | -160.5 | |
| | 1200 | 1.43 | | | 13.6 | 6.79 | 969 | 0.70 | 17.84 | -160.7 | |
| | 1203 | 1.56 | | | 13.8 | 6.79 | 970 | 0.66 | 14.62 | -160.3 | |
| | 1206 | 1.69 | | | 13.8 | 6.78 | 970 | 0.67 | 13.26 | -160.2 | |
| | 1209 | 1.82 | | | 13.9 | 6.78 | 971 | 0.66 | 12.88 | -160.1 | |
| | 1212 | 1.95 | | 4.52 | 13.9 | 6.77 | 970 | 0.65 | 12.83 | -159.6 | |
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## NOTES (continued)

Submersible pump / Clear / Slight turbidity / no odor

## ABBREVIATIONS

Cond. - Actual Conductivity
FT BTOC - Feet Below Top of Casing na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
Temp - Temperature
°C - Degrees Celcius

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 23, 2023

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 23040094

Dear Shelly Hennessy:

Order No.: 23041812

Summit Environmental Technologies, Inc. received 15 sample(s) on 4/26/2023 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **23041812**
Date: **5/23/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23040094

WorkOrder Narrative:
23041812: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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# Qualifiers and Acronyms

WO#: **23041812**
Date: **5/23/2023**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **23041812**

***23-May-23***

**CLIENT:** TEKLAB Inc,
**Project:** 23040094

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 23041812-001 | 23040094-001 | | 4/11/2023 12:24:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-002 | 23040094-002 | | 4/12/2023 12:49:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-003 | 23040094-003 | | 4/12/2023 2:49:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-004 | 23040094-004 | | 4/12/2023 3:26:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-005 | 23040094-005 | | 4/13/2023 10:13:00 AM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-006 | 23040094-006 | | 4/13/2023 11:27:00 AM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-007 | 23040094-007 | | 4/12/2023 11:03:00 AM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-008 | 23040094-008 | | 4/17/2023 3:59:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-009 | 23040094-009 | | 4/12/2023 12:12:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-010 | 23040094-010 | | 4/17/2023 3:21:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-011 | 23040094-011 | | 4/12/2023 1:50:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-012 | 23040094-012 | | 4/17/2023 1:49:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-013 | 23040094-013 | | 4/17/2023 1:12:00 PM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-014 | 23040094-014 | | 4/17/2023 11:34:00 AM | 4/26/2023 1:10:00 PM | Non-Potable Water |
| 23041812-015 | 23040094-015 | | 4/13/2023 11:06:00 AM | 4/26/2023 1:10:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,

**Project:** 23040094

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23041812-001A | 23040094-001 | 4/11/2023 12:24:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 4/28/2023 9:55:00 AM | 5/9/2023 12:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 4/28/2023 9:55:00 AM | 5/8/2023 2:58:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/11/2023 9:48:00 AM | 5/16/2023 3:00:00 PM |
| 23041812-002A | 23040094-002 | 4/12/2023 12:49:00 PM | | Radium-226 (EPA 903.0) | | 4/28/2023 9:55:00 AM | 5/9/2023 12:05:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 4/28/2023 9:55:00 AM | 5/8/2023 2:58:00 PM |
| 23041812-003A | 23040094-003 | 4/12/2023 2:49:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-004A | 23040094-004 | 4/12/2023 3:26:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-005A | 23040094-005 | 4/13/2023 10:13:00 AM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-006A | 23040094-006 | 4/13/2023 11:27:00 AM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-007A | 23040094-007 | 4/12/2023 11:03:00 AM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-008A | 23040094-008 | 4/17/2023 3:59:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-009A | 23040094-009 | 4/12/2023 12:12:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-010A | 23040094-010 | 4/17/2023 3:21:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-011A | 23040094-011 | 4/12/2023 1:50:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |

Original

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# DATES REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,

**Project:** 23040094

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23041812-012A | 23040094-012 | 4/17/2023 1:49:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-013A | 23040094-013 | 4/17/2023 1:12:00 PM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-014A | 23040094-014 | 4/17/2023 11:34:00 AM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |
| 23041812-015A | 23040094-015 | 4/13/2023 11:06:00 AM | | Radium-226 (EPA 903.0) | | 5/1/2023 12:25:00 PM | 5/10/2023 9:46:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/1/2023 12:25:00 PM | 5/9/2023 3:21:00 PM |

Original

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# Analytical Report

(consolidated)

WO#: **23041812**

Date Reported: **5/23/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23040094
**Lab ID:** 23041812-001
**Client Sample ID:** 23040094-001

**Collection Date:** 4/11/2023 12:24:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 0.19 | 1.00 | U | pCi/L | ± 0.1 | 1 | 5/9/2023 12:05:00 PM |
| Yield | 0.96 | | | | | 1 | 5/9/2023 12:05:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 0.29 | 1.00 | U | pCi/L | ± 0.43 | 1 | 5/16/2023 3:00:00 PM |
| Yield | 0.9 | | | | | 1 | 5/16/2023 3:00:00 PM |

| Qualifiers: | | | | |
|---|---|---|---|---|
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| | MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| | ND | Not Detected | OG1 | |
| | P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23041812**

Date Reported: **5/23/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/12/2023 2:49:00 PM

**Project:** 23040094

**Lab ID:** 23041812-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23040094-003

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 0.29 | 1.00 | U | pCi/L | ± 0.16 | 1 | 5/10/2023 9:46:00 AM |
| Yield | 0.94 | | | | | 1 | 5/10/2023 9:46:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 2.21 | 1.00 | | pCi/L | ± 0.92 | 1 | 5/9/2023 3:21:00 PM |
| Yield | 0.94 | | | | | 1 | 5/9/2023 3:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23041812**

Date Reported: **5/23/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 4/12/2023 3:26:00 PM
**Project:** 23040094
**Lab ID:** 23041812-004
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 23040094-004

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | -0.03 | 1.00 | U | pCi/L | ± 0.17 | 1 | 5/10/2023 9:46:00 AM |
| Yield | 0.9 | | | | | 1 | 5/10/2023 9:46:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 0.39 | 1.00 | U | pCi/L | ± 0.72 | 1 | 5/9/2023 3:21:00 PM |
| Yield | 0.96 | | | | | 1 | 5/9/2023 3:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23041812**

Date Reported: **5/23/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/17/2023 3:59:00 PM

**Project:** 23040094

**Lab ID:** 23041812-008

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23040094-008

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 0.37 | 1.00 | U | pCi/L | ± 0.17 | 1 | 5/10/2023 9:46:00 AM |
| Yield | 0.94 | | | | | 1 | 5/10/2023 9:46:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 1.17 | 1.00 | | pCi/L | ± 0.89 | 1 | 5/9/2023 3:21:00 PM |
| Yield | 0.94 | | | | | 1 | 5/9/2023 3:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23041812**

Date Reported: **5/23/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23040094
**Lab ID:** 23041812-009
**Client Sample ID:** 23040094-009

**Collection Date:** 4/12/2023 12:12:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 1.22 | 1.00 | | pCi/L | ± 0.28 | 1 | 5/10/2023 9:46:00 AM |
| Yield | 1 | | | | | 1 | 5/10/2023 9:46:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 1.66 | 1.00 | | pCi/L | ± 0.94 | 1 | 5/9/2023 3:21:00 PM |
| Yield | 1 | | | | | 1 | 5/9/2023 3:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64709**

| Sample ID: **MB-64709** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163427** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **64709** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/8/2023** | SeqNo: **4346663** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.640 | 1.00 | | 0 | 0 | | | | | | J |
| Yield | 0.980 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-64709** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163427** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **64709** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/8/2023** | SeqNo: **4346664** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.43 | 1.00 | 5.000 | 0 | 88.6 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-64709** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163427** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64709** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/8/2023** | SeqNo: **4346668** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.970 | 1.00 | 1.000 | 0 | 97.0 | 50 | 150 | | | | J |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64709**

Sample ID: **23041659-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/28/2023** RunNo: **163427**
Client ID: **BatchQC** Batch ID: **64709** TestNo: **E904.0** **E903-904** Analysis Date: **5/8/2023** SeqNo: **4346672**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | U |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64709**

| Sample ID: **MB-64709** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346930** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | U |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-64709** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346931** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.16 | 1.00 | 5.000 | 0 | 103 | 70 | 130 | | | | |

| Sample ID: **LCSD-64709** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346932** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.38 | 1.00 | 5.000 | 0 | 108 | 70 | 130 | 5.160 | 4.17 | 20 | |

| Sample ID: **RLC-64709** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346934** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64709**

| Sample ID: **RLC-64709** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346934** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.21 | 1.00 | 1.000 | 0 | 121 | 50 | 150 | | | | |

| Sample ID: **RLCD-64709** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346935** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.09 | 1.00 | 1.000 | 0 | 109 | 50 | 150 | | | | |

| Sample ID: **23041658-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346936** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.09 | 1.00 | 5.000 | 0 | 102 | 70 | 130 | | | | |

| Sample ID: **23041659-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/28/2023** | RunNo: **163434** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64709** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4346939** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | U |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23041812**
***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64709**

Sample ID: **23041659-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/28/2023** RunNo: **163434**
Client ID: **BatchQC** Batch ID: **64709** TestNo: **E903.0** **E903-904** Analysis Date: **5/9/2023** SeqNo: **4346939**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yield | 0.970 | | | | | | | 0.9600 | 1.04 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64851**

| Sample ID: **MB-64851** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163841** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **64851** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4362722** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.930 | 1.00 | | 0 | 0 | | | | | | J |
| Yield | 0.880 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-64851** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163841** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **64851** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4362723** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.60 | 1.00 | 5.000 | 0 | 72.0 | 70 | 130 | | | | |
| Yield | 0.880 | | | 0 | 0 | | | | | | |

| Sample ID: **RLC-64851** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163841** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64851** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/9/2023** | SeqNo: **4362726** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.69 | 1.00 | 1.000 | 0 | 269 | 50 | 150 | | | | S |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64851**

Sample ID: **RLCD-64851** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/1/2023** RunNo: **163841**
Client ID: **BatchQC** Batch ID: **64851** TestNo: **E904.0** **E903-904** Analysis Date: **5/9/2023** SeqNo: **4362727**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.99 | 1.00 | 1.000 | 0 | 199 | 50 | 150 | | | | S |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64851**

Sample ID: **23041819-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/1/2023** RunNo: **163841**
Client ID: **BatchQC** Batch ID: **64851** TestNo: **E904.0** **E903-904** Analysis Date: **5/9/2023** SeqNo: **4362731**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | U |
| Yield | 0.930 | | | 0 | 0 | | | 0.9800 | 5.24 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64851**

| Sample ID: **MB-64851** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363196** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | U |
| Yield | 0.880 | | | | | | | | | | |

| Sample ID: **LCS-64851** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363197** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.48 | 1.00 | 5.000 | 0 | 110 | 70 | 130 | | | | |

| Sample ID: **LCSD-64851** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363198** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.17 | 1.00 | 5.000 | 0 | 103 | 70 | 130 | 5.480 | 5.82 | 20 | |

| Sample ID: **RLCD-64851** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363201** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23041812**
***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64851**

| Sample ID: **RLCD-64851** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363201** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.34 | 1.00 | 1.000 | 0 | 134 | 50 | 150 | | | | |

| Sample ID: **23041815-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363202** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.61 | 1.00 | 5.000 | 0.9600 | 93.0 | 70 | 130 | | | | |

| Sample ID: **23041819-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363205** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | U |
| Yield | 0.940 | | | | | | | 0.9600 | 2.11 | 0 | |

| Sample ID: **23041990-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/1/2023** | RunNo: **163869** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **64851** | TestNo: **E903.0** | **E903-904** | Analysis Date: **5/10/2023** | SeqNo: **4363207** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **64851**

Sample ID: **23041990-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/1/2023** RunNo: **163869**
Client ID: **BatchQC** Batch ID: **64851** TestNo: **E903.0** **E903-904** Analysis Date: **5/10/2023** SeqNo: **4363207**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 0.760 | 1.00 | | | | | | 0 | 200 | 20 | JR |
| Yield | 0.990 | | | | | | | 0.9700 | 2.04 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **65044**

| Sample ID: **MB-65044** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/11/2023** | RunNo: **163963** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **65044** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/16/2023** | SeqNo: **4366735** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.660 | 1.00 | | 0 | 0 | | | | | | J |
| Yield | 0.890 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-65044** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/11/2023** | RunNo: **163963** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **65044** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/16/2023** | SeqNo: **4366736** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.81 | 1.00 | 5.000 | 0 | 56.2 | 70 | 130 | | | | |
| Yield | 0.910 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-65044** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/11/2023** | RunNo: **163963** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **65044** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/16/2023** | SeqNo: **4366737** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.74 | 1.00 | 5.000 | 0 | 74.8 | 70 | 130 | 2.810 | 28.4 | 20 | |
| Yield | 0.960 | | | 0 | 0 | | | 0.9100 | 5.35 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23041812**

***23-May-23***

**Client:** TEKLAB Inc,
**Project:** 23040094 **BatchID:** **65044**

Sample ID: **RLCD-65044** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/11/2023** RunNo: **163963**
Client ID: **BatchQC** Batch ID: **65044** TestNo: **E904.0** **E903-904** Analysis Date: **5/16/2023** SeqNo: **4366740**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.23 | 1.00 | 1.000 | 0 | 123 | 50 | 150 | | | | |
| Yield | 0.960 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

23041812

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Tracy Carroll/TEKLAB | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 on your standard turn around time.
Samples collected from an IL site.
Batch QC is required for all analyses requested. EDD requested..

Project# 23040094

Contact: Shelly Hennessey | Email: shennessey@teklabinc.com
Requested Due Date: Standard TAT | Billing/PO: 34257 | Phone: (618) 344-1004

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23040094-001 | 4/11/23 1224 | HNO3 | Groundwater | ☑ | PH | 1 | CPM | 23 | | | | | | | | |
| | 23040094-002 | 4/12/23 1249 | HNO3 | Groundwater | ☑ | | 1 | | 29 | | | | | | | | |
| | 23040094-003 | 4/12/23 1449 | HNO3 | Groundwater | ☑ | | 1 | | 31 | | | | | | | | |
| | 23040094-004 | 4/12/23 1526 | HNO3 | Groundwater | ☑ | | 1 | | 36 | | | | | | | | |
| | 23040094-005 | 4/13/23 1013 | HNO3 | Groundwater | ☑ | | 1 | | 24 | | | | | | | | |
| | 23040094-006 | 4/13/23 1127 | HNO3 | Groundwater | ☑ | | 1 | | 35 | | | | | | | | |
| | 23040094-007 | 4/12/23 1103 | HNO3 | Groundwater | ☑ | | 1 | | 21 | | | | | | | | |
| | 23040094-008 | 4/17/23 1559 | HNO3 | Groundwater | ☑ | | 1 | | 27 | | | | | | | | |
| | 23040094-009 | 4/12/23 1212 | HNO3 | Groundwater | ☑ | | 1 | | 32 | | | | | | | | |
| | 23040094-010 | 4/17/23 1521 | HNO3 | Groundwater | ☑ | | 1 | | 39 | | | | | | | | |
| | 23040094-011 | 4/12/23 1350 | HNO3 | Groundwater | ☑ | ☑ | 1 | ☑ | 41 | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [illegible] | 4/18/23 | [illegible] | 04/26/23 1310 |
| | | | |
| | | | |
| | | | |
| | | | |

13.1+0.1=13.2, Fed-ex cooler

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Tracy Carroll/TEKLAB | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 on your standard turn around time.
Samples collected from an IL site.
Batch QC is required for all analyses requested. EDD requested..

Project# 23040094

Contact: Shelly Hennessey | Email: shennessey@teklabinc.com | Phone: (618) 344-1004
Requested Due Date: Standard TAT | Billing/PO: 34257

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23040094-012 | 4/17/23 1349 | HNO3 | Groundwater | ☑ | PH | 1 | CRM | 16 | | | | | | | | |
| | 23040094-013 | 4/17/23 1312 | HNO3 | Groundwater | ☑ | | 1 | 1 | 20 | | | | | | | | |
| | 23040094-014 | 4/17/23 1134 | HNO3 | Groundwater | ☑ | | 1 | | 19 | | | | | | | | |
| | 23040094-015 | 4/13/23 1106 | HNO3 | Groundwater | ☑ | ✓ | 1 | ✓ | 28 | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | ☐ | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| JMP | 4/18/23 | | |
| | | | |
| | | | |
| | | | |

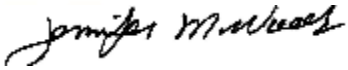
Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **23041812** RcptNo: **1**

| | | | |
|---|---|---|---|
| Logged by: | **Anthony W. Britton** | **4/26/2023 1:10:00 PM** | |
| Completed By: | **Anthony W. Britton** | **4/26/2023 4:55:12 PM** | |
| Reviewed By: | **Jennifer Woolf** | **4/26/2023 6:42:30 PM** |  |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☐ | No ☑ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

**Cooler Information**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 13.2 | Good | Not Present | | | |

May 03, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells G1-G2 **WorkOrder:** 23040093

Dear Eric Staley:

TEKLAB, INC received 12 samples on 4/12/2023 5:55:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells G1-G2

**Work Order:** 23040093
**Report Date:** 03-May-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 31 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23040093

**Client Project:** Landfill Monitoring Wells G1-G2 **Report Date:** 03-May-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 23040093

**Client Project:** Landfill Monitoring Wells G1-G2

**Report Date:** 03-May-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 23040093
**Client Project:** Landfill Monitoring Wells G1-G2
**Report Date:** 03-May-23

**Cooler Receipt Temp:** 3.8 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 23040093

**Client Project:** Landfill Monitoring Wells G1-G2

**Report Date:** 03-May-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2023 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2023 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2023 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23040093
**Client Project:** Landfill Monitoring Wells G1-G2
**Report Date:** 03-May-23
**Lab ID:** 23040093-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 04/11/2023 10:49

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 04/11/2023 10:49 | R327707 |
| Depth to water | * | -5.00 | | **10.62** | ft | 1 | 04/11/2023 10:49 | R327707 |
| Depth to water from measuring point | * | 0 | | **13.37** | ft | 1 | 04/11/2023 10:49 | R327707 |
| Elevation of groundwater surface | * | 0 | | **542.23** | ft | 1 | 04/11/2023 10:49 | R327707 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 04/11/2023 10:49 | R327707 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.7** | °F | 1 | 04/11/2023 10:49 | R327707 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.47** | | 1 | 04/11/2023 10:49 | R327707 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1550** | µmhos/cm @25C | 1 | 04/11/2023 10:49 | R327707 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.75** | mg/L | 1 | 04/13/2023 13:54 | R327246 |
| **EPA 600 350.1 (TOTAL)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.74** | mg/L | 1 | 04/13/2023 13:51 | R327246 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **< 0.050** | mg/L | 1 | 04/12/2023 17:13 | R327235 |
| **EPA 600 353.2 R2.0 (TOTAL)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **< 0.050** | mg/L | 1 | 04/12/2023 18:17 | R327235 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1120** | mg/L | 1 | 04/14/2023 11:57 | R327370 |
| **STANDARD METHODS 5210 B 2001, 2011** | | | | | | | | |
| Biochemical Oxygen Demand | NELAP | 10 | | **< 10** | mg/L | 1 | 04/12/2023 17:20 | 204912 |
| **STANDARD METHODS 5220 D (TOTAL) 1997** | | | | | | | | |
| Chemical Oxygen Demand | NELAP | 50 | | **< 50** | mg/L | 1 | 04/17/2023 13:14 | R327362 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 04/17/2023 9:47 | 204993 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **389** | mg/L | 10 | 04/14/2023 9:25 | R327292 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **399** | mg/L | 10 | 04/14/2023 10:20 | R327292 |
| **SW-846 9060** | | | | | | | | |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | **2.8** | mg/L | 1 | 04/18/2023 19:38 | R327458 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 04/13/2023 11:36 | R327239 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 4 | | **44** | mg/L | 1 | 04/14/2023 9:20 | R327293 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **41** | mg/L | 1 | 04/14/2023 10:16 | R327293 |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7970** | µg/L | 1 | 04/13/2023 12:53 | 204916 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 04/13/2023 12:53 | 204916 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 04/13/2023 12:53 | 204916 |
| Magnesium | NELAP | 0.050 | | **79.4** | mg/L | 1 | 04/13/2023 12:53 | 204916 |

**Client:** City Water, Light & Power
**Work Order:** 23040093
**Client Project:** Landfill Monitoring Wells G1-G2
**Report Date:** 03-May-23
**Lab ID:** 23040093-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 04/11/2023 10:49

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 04/13/2023 12:53 | 204916 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **635** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Barium | NELAP | 2.5 | | **622** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Boron | NELAP | 20.0 | | **8390** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Calcium | NELAP | 0.100 | | **191** | mg/L | 1 | 04/13/2023 16:19 | 204911 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Iron | NELAP | 40.0 | | **43300** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Magnesium | NELAP | 0.050 | | **83.2** | mg/L | 1 | 04/13/2023 16:19 | 204911 |
| Manganese | NELAP | 7.0 | | **178** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Potassium | NELAP | 0.100 | | **2.24** | mg/L | 1 | 04/13/2023 16:19 | 204911 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Sodium | NELAP | 0.050 | | **29.8** | mg/L | 1 | 04/13/2023 16:19 | 204911 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 04/13/2023 16:19 | 204911 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **150** | µg/L | 5 | 04/14/2023 21:14 | 204916 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 04/13/2023 20:24 | 204916 |
| *LCS recovered outside upper control limits for Pb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 04/13/2023 20:03 | 204911 |
| Arsenic | NELAP | 1.0 | | **152** | µg/L | 5 | 04/13/2023 20:03 | 204911 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 04/13/2023 20:03 | 204911 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 04/13/2023 20:03 | 204911 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 04/13/2023 10:17 | 204914 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 04/13/2023 10:15 | 204914 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 23040093
**Client Project:** Landfill Monitoring Wells G1-G2
**Report Date:** 03-May-23

**Carrier:** Justin Colp
**Received By:** TWM

**Completed by:** Timothy W. Mathis
**On:** 13-Apr-23

**Reviewed by:** Elizabeth A. Hurley
**On:** 13-Apr-23

**Pages to follow:** Chain of custody 4 Extra pages included 11

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.8 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

R111, G112, G113, G120, G121, G122, and Duplicate were received on 4/10/23 at 1916 (on ice 3.4C - LTG 5).. - ehurley - 4/11/2023 10:05:36 AM

pH strip #88374/79929. - CET/ehurley - 4/11/2023 10:06:08 AM

R101, AW-1, AW-2, and RW-3 were received on 4/11/23 at 1745 (on ice 10.2C - LTG5). - EAH 4/13/23

pH strip #79929/87147. - acolin - 4/12/2023 12:42:00 PM

G110 was received on 4/12/23 at 1755 (on ice 3.8C - LTG1). - EAH 4/13/23

pH strip #79929/88374. - CET/TMathis - 4/13/2023 7:28:42 AM

G110 was filtered and preserved for the dissolved parameters upon arrival at the laboratory. - TMathis - 4/13/2023 7:29:33 AM

Additional NaOH (81662) and H2SO4 (86787) were needed in G110 upon arrival at the laboratory. - TMathis - 4/13/2023 7:29:51 AM

CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040093

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

23040093

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 3.4 °C LTG
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: Ph 588374/79929. Added NaOH (81662) to all NaOH samples. CTET 4-11-23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
Quarter 2
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040093-001 | R101 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 24.66 | 4-10-23 / 1731 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 27.57 | 4-10-23 / 1623 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 3.90 | 4-10-23 / 1500 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 14.93 | 4-10-23 / 1253 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 26.85 | 4-10-23 / 1349 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 28.70 | 4-10-23 / 1417 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Cole | 4-10-23 / 1916 | Morgan Petin | 4/10/23 1916 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CTET 4-11-23

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23040093

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**

Quarter 2

*elevations, pH, conductivity, temperature

**As B Cd Cr Pb Mg Hg Zn

***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**

Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**

☐ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | | | | |
| 23040093-012 | Duplicate 27.57 | 4-10-23 1623 | Groundwater | 2 | 2 | 1 | 4 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 4-10-23 / 1916 | Morgan Porter | 4/10/23 1916 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040093

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 10.2 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY LTG5
LAB NOTES:
PH 79929, 87147 AC 4/12/23

Client Comments: * = Filter in lab
Quarter 2
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

PROJECT NAME/NUMBER: Landfill Monitoring Wells G1-G2
SAMPLE COLLECTOR'S NAME: J Colp / T Carroll

RESULTS REQUESTED: [ ] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040093-001 | R101 5.80 | 4-11-23 / 1416 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 ~~[illegible]~~ | ~~4-11-23 / 1527~~ | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 13.37 | 4-11-23 / 1049 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 4.20 | 4-11-23 / 1142 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 8.74 | 4-11-23 / 1224 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tierney Carroll | 4/11/23 1745 | Allison Colp | 4/11/23 1745 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23040093

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 3.8 °C TG.1
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH 883741/799291 Added NaOH (81662) to 6110. Added
$ = Filter in lab H2SO4 (86787) to 125ml amber
From 6110.
4-13-23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
Quarter 2
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (0) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23040093-001 | R101 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 002 | G110 ~~X~~ 23.47 | 4-12-23 / 1017 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 003 | R111 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 004 | G112 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 005 | G113 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 006 | G120 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 007 | G121 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 008 | G122 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 009 | AW-1 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 010 | AW-2 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| 011 | RW-3 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Cob | 4-12-23 1755 | [signature] | 4.12.23 1755 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CEG 4-13-23

# WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

## PROJECT INFORMATION

Site: Clay LP  Client: Vistra

Project Number:  Task #:  Start Date:  Time:

Field Personnel: J. Cobb / T. Carroll  Finish Date: 4-11-23  Time: 1049

## WELL INFORMATION

Well ID: AW-1

Casing ID:  inches

## EVENT TYPE

Well Development

Well Volume Approach Sampling

Low-Flow / Low Stress Sampling Other

(Specify): Low Flow

## WATER QUALITY INDICATOR PARAMETERS (continued)

| Sampling Stage | Time (military) | Volume Removed (gallons) | Depth to Water (Feet) | Drawdown (Feet) | Temp. (°C) | pH (SU) | SEC or Cond. (µs/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | ORP (mV) | Visual Clarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0952 | | 13.37 | | | | | | | | |
| | 1034 | 1.82 | | | 14.2 | 6.47 | 1548 | 0.76 | 17.49 | -158.2 | |
| | 1037 | 1.95 | | | 14.3 | 6.47 | 1549 | 0.73 | 19.01 | -158.3 | |
| | 1040 | 2.08 | | | 14.3 | 6.47 | 1549 | 0.71 | 16.05 | -158.2 | |
| | 1043 | 2.21 | | | 14.3 | 6.47 | 1549 | 0.69 | 13.94 | -157.9 | |
| | 1046 | 2.34 | | | 14.3 | 6.47 | 1548 | 0.67 | 12.65 | -157.6 | |
| | 1049 | 2.47 | | 17.80 | 14.3 | 6.47 | 1548 | 0.66 | 13.81 | -157.4 | |
| | | | | | | | | | | | |
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## NOTES (continued)

Submersible Pump / Clear / Slight turbidity / no odor

## ABBREVIATIONS

Cond. - Actual Conductivity
FT BTOC - Feet Below Top of Casing na - Not Applicable
nm - Not Measured
ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units
Temp - Temperature
°C - Degrees Celcius

Third Quarter 2023

August 16, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 23070002

Dear Eric Staley:

TEKLAB, INC received 15 samples on 7/7/2023 4:44:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23070002
**Report Date:** 16-Aug-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 25 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23070002

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 16-Aug-23

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 23070002

**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23

**Cooler Receipt Temp:** 5.2 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23070002
**Report Date:** 16-Aug-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23
**Lab ID:** 23070002-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 07/06/2023 12:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 07/06/2023 12:23 | R332756 |
| Depth to water | * | -5.00 | | **8.29** | ft | 1 | 07/06/2023 12:23 | R332756 |
| Depth to water from measuring point | * | 0 | | **10.99** | ft | 1 | 07/06/2023 12:23 | R332756 |
| Elevation of groundwater surface | * | 0 | | **528.51** | ft | 1 | 07/06/2023 12:23 | R332756 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 07/06/2023 12:23 | R332756 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 07/06/2023 12:23 | R332756 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.3** | NTU | 1 | 07/06/2023 12:23 | R332756 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.5** | °F | 1 | 07/06/2023 12:23 | R332756 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.13** | | 1 | 07/06/2023 12:23 | R332756 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **437** | µmhos/cm @25C | 1 | 07/06/2023 12:23 | R332756 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **290** | mg/L | 2.5 | 07/07/2023 15:00 | R331380 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **22** | mg/L | 1 | 07/24/2023 14:05 | R333047 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.27** | mg/L | 1 | 07/11/2023 12:53 | R331398 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **28** | mg/L | 1 | 07/24/2023 14:06 | R333070 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.106** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Boron | NELAP | 0.0200 | | **0.0595** | mg/L | 1 | 07/12/2023 13:56 | 208261 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Calcium | NELAP | 0.100 | B | **52.8** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 07/11/2023 18:26 | 208261 |
| *Sample result(s) for Ca exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 2:05 | 208261 |
| Arsenic | NELAP | 0.0010 | | **0.0831** | mg/L | 5 | 07/12/2023 2:05 | 208261 |
| Lithium | * | 0.0030 | | **< 0.0030** | mg/L | 5 | 07/17/2023 11:48 | 208261 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 2:05 | 208261 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 07/12/2023 2:05 | 208261 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 07/11/2023 15:26 | 208286 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/24/2023 15:18 | R335080 |

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23
**Lab ID:** 23070002-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 07/06/2023 12:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/24/2023 15:18 | R335080 |

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23
**Lab ID:** 23070002-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 07/07/2023 12:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 07/07/2023 12:31 | R332756 |
| Depth to water | * | -5.00 | | **6.07** | ft | 1 | 07/07/2023 12:31 | R332756 |
| Depth to water from measuring point | * | 0 | | **8.57** | ft | 1 | 07/07/2023 12:31 | R332756 |
| Elevation of groundwater surface | * | 0 | | **527.53** | ft | 1 | 07/07/2023 12:31 | R332756 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 07/07/2023 12:31 | R332756 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 07/07/2023 12:31 | R332756 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.3** | NTU | 1 | 07/07/2023 12:31 | R332756 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.3** | °F | 1 | 07/07/2023 12:31 | R332756 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.40** | | 1 | 07/07/2023 12:31 | R332756 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1390** | µmhos/cm @25C | 1 | 07/07/2023 12:31 | R332756 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1600** | mg/L | 2.5 | 07/11/2023 10:29 | R331470 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **795** | mg/L | 20 | 07/24/2023 14:39 | R333047 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.20** | mg/L | 1 | 07/11/2023 12:58 | R331398 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **54** | mg/L | 2 | 07/26/2023 19:46 | R333204 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0719** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Boron | NELAP | 0.0200 | | **3.73** | mg/L | 1 | 07/12/2023 20:40 | 208261 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Calcium | NELAP | 0.100 | B | **244** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Cobalt | NELAP | 0.0050 | | **0.0085** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 07/11/2023 18:30 | 208261 |
| *Sample result(s) for Ca exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 3:13 | 208261 |
| Arsenic | NELAP | 0.0010 | | **0.0020** | mg/L | 5 | 07/12/2023 3:13 | 208261 |
| Lithium | * | 0.0030 | | **0.0063** | mg/L | 5 | 07/17/2023 11:58 | 208261 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 3:13 | 208261 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 07/12/2023 3:13 | 208261 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 07/11/2023 15:31 | 208286 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/24/2023 15:18 | R335080 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/24/2023 15:18 | R335080 |

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23
**Lab ID:** 23070002-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 07/07/2023 13:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 07/07/2023 13:16 | R332756 |
| Depth to water | * | -5.00 | | **9.01** | ft | 1 | 07/07/2023 13:16 | R332756 |
| Depth to water from measuring point | * | 0 | | **10.71** | ft | 1 | 07/07/2023 13:16 | R332756 |
| Elevation of groundwater surface | * | 0 | | **524.69** | ft | 1 | 07/07/2023 13:16 | R332756 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 07/07/2023 13:16 | R332756 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 07/07/2023 13:16 | R332756 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.2** | NTU | 1 | 07/07/2023 13:16 | R332756 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.5** | °F | 1 | 07/07/2023 13:16 | R332756 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.53** | | 1 | 07/07/2023 13:16 | R332756 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1230** | µmhos/cm @25C | 1 | 07/07/2023 13:16 | R332756 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **990** | mg/L | 2.5 | 07/11/2023 10:29 | R331470 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **467** | mg/L | 10 | 07/24/2023 14:48 | R333047 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.21** | mg/L | 1 | 07/11/2023 13:00 | R331398 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **51** | mg/L | 2 | 07/24/2023 14:43 | R333070 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0993** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Boron | NELAP | 0.200 | | **14.0** | mg/L | 10 | 07/12/2023 20:39 | 208261 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Calcium | NELAP | 0.100 | B | **189** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 07/11/2023 18:31 | 208261 |
| *Sample result(s) for Ca exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 3:18 | 208261 |
| Arsenic | NELAP | 0.0010 | | **0.0109** | mg/L | 5 | 07/12/2023 3:18 | 208261 |
| Lithium | * | 0.0030 | | **0.0063** | mg/L | 5 | 07/17/2023 12:03 | 208261 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 3:18 | 208261 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 07/12/2023 3:18 | 208261 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 07/11/2023 15:33 | 208286 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/24/2023 15:18 | R335080 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/24/2023 15:18 | R335080 |

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23
**Lab ID:** 23070002-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 07/07/2023 12:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 07/07/2023 12:23 | R332756 |
| Depth to water | * | -5.00 | | **8.66** | ft | 1 | 07/07/2023 12:23 | R332756 |
| Depth to water from measuring point | * | 0 | | **11.32** | ft | 1 | 07/07/2023 12:23 | R332756 |
| Elevation of groundwater surface | * | 0 | | **527.70** | ft | 1 | 07/07/2023 12:23 | R332756 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 07/07/2023 12:23 | R332756 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 07/07/2023 12:23 | R332756 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **11** | NTU | 1 | 07/07/2023 12:23 | R332756 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.2** | °F | 1 | 07/07/2023 12:23 | R332756 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.28** | | 1 | 07/07/2023 12:23 | R332756 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **586** | µmhos/cm @25C | 1 | 07/07/2023 12:23 | R332756 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **300** | mg/L | 2.5 | 07/11/2023 10:30 | R331470 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **20** | mg/L | 1 | 07/24/2023 15:28 | R333047 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.34** | mg/L | 1 | 07/11/2023 13:09 | R331398 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **39** | mg/L | 1 | 07/24/2023 15:28 | R333070 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.106** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Boron | NELAP | 0.0200 | | **0.141** | mg/L | 1 | 07/15/2023 16:25 | 208261 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Calcium | NELAP | 0.100 | B | **49.6** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 07/11/2023 18:49 | 208261 |
| *Sample result(s) for Ca exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 3:35 | 208261 |
| Arsenic | NELAP | 0.0010 | | **0.0412** | mg/L | 5 | 07/12/2023 3:35 | 208261 |
| Lithium | * | 0.0030 | | **0.0047** | mg/L | 5 | 07/17/2023 12:46 | 208261 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 3:35 | 208261 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 07/12/2023 3:35 | 208261 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 07/11/2023 15:51 | 208286 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/25/2023 15:30 | R335080 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/25/2023 15:30 | R335080 |

**Client:** City Water, Light & Power
**Work Order:** 23070002
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 16-Aug-23
**Lab ID:** 23070002-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 07/07/2023 10:39

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 07/07/2023 10:39 | R332756 |
| Depth to water | * | -5.00 | | **3.84** | ft | 1 | 07/07/2023 10:39 | R332756 |
| Depth to water from measuring point | * | 0 | | **6.74** | ft | 1 | 07/07/2023 10:39 | R332756 |
| Elevation of groundwater surface | * | 0 | | **530.46** | ft | 1 | 07/07/2023 10:39 | R332756 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 07/07/2023 10:39 | R332756 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 07/07/2023 10:39 | R332756 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.6** | NTU | 1 | 07/07/2023 10:39 | R332756 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.8** | °F | 1 | 07/07/2023 10:39 | R332756 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.75** | | 1 | 07/07/2023 10:39 | R332756 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **906** | µmhos/cm @25C | 1 | 07/07/2023 10:39 | R332756 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **555** | mg/L | 2.5 | 07/11/2023 10:52 | R331470 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 07/24/2023 15:36 | R333047 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.29** | mg/L | 1 | 07/11/2023 13:18 | R331398 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **25** | mg/L | 1 | 07/24/2023 15:36 | R333070 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.378** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Boron | NELAP | 0.0200 | | **0.0932** | mg/L | 1 | 07/15/2023 16:27 | 208261 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Calcium | NELAP | 0.100 | B | **107** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 07/11/2023 18:50 | 208261 |
| *Sample result(s) for Ca exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 4:20 | 208261 |
| Arsenic | NELAP | 0.0010 | | **0.0513** | mg/L | 5 | 07/12/2023 4:20 | 208261 |
| Lithium | * | 0.0030 | | **0.0074** | mg/L | 5 | 07/17/2023 12:51 | 208261 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 07/12/2023 4:20 | 208261 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 07/12/2023 4:20 | 208261 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 07/11/2023 15:54 | 208286 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/25/2023 15:30 | R335080 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/25/2023 15:30 | R335080 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23070002
**Report Date:** 16-Aug-23

**Carrier:** Tracy Carroll

**Received By:** ANC

**Completed by:** Allison Colin
**On:** 10-Jul-23

**Reviewed by:** Ellie Hopkins
**On:** 10-Jul-23

**Pages to follow:** Chain of custody 3 Extra pages included 42

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 5.2 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip #90719. - acolin - 7/10/2023 9:09:38 AM

Additional nitric acid (90404) was needed in AP2 2L, AP3 2L, AP4 2L, AP8 2L, AP9 2L, AP10 2L, AP12 250 & 2L upon arrival at the laboratory. - acolin - 7/10/2023 9:09:41 AM

Samples collected on 7/7/23 were delivered to the laboratory on 7/7/23 at 1644 (on ice - 5.2C - LTG#1). pH strip #90719 - ERH 7/10/23

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23070002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.2 °C GTG S
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: pH-9719.Cert 7-6-23.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
JCarroll

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 23070002-001 | RW-3 | 7/6/23 1223 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 007 | AP-6 | 7/6/23 1330 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Jeremy Carroll | 7/6/23 1703 | | 7-6-23 1730 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

7-6-23

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23070002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.2 °C #1
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: PH 90719
2L 2L 2L 2L 2L 2L 250+2L
Added HNO3 (90404) to AP2, AP3, AP4, AP8, AP9, AP10, AP12
ANR 7/10/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp TCarroll

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23070002-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 7/7/23 1108 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 1231 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | 1316 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 7-7-23 1142 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 7-7-23 1312 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | 7-7-23 1223 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 7/7/23 1039 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | 7-7-23 1240 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | 7/7/23 1147 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Teresa Carroll | 7/7/23 1644 | | 7/7/23 1644 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23070002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Gilp TCarroll

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23070002-012 | AP-11 | 7-7-23 / 1434 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | " / 1416 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | " / 1347 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | " / 1121 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 7/7/23 1644 | Allison Lee | 7/7 1644 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

August 15, 2023

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 23070002

Dear Shelly Hennessy:

Order No.: 23070747

Summit Environmental Technologies, Inc. received 15 sample(s) on 7/12/2023 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **23070747**
Date: **8/15/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23070002

WorkOrder Narrative:
23070747: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **23070747**
Date: **8/15/2023**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **23070747**

***15-Aug-23***

**CLIENT:** TEKLAB Inc,
**Project:** 23070002

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 23070747-001 | 23070002-001 | | 7/6/2023 12:23:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-002 | 23070002-002 | | 7/7/2023 11:08:00 AM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-003 | 23070002-003 | | 7/7/2023 12:31:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-004 | 23070002-004 | | 7/7/2023 1:16:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-005 | 23070002-005 | | 7/7/2023 11:42:00 AM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-006 | 23070002-006 | | 7/7/2023 1:12:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-007 | 23070002-007 | | 7/6/2023 1:30:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-008 | 23070002-008 | | 7/7/2023 12:23:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-009 | 23070002-009 | | 7/7/2023 10:39:00 AM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-010 | 23070002-010 | | 7/7/2023 12:40:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-011 | 23070002-011 | | 7/7/2023 11:47:00 AM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-012 | 23070002-012 | | 7/7/2023 2:34:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-013 | 23070002-013 | | 7/7/2023 2:16:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-014 | 23070002-014 | | 7/7/2023 1:47:00 PM | 7/12/2023 12:00:00 PM | Non-Potable Water |
| 23070747-015 | 23070002-015 | | 7/7/2023 11:21:00 AM | 7/12/2023 12:00:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,

**Project:** 23070002

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23070747-001A | 23070002-001 | 7/6/2023 12:23:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 7/17/2023 2:35:11 PM | 7/25/2023 9:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/17/2023 2:35:11 PM | 7/24/2023 3:18:00 PM |
| 23070747-002A | 23070002-002 | 7/7/2023 11:08:00 AM | | Radium-226 (EPA 903.0) | | 7/17/2023 2:35:11 PM | 7/25/2023 9:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/17/2023 2:35:11 PM | 7/24/2023 3:18:00 PM |
| 23070747-003A | 23070002-003 | 7/7/2023 12:31:00 PM | | Radium-226 (EPA 903.0) | | 7/17/2023 2:35:11 PM | 7/25/2023 9:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/17/2023 2:35:11 PM | 7/24/2023 3:18:00 PM |
| 23070747-004A | 23070002-004 | 7/7/2023 1:16:00 PM | | Radium-226 (EPA 903.0) | | 7/17/2023 2:35:11 PM | 7/25/2023 9:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/17/2023 2:35:11 PM | 7/24/2023 3:18:00 PM |
| 23070747-005A | 23070002-005 | 7/7/2023 11:42:00 AM | | Radium-226 (EPA 903.0) | | 7/17/2023 2:35:11 PM | 7/25/2023 9:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/17/2023 2:35:11 PM | 7/24/2023 3:18:00 PM |
| 23070747-006A | 23070002-006 | 7/7/2023 1:12:00 PM | | Radium-226 (EPA 903.0) | | 7/21/2023 11:56:00 AM | 7/27/2023 10:01:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/21/2023 11:56:00 AM | 7/26/2023 4:09:00 PM |
| 23070747-007A | 23070002-007 | 7/6/2023 1:30:00 PM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-008A | 23070002-008 | 7/7/2023 12:23:00 PM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-009A | 23070002-009 | 7/7/2023 10:39:00 AM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-010A | 23070002-010 | 7/7/2023 12:40:00 PM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-011A | 23070002-011 | 7/7/2023 11:47:00 AM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-012A | 23070002-012 | 7/7/2023 2:34:00 PM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |

Original

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# DATES REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,

**Project:** 23070002

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23070747-012A | 23070002-012 | 7/7/2023 2:34:00 PM | Non-Potable Water | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-013A | 23070002-013 | 7/7/2023 2:16:00 PM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| 23070747-014A | 23070002-014 | 7/7/2023 1:47:00 PM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 8/10/2023 4:23:11 PM | 8/14/2023 3:29:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 7/27/2023 11:50:00 AM | 8/3/2023 4:04:00 PM |
| 23070747-015A | 23070002-015 | 7/7/2023 11:21:00 AM | | Radium-226 (EPA 903.0) | | 7/19/2023 2:03:37 PM | 7/26/2023 10:02:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 7/19/2023 2:03:37 PM | 7/25/2023 3:30:00 PM |

Original

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# Analytical Report

(consolidated)

WO#: **23070747**

Date Reported: **8/15/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 7/6/2023 12:23:00 PM
**Project:** 23070002
**Lab ID:** 23070747-001
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 23070002-001

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.06 | 1 | 7/25/2023 9:25:00 AM |
| Yield | 1.00 | | | | | 1 | 7/25/2023 9:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.74 | 1 | 7/24/2023 3:18:00 PM |
| Yield | 1.00 | | | | | 1 | 7/24/2023 3:18:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

*Summit Environmental Technologies, Inc.*
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# Analytical Report

(consolidated)

WO#: **23070747**

Date Reported: **8/15/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 7/7/2023 12:31:00 PM
**Project:** 23070002
**Lab ID:** 23070747-003
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 23070002-003

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.09 | 1 | 7/25/2023 9:25:00 AM |
| Yield | 1.00 | | | | | 1 | 7/25/2023 9:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.74 | 1 | 7/24/2023 3:18:00 PM |
| Yield | 1.00 | | | | | 1 | 7/24/2023 3:18:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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*Cuyahoga Falls, Ohio 44223*
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# Analytical Report

(consolidated)

WO#: **23070747**

Date Reported: **8/15/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 7/7/2023 1:16:00 PM
**Project:** 23070002
**Lab ID:** 23070747-004
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 23070002-004

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.05 | 1 | 7/25/2023 9:25:00 AM |
| Yield | 1.00 | | | | | 1 | 7/25/2023 9:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.87 | 1 | 7/24/2023 3:18:00 PM |
| Yield | 1.00 | | | | | 1 | 7/24/2023 3:18:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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# Analytical Report

(consolidated)

WO#: **23070747**

Date Reported: **8/15/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23070002
**Lab ID:** 23070747-008
**Client Sample ID:** 23070002-008

**Collection Date:** 7/7/2023 12:23:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.06 | 1 | 7/26/2023 10:02:00 AM |
| Yield | 1.00 | | | | | 1 | 7/26/2023 10:02:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.53 | 1 | 7/25/2023 3:30:00 PM |
| Yield | 0.910 | | | | | 1 | 7/25/2023 3:30:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23070747**

Date Reported: **8/15/2023**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 7/7/2023 10:39:00 AM
**Project:** 23070002
**Lab ID:** 23070747-009
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 23070002-009

| Analyses | Result | PQL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.17 | 1 | 7/26/2023 10:02:00 AM |
| Yield | 1.00 | | | | | 1 | 7/26/2023 10:02:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.54 | 1 | 7/25/2023 3:30:00 PM |
| Yield | 1.00 | | | | | 1 | 7/25/2023 3:30:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| MC | Value is below Minimum Compound Limit. | N | Tentatively identified compounds |
| ND | Not Detected | OG1 | |
| P | Second column confirmation exceeds | PL | Permit Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **66938**

| Sample ID: **MB-66938** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167890** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **66938** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/24/2023** | SeqNo: **4506021** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 0.950 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-66938** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167890** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **66938** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/24/2023** | SeqNo: **4506023** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.74 | 1.00 | 5.000 | 0 | 94.8 | 70 | 130 | 3.440 | 31.8 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

| Sample ID: **RLC-66938** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167890** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **66938** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/24/2023** | SeqNo: **4506025** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 78.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**
***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **66938**

Sample ID: **RLCD-66938** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167890**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E904.0** **E903-904** Analysis Date: **7/24/2023** SeqNo: **4506026**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.02 | 1.00 | 1.000 | 0 | 102 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **23070595-001AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167890**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E904.0** **E903-904** Analysis Date: **7/24/2023** SeqNo: **4506027**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.04 | 1.00 | 5.000 | 0 | 40.8 | 70 | 130 | | | | S |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

Sample ID: **23070596-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167890**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E904.0** **E903-904** Analysis Date: **7/24/2023** SeqNo: **4506030**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 0.910 | | | 0 | 0 | | | 0.9500 | 4.30 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **66938**

Sample ID: **23070597-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167890**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E904.0** **E903-904** Analysis Date: **7/24/2023** SeqNo: **4506032**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **66938**

| Sample ID: **MB-66938** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167894** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **66938** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506087** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-66938** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167894** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **66938** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506088** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.00 | 1.00 | 5.000 | 0 | 100 | 70 | 130 | | | | |

| Sample ID: **LCSD-66938** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167894** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **66938** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506089** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.16 | 1.00 | 5.000 | 0 | 103 | 70 | 130 | 5.000 | 3.15 | 20 | |

| Sample ID: **RLC-66938** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/17/2023** | RunNo: **167894** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **66938** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506091** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **66938**

Sample ID: **RLC-66938** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167894**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E903.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506091**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.34 | 1.00 | 1.000 | 0 | 134 | 50 | 150 | | | | |

Sample ID: **RLCD-66938** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167894**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E903.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506092**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.11 | 1.00 | 1.000 | 0 | 111 | 50 | 150 | | | | |

Sample ID: **23070595-001AMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167894**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E903.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506093**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.35 | 1.00 | 5.000 | 0 | 87.0 | 70 | 130 | | | | |

Sample ID: **23070596-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167894**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E903.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506096**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **66938**

Sample ID: **23070596-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167894**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E903.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506096**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **23070597-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **7/17/2023** RunNo: **167894**
Client ID: **BatchQC** Batch ID: **66938** TestNo: **E903.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506098**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67011**

| Sample ID: **MB-67011** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167896** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **67011** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506126** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-67011** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167896** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **67011** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506127** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.58 | 1.00 | 5.000 | 0 | 71.6 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-67011** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167896** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/25/2023** | SeqNo: **4506131** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 78.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67011**

Sample ID: **23071031-001AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/19/2023** RunNo: **167896**
Client ID: **BatchQC** Batch ID: **67011** TestNo: **E904.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506132**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.64 | 1.00 | 5.000 | 0 | 52.8 | 70 | 130 | | | | S |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

Sample ID: **23071032-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/19/2023** RunNo: **167896**
Client ID: **BatchQC** Batch ID: **67011** TestNo: **E904.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506135**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.9100 | 9.42 | | |

Sample ID: **23070816-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/19/2023** RunNo: **167896**
Client ID: **BatchQC** Batch ID: **67011** TestNo: **E904.0** **E903-904** Analysis Date: **7/25/2023** SeqNo: **4506137**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67011**

| Sample ID: **MB-67011** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506168** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-67011** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506169** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.50 | 1.00 | 5.000 | 0 | 90.0 | 70 | 130 | | | | |

| Sample ID: **LCSD-67011** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506170** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.42 | 1.00 | 5.000 | 0 | 88.4 | 70 | 130 | 4.500 | 1.79 | 20 | |

| Sample ID: **RLC-67011** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506172** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67011**

| Sample ID: **RLC-67011** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506172** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.07 | 1.00 | 1.000 | 0 | 107 | 50 | 150 | | | | |

| Sample ID: **RLCD-67011** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506173** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 91.0 | 50 | 150 | | | | |

| Sample ID: **23071031-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506174** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.43 | 1.00 | 5.000 | 0 | 88.6 | 70 | 130 | | | | |

| Sample ID: **23071032-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506177** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67011**

| Sample ID: **23071032-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506177** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

| Sample ID: **23070816-002ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/19/2023** | RunNo: **167898** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67011** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4506179** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67083**

| Sample ID: **MB-67083** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168035** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **67083** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4510072** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-67083** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168035** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **67083** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4510073** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.91 | 1.00 | 5.000 | 0 | 78.2 | 70 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLC-67083** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168035** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67083** | TestNo: **E904.0** | **E903-904** | Analysis Date: **7/26/2023** | SeqNo: **4510076** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 76.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67083**

Sample ID: **23071034-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/21/2023** RunNo: **168035**
Client ID: **BatchQC** Batch ID: **67083** TestNo: **E904.0** **E903-904** Analysis Date: **7/26/2023** SeqNo: **4510107**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.31 | 1.00 | | 0 | 0 | | | 2.560 | 10.3 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67083**

| Sample ID: **MB-67083** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510502** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.990 | | | | | | | | | | |

| Sample ID: **LCSD-67083** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510504** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.56 | 1.00 | 5.000 | 0 | 111 | 70 | 130 | 6.720 | 18.9 | 20 | |

| Sample ID: **RLC-67083** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510506** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 75.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-67083** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510507** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67083**

| Sample ID: **RLCD-67083** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510507** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.22 | 1.00 | 1.000 | 0 | 122 | 50 | 150 | | | | |

| Sample ID: **23071033-001AMS** | SampType: **MS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510508** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.44 | 1.00 | 5.000 | 0 | 109 | 70 | 130 | | | | |

| Sample ID: **23071096-002ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **7/21/2023** | RunNo: **168045** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67083** | TestNo: **E903.0** | **E903-904** | Analysis Date: **7/27/2023** | SeqNo: **4510518** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67719**

Sample ID: **23072069-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **8/10/2023** RunNo: **169062**
Client ID: **BatchQC** Batch ID: **67719** TestNo: **E904.0** **E903-904** Analysis Date: **8/14/2023** SeqNo: **4541097**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | |
| Yield | 0.970 | | | 0 | 0 | | | 0.8900 | 8.60 | | |

Sample ID: **23072069-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **8/10/2023** RunNo: **169062**
Client ID: **BatchQC** Batch ID: **67719** TestNo: **E904.0** **E903-904** Analysis Date: **8/14/2023** SeqNo: **4541099**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.04 | 1.00 | | 0 | 0 | | | 1.340 | 25.2 | 30 | |
| Yield | 0.900 | | | 0 | 0 | | | 0.8700 | 3.39 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67719**

| Sample ID: **MB-67719** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **8/10/2023** | RunNo: **169062** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **67719** | TestNo: **E904.0** | **E903-904** | Analysis Date: **8/14/2023** | SeqNo: **4541078** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-67719** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **8/10/2023** | RunNo: **169062** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **67719** | TestNo: **E904.0** | **E903-904** | Analysis Date: **8/14/2023** | SeqNo: **4541079** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.61 | 1.00 | 5.000 | 0 | 72.2 | 70 | 130 | | | | |
| Yield | 0.980 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-67719** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **8/10/2023** | RunNo: **169062** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **67719** | TestNo: **E904.0** | **E903-904** | Analysis Date: **8/14/2023** | SeqNo: **4541080** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.50 | 1.00 | 5.000 | 0 | 70.0 | 70 | 130 | 3.610 | 3.09 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.9800 | 2.02 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
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# QC SUMMARY REPORT

WO#: **23070747**

***15-Aug-23***

**Client:** TEKLAB Inc,
**Project:** 23070002 **BatchID:** **67719**

| Sample ID: **RLC-67719** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **8/10/2023** | RunNo: **169062** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67719** | TestNo: **E904.0** | **E903-904** | Analysis Date: **8/14/2023** | SeqNo: **4541082** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 64.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **23080067-001AMS** | SampType: **MS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **8/10/2023** | RunNo: **169062** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **67719** | TestNo: **E904.0** | **E903-904** | Analysis Date: **8/14/2023** | SeqNo: **4541084** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.78 | 1.00 | 5.000 | 0 | 116 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analy |
| J | Analyte detected below quantitation limits | M | Manual Integration used to determine area response | MC | Value is below Minimum Compound |
| ND | Not Detected | OG1 | | P | Second column confirmation exceeds |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

Original

Pg ___ of ___ 23070747

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226, 228, ~~and combined~~) by method EPA903.0/904.0
on standard TAT. Collected in IL SAN 7/10/23

Project# 23070002

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: NTAT Billing/PO: 34677 Phone: 618-344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | com= | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23070002-001 | 7/6/23 12.23 | HNO3 | Groundwater | ✔ | ✔ | 35 | | | | | | | | | | |
| | 23070002-002 | 7/7/23 11.08 | HNO3 | Groundwater | ✔ | ✔ | 16 | | | | | | | | | | |
| | 23070002-003 | 7/7/23 12.31 | HNO3 | Groundwater | ✔ | ✔ | 23 | | | | | | | | | | |
| | 23070002-004 | 7/7/23 13.16 | HNO3 | Groundwater | ✔ | ✔ | 34 | | | | | | | | | | |
| | 23070002-005 | 7/7/23 11.42 | HNO3 | Groundwater | ✔ | ✔ | 31 | | | | | | | | | | |
| | 23070002-006 | 7/7/23 13.12 | HNO3 | Groundwater | ✔ | ✔ | 36 | | | | | | | | | | |
| | 23070002-007 | 7/6/23 13.30 | HNO3 | Groundwater | ✔ | ✔ | 23 | | | | | | | | | | |
| | 23070002-008 | 7/7/23 12.23 | HNO3 | Groundwater | ✔ | ✔ | OK | | | | | | | | | | |
| | 23070002-009 | 7/7/23 10.39 | HNO3 | Groundwater | ✔ | ✔ | 36 | | | | | | | | | | |
| | 23070002-010 | 7/7/23 12.40 | HNO3 | Groundwater | ✔ | ✔ | 37 | | | | | | | | | | |
| | 23070002-011 | 7/7/23 11.47 | HNO3 | Groundwater | ✔ | ✔ | 36 | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Allison Cole (fedex) | 7/10/23 | C.Cr | 7/12/23 1200 |
| | | | |
| | | | |
| | | TWO DOT received, no COA | |

23.4+0.0=
23.4
fedex
cooler

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

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# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226, 228, and combined) by method EPA903.0/904.0
on standard TAT.

Project# 23070002

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: NTAT Billing/PO: 34677 Phone: 618-344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | CDM | pH |
|---|---|---|---|---|---|---|---|---|
| | 23070002-012 | 7/7/23 14.34 | HNO3 | Groundwater | ✔ | ✔ | 13 | 7 |
| | 23070002-013 | 7/7/23 14.16 | HNO3 | Groundwater | ✔ | ✔ | 32 | 7 |
| | 23070002-014 | 7/7/23 13.47 | HNO3 | Groundwater | ✔ | ✔ | 33 | 6 |
| | 23070002-015 | 7/7/23 11.21 | HNO3 | Groundwater | ✔ | ✔ | 26 | 6 |
| | | | HNO3 | Groundwater | | | | |
| | | | HNO3 | Groundwater | | | | |
| | | | HNO3 | Groundwater | | | | |
| | | | HNO3 | Groundwater | | | | |
| | | | HNO3 | Groundwater | | | | |
| | | | HNO3 | Groundwater | | | | |
| | | | HNO3 | Groundwater | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Allison Colin (Fedex) | 7/10/23 | | |
| | | | |
| | | | |
| | | | |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

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3/2/2016

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **23070747** RcptNo: **1**

| | | |
|---|---|---|
| Logged by: | **Christina N. Gemma** | **7/12/2023 12:00:00 PM** |
| Completed By: | **Jacqueline Rasile** | **7/13/2023 1:07:43 AM** |
| Reviewed By: | **Jennifer Woolf** | **7/13/2023 6:52:05 PM** |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Were seals intact? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 3. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 4. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☐ | NA ☑ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☐ | NA ☑ |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

confirmed with clinet second bottle labled -001 is the -004 bottle
Two 001 bottles rec'd, no 004 bottle.

**Cooler Information**

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 23.4 | Good | Not Present | | | |

August 03, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 23070001

Dear Eric Staley:

TEKLAB, INC received 12 samples on 7/7/2023 4:44:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23070001
**Report Date:** 03-Aug-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23070001

**Client Project:** Landfill Monitoring Wells **Report Date:** 03-Aug-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 23070001

**Client Project:** Landfill Monitoring Wells

**Report Date:** 03-Aug-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23070001
**Report Date:** 03-Aug-23

**Cooler Receipt Temp:** 6.2 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 23070001

**Client Project:** Landfill Monitoring Wells

**Report Date:** 03-Aug-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2023 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 23070001

**Client Project:** Landfill Monitoring Wells **Report Date:** 03-Aug-23

**Lab ID:** 23070001-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 07/05/2023 12:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 07/05/2023 12:23 | R331691 |
| Depth to water | * | -5.00 | | **11.94** | ft | 1 | 07/05/2023 12:23 | R331691 |
| Depth to water from measuring point | * | 0 | | **14.69** | ft | 1 | 07/05/2023 12:23 | R331691 |
| Elevation of groundwater surface | * | 0 | | **540.91** | ft | 1 | 07/05/2023 12:23 | R331691 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 07/05/2023 12:23 | R331691 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.0** | °F | 1 | 07/05/2023 12:23 | R331691 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.51** | | 1 | 07/05/2023 12:23 | R331691 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1310** | µmhos/cm @25C | 1 | 07/05/2023 12:23 | R331691 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.83** | mg/L | 1 | 07/06/2023 12:59 | R331208 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **0.073** | mg/L | 1 | 07/06/2023 13:09 | R331256 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1160** | mg/L | 2.5 | 07/06/2023 13:37 | R331272 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 07/11/2023 16:35 | 208250 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **354** | mg/L | 10 | 07/14/2023 19:48 | R331653 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 4 | | **39** | mg/L | 1 | 07/14/2023 19:30 | R331669 |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | S | **8150** | µg/L | 1 | 07/07/2023 15:30 | 207897 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 07/07/2023 15:30 | 207897 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 07/07/2023 15:30 | 207897 |
| Magnesium | NELAP | 0.050 | S | **80.6** | mg/L | 1 | 07/07/2023 15:30 | 207897 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 07/07/2023 15:30 | 207897 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **149** | µg/L | 5 | 07/11/2023 0:37 | 207897 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 07/11/2023 0:37 | 207897 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 07/07/2023 12:54 | 208168 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23070001
**Report Date:** 03-Aug-23

**Carrier:** Tracy Carroll

**Received By:** ANC

**Completed by:** Allison Colin
**On:** 05-Jul-23

**Reviewed by:** Ellie Hopkins
**On:** 10-Jul-23

**Pages to follow:** Chain of custody 4 Extra pages included 0

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 6.2 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Additional sodium hydroxide (81662) was needed in all Cyanide containers (G120, G121, AW-1) upon arrival at the laboratory. - acolin - 7/5/2023 4:44:06 PM

Samples collected on 7/5/23 were delivered to the laboratory on 7/5/23 at 1632 (on ice - 6.2C - LTG#5). pH strip #90719/79929 - ANC/ERH 7/7/23

Additional sodium hydroxide (81662) was needed in G113 and G122 upon arrival at the laboratory. CET 7/6/23

Samples collected on 7/6/23 were delivered to the laboratory on 7/6/23 at 1703 (on ice - 5.2C - LTG#5). pH strip #90719/79929 - CET/ERH 7/7/23

Samples collected on 7/7/23 were delivered to the laboratory on 7/7/23 at 1644 (on ice - 13.2C - LTG#5). pH strip #90719/79929 - CET/ERH 7/7/23

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23070001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 6.2 °C
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY #5
LAB NOTES:
PH 90719/79929 Added NaOH (81662) to All Cyanide Samples

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
T Carroll

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Thallium (T) | As B (T) | Magnesium (T) | Boron (T) | Ammonia (T) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23070001-001 | R101 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 002 | G110 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | | | | | |
| 003 | R111 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | X | | | | | | |
| 004 | G112 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | | | | | |
| 005 | G113 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | | | | | |
| 006 | G120 | 7/5/23 1311 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | X | | | | | |
| 007 | G121 | 7/5/23 1402 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | X | X | | | |
| 008 | G122 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 009 | AW-1 | 7/5/23 1223 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 010 | AW-2 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 011 | RW-3 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Terry Carroll | 7/5/23 1632 | [signature] | 7/5/23 1632 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23070001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 5-2 °C LTG: 5
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: PMV 90714/79929. Added NaOH (016623) to G113 and G122. CRS 7-6-23.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
T Carroll / J Calp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Thallium (T) | As B (T) | Magnesium (T) | Boron (T) | Ammonia (T) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23070001-001 | R101 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 002 | G110 | 7/6/23 1138 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | X | | | | | | | |
| 003 | R111 | 7.6.23/ 1344 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | X | | | | | | |
| 004 | G112 | 7.6.23/ 1148 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | X | | | | | | | |
| 005 | G113 | 7.6.23/ 1410 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | X | | | | | | | |
| 006 | G120 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | X | | X | | | | | |
| 007 | G121 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | X | | | X | X | | | |
| 008 | G122 | 7.6.23/ 1449 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 009 | AW-1 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 010 | AW-2 | 7/6/23 1409 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 011 | RW-3 | 7/6/23 1223 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Jimmy Carroll | 7/6/23 1703 | [signature] | 7-6-23 1703 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CRS 7-6-23

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23070001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD
FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TCarroll / JCole

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23070001-012 | DUPLICATE | 7/6/23 1409 | Groundwater | 1 | 1 | 1 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 7/6/23 1703 | | 7-6-23 1703 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23070001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 13.2 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY #5
LAB NOTES: pH pre-TB/TAL. CAO 7-7-23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Thallium (T) | As B (T) | Magnesium (T) | Boron (T) | Ammonia (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23070001-001 | R101 | 7-7-23 1054 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| 002 | G110 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | | |
| 003 | R111 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | X | | | |
| 004 | G112 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | | |
| 005 | G113 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | | |
| 006 | G120 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | X | | |
| 007 | G121 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | | | X | X |
| 008 | G122 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| 009 | AW-1 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| 010 | AW-2 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| 011 | RW-3 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Jenny Carroll | 7/7/23 1644 | Allison Coleman | 7/7/23 1644 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CAO 7-7-23

Fourth Quarter 2023

November 27, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 23101164

Dear Eric Staley:

TEKLAB, INC received 15 samples on 10/25/2023 5:15:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23101164
**Report Date:** 27-Nov-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 22 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23101164

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 27-Nov-23

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 23101164
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Nov-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23101164
**Report Date:** 27-Nov-23

**Cooler Receipt Temp:** 4.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & Radium-228 analyses were performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23101164
**Report Date:** 27-Nov-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23101164
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Nov-23
**Lab ID:** 23101164-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 10/25/2023 12:34

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 10/25/2023 12:34 | R338505 |
| Depth to water | * | -5.00 | | **9.09** | ft | 1 | 10/25/2023 12:34 | R338505 |
| Depth to water from measuring point | * | 0 | | **11.79** | ft | 1 | 10/25/2023 12:34 | R338505 |
| Elevation of groundwater surface | * | 0 | | **527.71** | ft | 1 | 10/25/2023 12:34 | R338505 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 10/25/2023 12:34 | R338505 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 10/25/2023 12:34 | R338505 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.6** | NTU | 1 | 10/25/2023 12:34 | R338505 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.3** | °F | 1 | 10/25/2023 12:34 | R338505 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.31** | | 1 | 10/25/2023 12:34 | R338505 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **632** | µmhos/cm @25C | 1 | 10/25/2023 12:34 | R338505 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **340** | mg/L | 5 | 10/30/2023 11:49 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **16** | mg/L | 1 | 10/27/2023 19:42 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.44** | mg/L | 1 | 11/02/2023 14:55 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **31** | mg/L | 1 | 10/27/2023 19:41 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.165** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Boron | NELAP | 0.0200 | | **0.117** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Calcium | NELAP | 0.100 | | **58.7** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0147** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 10:47 | 213836 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:03 | 213836 |
| Arsenic | NELAP | 0.0010 | | **0.740** | mg/L | 5 | 11/02/2023 19:03 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:03 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 19:03 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 10/31/2023 13:26 | 213968 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |

**Client:** City Water, Light & Power
**Work Order:** 23101164
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Nov-23
**Lab ID:** 23101164-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 10/26/2023 13:05

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 10/26/2023 13:05 | R338505 |
| Depth to water | * | -5.00 | | **6.20** | ft | 1 | 10/26/2023 13:05 | R338505 |
| Depth to water from measuring point | * | 0 | | **8.70** | ft | 1 | 10/26/2023 13:05 | R338505 |
| Elevation of groundwater surface | * | 0 | | **527.40** | ft | 1 | 10/26/2023 13:05 | R338505 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 10/26/2023 13:05 | R338505 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 10/26/2023 13:05 | R338505 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **15** | NTU | 1 | 10/26/2023 13:05 | R338505 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.9** | °F | 1 | 10/26/2023 13:05 | R338505 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.57** | | 1 | 10/26/2023 13:05 | R338505 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1380** | µmhos/cm @25C | 1 | 10/26/2023 13:05 | R338505 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1020** | mg/L | 1 | 10/31/2023 10:25 | R338603 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **380** | mg/L | 20 | 10/30/2023 13:50 | R338498 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.27** | mg/L | 1 | 11/02/2023 14:58 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **40** | mg/L | 2 | 10/30/2023 13:44 | R338509 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0716** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Boron | NELAP | 0.0200 | | **3.23** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Calcium | NELAP | 0.100 | | **204** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Cobalt | NELAP | 0.0050 | | **0.0091** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Lithium | NELAP | 0.0050 | | **0.0056** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 10/31/2023 17:43 | 213879 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 10:52 | 213879 |
| Arsenic | NELAP | 0.0010 | | **0.0020** | mg/L | 5 | 11/01/2023 10:52 | 213879 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 10:52 | 213879 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/01/2023 10:52 | 213879 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 10/31/2023 14:43 | 213968 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |

**Client:** City Water, Light & Power **Work Order:** 23101164

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 27-Nov-23

**Lab ID:** 23101164-004 **Client Sample ID:** AP-3

**Matrix:** GROUNDWATER **Collection Date:** 10/26/2023 13:25

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 10/26/2023 13:25 | R338505 |
| Depth to water | * | -5.00 | | **8.39** | ft | 1 | 10/26/2023 13:25 | R338505 |
| Depth to water from measuring point | * | 0 | | **10.09** | ft | 1 | 10/26/2023 13:25 | R338505 |
| Elevation of groundwater surface | * | 0 | | **525.31** | ft | 1 | 10/26/2023 13:25 | R338505 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 10/26/2023 13:25 | R338505 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 10/26/2023 13:25 | R338505 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **11** | NTU | 1 | 10/26/2023 13:25 | R338505 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.8** | °F | 1 | 10/26/2023 13:25 | R338505 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.69** | | 1 | 10/26/2023 13:25 | R338505 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1290** | µmhos/cm @25C | 1 | 10/26/2023 13:25 | R338505 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1080** | mg/L | 2.5 | 10/31/2023 10:26 | R338603 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **495** | mg/L | 20 | 11/02/2023 12:38 | R338709 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.25** | mg/L | 1 | 11/02/2023 14:02 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | S | **57** | mg/L | 2 | 10/30/2023 14:08 | R338509 |
| *Matrix spike did not recover within control limits due to matrix interference.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.113** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Boron | NELAP | 0.0200 | | **15.2** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Calcium | NELAP | 0.100 | | **181** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Cobalt | NELAP | 0.0050 | | **0.0051** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Lithium | NELAP | 0.0050 | | **0.0051** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 10/31/2023 17:46 | 213879 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 10:58 | 213879 |
| Arsenic | NELAP | 0.0010 | | **0.0182** | mg/L | 5 | 11/01/2023 10:58 | 213879 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 10:58 | 213879 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/01/2023 10:58 | 213879 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 10/31/2023 14:45 | 213968 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |

**Client:** City Water, Light & Power
**Work Order:** 23101164
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Nov-23
**Lab ID:** 23101164-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 10/26/2023 13:58

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 10/26/2023 13:58 | R338505 |
| Depth to water | * | -5.00 | | **9.79** | ft | 1 | 10/26/2023 13:58 | R338505 |
| Depth to water from measuring point | * | 0 | | **12.45** | ft | 1 | 10/26/2023 13:58 | R338505 |
| Elevation of groundwater surface | * | 0 | | **526.57** | ft | 1 | 10/26/2023 13:58 | R338505 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 10/26/2023 13:58 | R338505 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 10/26/2023 13:58 | R338505 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.8** | NTU | 1 | 10/26/2023 13:58 | R338505 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.1** | °F | 1 | 10/26/2023 13:58 | R338505 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.15** | | 1 | 10/26/2023 13:58 | R338505 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **478** | µmhos/cm @25C | 1 | 10/26/2023 13:58 | R338505 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **352** | mg/L | 1 | 10/31/2023 12:06 | R338603 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **15** | mg/L | 1 | 10/30/2023 15:04 | R338498 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.53** | mg/L | 1 | 11/02/2023 13:57 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **60** | mg/L | 2 | 11/01/2023 14:16 | R338688 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.158** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Boron | NELAP | 0.0200 | | **0.331** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Calcium | NELAP | 0.100 | | **50.6** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 10/31/2023 18:23 | 213879 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 12:17 | 213879 |
| Arsenic | NELAP | 0.0010 | | **0.0750** | mg/L | 5 | 11/01/2023 12:17 | 213879 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 12:17 | 213879 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/01/2023 12:17 | 213879 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 10/31/2023 14:59 | 213968 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |

**Client:** City Water, Light & Power
**Work Order:** 23101164
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Nov-23
**Lab ID:** 23101164-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 10/26/2023 9:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 10/26/2023 9:30 | R338505 |
| Depth to water | * | -5.00 | | **5.17** | ft | 1 | 10/26/2023 9:30 | R338505 |
| Depth to water from measuring point | * | 0 | | **8.07** | ft | 1 | 10/26/2023 9:30 | R338505 |
| Elevation of groundwater surface | * | 0 | | **529.13** | ft | 1 | 10/26/2023 9:30 | R338505 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 10/26/2023 9:30 | R338505 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 10/26/2023 9:30 | R338505 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.1** | NTU | 1 | 10/26/2023 9:30 | R338505 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.4** | °F | 1 | 10/26/2023 9:30 | R338505 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.01** | | 1 | 10/26/2023 9:30 | R338505 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **926** | µmhos/cm @25C | 1 | 10/26/2023 9:30 | R338505 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **430** | mg/L | 2.5 | 10/31/2023 12:06 | R338603 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 10/30/2023 15:06 | R338498 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.31** | mg/L | 1 | 11/02/2023 15:04 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **25** | mg/L | 1 | 10/30/2023 15:07 | R338509 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.374** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Boron | NELAP | 0.0200 | | **0.0896** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Calcium | NELAP | 0.100 | | **101** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 10/31/2023 18:27 | 213879 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 12:23 | 213879 |
| Arsenic | NELAP | 0.0010 | | **0.0395** | mg/L | 5 | 11/01/2023 12:23 | 213879 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 12:23 | 213879 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/01/2023 12:23 | 213879 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 10/31/2023 15:01 | 213968 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/10/2023 0:00 | R339727 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 23101164
**Report Date:** 27-Nov-23

**Carrier:** Justin Colp
**Received By:** HAW

**Completed by:** Timothy W. Mathis
**On:** 26-Oct-23

**Reviewed by:** Ellie Hopkins
**On:** 27-Oct-23

**Pages to follow:** Chain of custody 3 Extra pages included 57

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 4.8 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | | | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | | | |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ | | | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | | | |

**Any No responses must be detailed below or on the COC.**

pH strip #90719 CET. - TMathis - 10/26/2023 12:47:39 PM

pH strip #90719. - amberdilallo - 10/27/2023 9:49:59 AM

Samples collected on 10/26/23 were delivered to the laboratory on 10/26/23 at 1707 (on ice - 2.6C - LTG1). - HW/ERH 10/27/23

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23101164

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.8 °C CTG
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: pH 90719-CAS 10-26-23
*TE SAH 11/6/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101164-001 | RW-3 | 10-25-23 / ~~1235~~ 1234* | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 10-25-23 1715 | [signature] | 10/25/23 1715 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CAS 10-21-23

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23101164

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.6 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 90719 10/27/23
*TE SH 11/6/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Gb

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101164-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 10-26-23 / 1222 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 1305 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | * 138525 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 1406 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 1444 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 0909 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | 10-26-23 / 1358 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 10-26-23 / 0930 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | 10-26-23 / 1446 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | 10-26-23 / 1243 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 10-26-23 17:07 | [signature] | 10/26/23 1702 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23101164

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: Justin Gp

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101164-012 | AP-11 | 10-26-23 / 1152 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 1120 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 1033 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 1351 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 10.26.23 17:05 | [signature] | 10/26/23 1707 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | RW-3 | Groundwater Sample | 70.0 | None | S | Clear | Good | Good | Good | No | No |
| 002 | AP-1 | Groundwater Sample | 72.0 | Light | S | Cloudy | Good | Good | Good | No | No |
| 003 | AP-2 | Groundwater Sample | 72.0 | Light | S | Partly cloudy | Good | Good | Good | No | No |
| 004 | AP-3 | Groundwater Sample | 71.0 | Light | S | Partly cloudy | Good | Good | Good | No | No |
| 005 | AP-4 | Groundwater Sample | 71.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |
| 006 | AP-5 | Groundwater Sample | 71.0 | Light | S | Partly cloudy | Good | Good | Good | Yes | No |
| 007 | AP-6 | Groundwater Sample | 66.0 | None | S | Partly cloudy | Good | Good | Good | No | No |
| 008 | AP-7 | Groundwater Sample | 71.0 | Light | S | Cloudy | Good | Good | Good | Yes | No |
| 009 | AP-8 | Groundwater Sample | 66.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |
| 010 | AP-9 | Groundwater Sample | 71.0 | Light | S | Cloudy | Good | Good | Good | Yes | No |
| 011 | AP-10 | Groundwater Sample | 72.0 | Light | S | Partly cloudy | Good | Good | Good | No | No |
| 012 | AP-11 | Groundwater Sample | 71.0 | None | S | Cloudy | Good | Good | Good | No | No |
| 013 | AP-12 | Groundwater Sample | 70.0 | None | S | Partly cloudy | Good | Good | Good | No | No |
| 014 | AP-13 | Groundwater Sample | 67.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |
| 015 | AP-14 | Groundwater Sample | 71.0 | None | S | Partly cloudy | Good | Good | Good | No | No |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Sampler Initials** | **Purge Date** | | | **Sampling Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 001 | RW-3 | BG | 10/26/23 12:26 | 11.79 | 44.01 | BG | 10/25/2023 | 12:24 | 12:35 | Bladder Pump | 2" | 2.0 | 181.8 |
| 002 | AP-1 | BG | 10/26/23 12:12 | 11.42 | 31.08 | BG | 10/26/2023 | 12:12 | 12:22 | Bladder Pump | 2" | 3.0 | 300.0 |
| 003 | AP-2 | BG | 10/26/23 12:52 | 8.70 | 21.33 | BG | 10/26/2023 | 12:52 | 13:05 | Bladder Pump | 2" | 2.5 | 192.3 |
| 004 | AP-3 | BG | 10/26/23 13:12 | 10.09 | | BG | 10/26/2023 | 13:12 | 13:35 | Bladder Pump | 2" | 2.0 | 87.0 |
| 005 | AP-4 | BG | 10/26/23 13:57 | 10.79 | 60.41 | BG | 10/26/2023 | 13:57 | 14:06 | Bladder Pump | 2" | 2.0 | 222.2 |
| 006 | AP-5 | BG | 10/26/23 14:33 | 18.17 | 31.27 | BG | 10/26/2023 | 13:32 | 14:44 | Bladder Pump | 2" | 4.0 | 55.6 |
| 007 | AP-6 | BG | 10/26/23 8:57 | 10.06 | 39.62 | BG | 10/26/2023 | 08:58 | 09:09 | Submersible Pump | 2" | 1.7 | 154.5 |
| 008 | AP-7 | TAC | 10/26/23 13:35 | 12.45 | 42.52 | TAC | 10/26/2023 | 13:12 | 13:58 | Bladder Pump | 2" | 3.5 | 76.1 |
| 009 | AP-8 | BG | 10/26/23 9:18 | 8.07 | 39.60 | BG | 10/26/2023 | 09:20 | 09:30 | Submersible Pump | 2" | 2.0 | 200.0 |
| 010 | AP-9 | TAC | 10/26/23 14:26 | 13.87 | 39.60 | TAC | 10/26/2023 | 14:30 | 14:46 | Submersible Pump | 2" | 2.5 | 156.2 |
| 011 | AP-10 | BG | 10/26/23 12:30 | 6.57 | 38.07 | BG | 10/26/2023 | 12:30 | 12:43 | Submersible Pump | 2" | 4.0 | 307.7 |
| 012 | AP-11 | BG | 10/26/23 11:30 | 15.96 | 22.95 | BG | 10/26/2023 | 11:30 | 11:52 | Submersible Pump | 2" | 6.0 | 272.7 |
| 013 | AP-12 | BG | 10/26/23 10:43 | 18.44 | 30.40 | BG | 10/26/2023 | 10:43 | 11:20 | Submersible Pump | 2" | 8.5 | 229.7 |
| 014 | AP-13 | BG | 10/26/23 9:58 | 19.88 | 31.00 | BG | 10/26/2023 | 09:59 | 10:33 | Submersible Pump | 2" | 9.5 | 279.4 |
| 015 | AP-14 | BG | 10/26/23 13:37 | 3.72 | 31.20 | BG | 10/26/2023 | 13:38 | 13:51 | Submersible Pump | 2" | 5.0 | 384.6 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| WO Sample | Well ID | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sampler Initials | Date | Sample Time | Sampling Method | Field Filtered | Appearance | Odor | Color | Post-Sample DTW (ft) | Drawdown (ft) |
| 001 | RW-3 | bg | 10/25/23 | 12:34 | Low Flow | Yes | Clear | Slight | CLEAR | 14.45 | **2.66** |
| 002 | AP-1 | BG | 10/26/23 | 12:22 | Low Flow | No | Clear | None | CLEAR | 11.69 | 0.27 |
| 003 | AP-2 | BG | 10/26/23 | 13:05 | Low Flow | No | Clear | None | clear | 8.82 | 0.12 |
| 004 | AP-3 | BG | 10/26/23 | 13:25 | Low Flow | No | Clear | Slight | Clear | 10.43 | 0.34 |
| 005 | AP-4 | BG | 10/26/23 | 14:06 | Low Flow | No | Clear | Slight | Clear | 11.11 | 0.32 |
| 006 | AP-5 | BG | 10/26/23 | 14:44 | Low Flow | No | Clear | None | Clear | 20.72 | **2.55** |
| 007 | AP-6 | BG | 10/26/23 | 09:09 | Low Flow | No | Clear | Slight | clear | 12.07 | **2.01** |
| 008 | AP-7 | TAC | 10/26/23 | 13:58 | Low Flow | No | Clear | None | None | 14.42 | **1.97** |
| 009 | AP-8 | BG | 10/26/23 | 09:30 | Low Flow | No | Clear | None | CLEAR | 8.54 | 0.47 |
| 010 | AP-9 | TAC | 10/26/23 | 14:46 | Low Flow | No | Clear | None | None | 13.87 | 0.00 |
| 011 | AP-10 | BG | 10/26/23 | 12:43 | Low Flow | No | Clear | Slight | clear | 6.23 | -0.34 |
| 012 | AP-11 | BG | 10/26/23 | 11:52 | Low Flow | No | Clear | Slight | clear | 16.46 | 0.50 |
| 013 | AP-12 | BG | 10/26/23 | 11:20 | Low Flow | No | Cloudy | Slight | Gray | 19.44 | **1.00** |
| 014 | AP-13 | BG | 10/26/23 | 10:33 | Low Flow | No | Cloudy | Moderate | Gray | 21.27 | **1.39** |
| 015 | AP-14 | BG | 10/26/23 | 13:51 | Low Flow | No | Clear | None | Clear | 3.60 | -0.12 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | RW-3 | GW Level measurement time should be 1226 not 1504. logged this in the worng column |
| 002 | AP-1 | |
| 003 | AP-2 | |
| 004 | AP-3 | |
| 005 | AP-4 | |
| 006 | AP-5 | |
| 007 | AP-6 | |
| 008 | AP-7 | |
| 009 | AP-8 | |
| 010 | AP-9 | |
| 011 | AP-10 | |
| 012 | AP-11 | |
| 013 | AP-12 | |
| 014 | AP-13 | |
| 015 | AP-14 | |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Stabilized Field Parameters Summary**
**CWLP- 4Q 2023**

| Well ID | Date | Time | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTB (ft) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-3 | 10/25/2023 | 12:34 | 15.7 | 60.3 | 7.31 | 632.4 | 1.39 | 8.6 | -125.8 | 44.01 | 11.79 | 23101164-001A |
| AP-1 | 10/26/2023 | 12:22 | 15.4 | 59.7 | 6.71 | 1,710.9 | 1.31 | 11.94 | -103.3 | 31.08 | 11.42 | 23101164-002A |
| AP-2 | 10/26/2023 | 13:05 | 16.6 | 61.9 | 6.57 | 1,375.8 | 1.04 | 15.13 | -16.1 | 21.33 | 8.70 | 23101164-003A |
| AP-3 | 10/26/2023 | 13:25 | 18.2 | 64.8 | 6.69 | 1,293.6 | 1.28 | 10.54 | -79.9 | | 10.09 | 23101164-004A |
| AP-4 | 10/26/2023 | 14:06 | 19.1 | 66.4 | 6.99 | 865.9 | 1.78 | 8.84 | -91.3 | 60.41 | 10.79 | 23101164-005A |
| AP-5 | 10/26/2023 | 14:44 | 14.4 | 57.9 | 7.17 | 652.7 | 2.61 | 2.05 | -2.3 | 31.27 | 18.17 | 23101164-006A |
| AP-6 | 10/26/2023 | 9:09 | 15.2 | 59.4 | 7.17 | 609.4 | 1.75 | 9.52 | -101.5 | 39.62 | 10.06 | 23101164-007A |
| AP-7 | 10/26/2023 | 13:58 | 14.5 | 58.1 | 7.15 | 478.1 | 0.67 | 7.82 | -155.7 | 42.52 | 12.45 | 23101164-008A |
| AP-8 | 10/26/2023 | 9:30 | 15.2 | 59.4 | 7.01 | 926.5 | 1.41 | 9.1 | -111.3 | 39.60 | 8.07 | 23101164-009A |
| AP-9 | 10/26/2023 | 14:46 | 17.1 | 62.8 | 6.81 | 743.3 | 1.14 | 10.37 | -111.2 | 39.60 | 13.87 | 23101164-010A |
| AP-10 | 10/26/2023 | 12:43 | 14.9 | 58.8 | 6.82 | 1,182.1 | 0.94 | 12.43 | -111.3 | 38.07 | 6.57 | 23101164-011A |
| AP-11 | 10/26/2023 | 11:52 | 16.7 | 62.1 | 6.60 | 1,038.9 | 0.91 | 11.89 | -84.2 | 22.95 | 15.96 | 23101164-012A |
| AP-12 | 10/26/2023 | 11:20 | 15.7 | 60.3 | 6.62 | 1,816.3 | 0.66 | 63.28 | -144.5 | 30.40 | 18.44 | 23101164-013A |
| AP-13 | 10/26/2023 | 10:33 | 15.5 | 59.9 | 6.74 | 820.7 | 1.03 | 159.47 | -94.3 | 31.00 | 19.88 | 23101164-014A |
| AP-14 | 10/26/2023 | 13:51 | 14.3 | 57.7 | 7.06 | 1,735.5 | 0.97 | 6.91 | -50.6 | 31.20 | 3.72 | 23101164-015A |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-3 | 10/25/2023 | 12:28 | 11.79 | 15.0 | 59.0 | 7.31 | 613.2 | 613.2 | 3.08 | 3.23 | -61 |
| RW-3 | 10/25/2023 | 12:31 | 11.79 | 16.0 | 60.8 | 7.25 | 633.4 | 633.4 | 1.93 | 8.1 | -95.4 |
| RW-3 | 10/25/2023 | 12:34 | 11.79 | 15.7 | 60.3 | 7.31 | 632.4 | 632.4 | 1.39 | 8.6 | -125.8 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-2 | 10/26/2023 | 12:56 | 8.7 | 16.8 | 62.2 | 6.60 | 1,378.7 | 1,378.7 | 2.31 | 21.59 | -20.8 |
| AP-2 | 10/26/2023 | 12:59 | 8.7 | 16.7 | 62.1 | 6.58 | 1,375.7 | 1,375.7 | 1.54 | 19.53 | -18 |
| AP-2 | 10/26/2023 | 13:02 | 8.7 | 16.7 | 62.1 | 6.57 | 1,375.2 | 1,375.2 | 1.21 | 13.35 | -16.9 |
| AP-2 | 10/26/2023 | 13:05 | 8.7 | 16.6 | 61.88 | 6.57 | 1,375.8 | 1,375.8 | 1.04 | 15.13 | -16.1 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-3 | 10/26/2023 | 13:16 | 10.09 | 18.3 | 64.9 | 6.82 | 1,258.1 | 1,258.1 | 4.12 | 12.63 | -50.7 |
| AP-3 | 10/26/2023 | 13:19 | 10.09 | 18.0 | 64.4 | 6.72 | 1,280.4 | 1,280.4 | 2.34 | 16.99 | -64.5 |
| AP-3 | 10/26/2023 | 13:22 | 10.09 | 18.2 | 64.8 | 6.70 | 1,289.4 | 1,289.4 | 1.58 | 11.27 | -74.9 |
| AP-3 | 10/26/2023 | 13:25 | 10.09 | 18.2 | 64.76 | 6.69 | 1,293.6 | 1,293.6 | 1.28 | 10.54 | -79.9 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-7 | 10/26/2023 | 13:49 | 12.45 | 14.3 | 57.7 | 7.17 | 455.0 | 455.0 | 0.78 | 25.78 | -151 |
| AP-7 | 10/26/2023 | 13:52 | 12.45 | 14.5 | 58.1 | 7.16 | 456.5 | 456.5 | 0.74 | 21.99 | -153.2 |
| AP-7 | 10/26/2023 | 13:55 | 12.45 | 14.6 | 58.3 | 7.15 | 472.5 | 472.5 | 0.7 | 3.96 | -154.3 |
| AP-7 | 10/26/2023 | 13:58 | 12.45 | 14.5 | 58.1 | 7.15 | 478.1 | 478.1 | 0.67 | 7.82 | -155.7 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101164
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP-8 | 10/26/2023 | 9:24 | 8.07 | 15.0 | 59.0 | 7.03 | 927.0 | 927.0 | 2.61 | 17.19 | -96.7 |
| AP-8 | 10/26/2023 | 9:27 | 8.07 | 15.1 | 59.2 | 7.02 | 926.5 | 926.5 | 1.77 | 11.27 | -105.8 |
| AP-8 | 10/26/2023 | 9:30 | 8.07 | 15.2 | 59.4 | 7.01 | 926.5 | 926.5 | 1.41 | 9.1 | -111.3 |

*Summit Environmental Technologies, Inc.*
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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

November 22, 2023

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 23101164

Dear Shelly Hennessy:

Order No.: 23110120

Summit Environmental Technologies, Inc. received 15 sample(s) on 11/1/2023 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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# Case Narrative

WO#: **23110120**
Date: **11/22/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23101164

WorkOrder Narrative:
23110120: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **23110120**
Date: **11/22/2023**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **23110120**

***22-Nov-23***

**CLIENT:** TEKLAB Inc,
**Project:** 23101164

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 23110120-001 | 23101164-001 | | 10/25/2023 12:35:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-002 | 23101164-002 | | 10/26/2023 12:22:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-003 | 23101164-003 | | 10/26/2023 1:05:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-004 | 23101164-004 | | 10/26/2023 1:35:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-005 | 23101164-005 | | 10/26/2023 2:06:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-006 | 23101164-006 | | 10/26/2023 2:44:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-007 | 23101164-007 | | 10/26/2023 9:09:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-008 | 23101164-008 | | 10/26/2023 1:58:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-009 | 23101164-009 | | 10/26/2023 9:30:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-010 | 23101164-010 | | 10/26/2023 2:46:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-011 | 23101164-011 | | 10/26/2023 12:43:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-012 | 23101164-012 | | 10/26/2023 11:52:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-013 | 23101164-013 | | 10/26/2023 11:20:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-014 | 23101164-014 | | 10/26/2023 10:33:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110120-015 | 23101164-015 | | 10/26/2023 1:51:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101164

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23110120-001A | 23101164-001 | 10/25/2023 12:35:00 PM | Non-Potable Water | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-002A | 23101164-002 | 10/26/2023 12:22:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-003A | 23101164-003 | 10/26/2023 1:05:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-004A | 23101164-004 | 10/26/2023 1:35:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-005A | 23101164-005 | 10/26/2023 2:06:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-006A | 23101164-006 | 10/26/2023 2:44:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-007A | 23101164-007 | 10/26/2023 9:09:00 AM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-008A | 23101164-008 | 10/26/2023 1:58:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |

Original

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# DATES REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101164

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23110120-008A | 23101164-008 | 10/26/2023 1:58:00 PM | Non-Potable Water | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-009A | 23101164-009 | 10/26/2023 9:30:00 AM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-010A | 23101164-010 | 10/26/2023 2:46:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-011A | 23101164-011 | 10/26/2023 12:43:00 PM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-012A | 23101164-012 | 10/26/2023 11:52:00 AM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-013A | 23101164-013 | 10/26/2023 11:20:00 AM | | Combined Radium (EPA903+904) | | | 11/15/2023 7:54:51 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/7/2023 1:38:00 PM | 11/13/2023 10:53:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/7/2023 1:38:00 PM | 11/10/2023 3:00:00 PM |
| 23110120-014A | 23101164-014 | 10/26/2023 10:33:00 AM | | Combined Radium (EPA903+904) | | | 11/17/2023 7:27:41 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110120-015A | 23101164-015 | 10/26/2023 1:51:00 PM | | Combined Radium (EPA903+904) | | | 11/17/2023 7:27:41 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23110120**

Date Reported: **11/22/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 10/25/2023 12:35:00 PM

**Project:** 23101164

**Lab ID:** 23110120-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23101164-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **CXS** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 1.09 | 2.00 | U | pCi/L | ± 0.750 | 1 | 11/15/2023 7:54:51 AM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.19 | 1.00 | U | pCi/L | ± 0.0700 | 1 | 11/13/2023 10:53:00 A |
| Yield | 1 | | | | | 1 | 11/13/2023 10:53:00 A |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.9 | 1.00 | J | pCi/L | ± 0.680 | 1 | 11/10/2023 3:00:00 PM |
| Yield | 1 | | | | | 1 | 11/10/2023 3:00:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as specified at testcode |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23110120**

Date Reported: **11/22/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 10/26/2023 1:05:00 PM

**Project:** 23101164

**Lab ID:** 23110120-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23101164-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **CXS** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.42 | 2.00 | U | pCi/L | ± 0.610 | 1 | 11/15/2023 7:54:51 AM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.17 | 1.00 | U | pCi/L | ± 0.0700 | 1 | 11/13/2023 10:53:00 A |
| Yield | 0.99 | | | | | 1 | 11/13/2023 10:53:00 A |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.25 | 1.00 | U | pCi/L | ± 0.540 | 1 | 11/10/2023 3:00:00 PM |
| Yield | 1 | | | | | 1 | 11/10/2023 3:00:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| U | Samples with CalcVal < MDL |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
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*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23110120**

Date Reported: **11/22/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 10/26/2023 1:35:00 PM

**Project:** 23101164

**Lab ID:** 23110120-004

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23101164-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **CXS** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.65 | 2.00 | U | pCi/L | ± 0.670 | 1 | 11/15/2023 7:54:51 AM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.17 | 1.00 | U | pCi/L | ± 0.0700 | 1 | 11/13/2023 10:53:00 A |
| Yield | 1 | | | | | 1 | 11/13/2023 10:53:00 A |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.48 | 1.00 | U | pCi/L | ± 0.600 | 1 | 11/10/2023 3:00:00 PM |
| Yield | 1 | | | | | 1 | 11/10/2023 3:00:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as specified at testcode |

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# Analytical Report

(consolidated)

WO#: **23110120**

Date Reported: **11/22/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 10/26/2023 1:58:00 PM

**Project:** 23101164

**Lab ID:** 23110120-008

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23101164-008

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **CXS** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.8 | 2.00 | U | pCi/L | ± 0.770 | 1 | 11/15/2023 7:54:51 AM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.33 | 1.00 | U | pCi/L | ± 0.100 | 1 | 11/13/2023 10:53:00 A |
| Yield | 0.98 | | | | | 1 | 11/13/2023 10:53:00 A |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.47 | 1.00 | U | pCi/L | ± 0.670 | 1 | 11/10/2023 3:00:00 PM |
| Yield | 1 | | | | | 1 | 11/10/2023 3:00:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as specified at testcode |

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# Analytical Report

(consolidated)

WO#: **23110120**

Date Reported: **11/22/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 10/26/2023 9:30:00 AM

**Project:** 23101164

**Lab ID:** 23110120-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23101164-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **CXS** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 1.55 | 2.00 | U | pCi/L | ± 0.970 | 1 | 11/15/2023 7:54:51 AM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.05 | 1.00 | U | pCi/L | ± 0.160 | 1 | 11/13/2023 10:53:00 A |
| Yield | 1 | | | | | 1 | 11/13/2023 10:53:00 A |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 1.5 | 1.00 | | pCi/L | ± 0.810 | 1 | 11/10/2023 3:00:00 PM |
| Yield | 0.99 | | | | | 1 | 11/10/2023 3:00:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| U | Samples with CalcVal < MDL |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode |

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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101164 **BatchID:** **70288**

Sample ID: **23110093-002AMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174559**

Client ID: **BatchQC** Batch ID: **70288** TestNo: **E904.0** **E903-904** Analysis Date: **11/10/2023** SeqNo: **4721762**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.85 | 1.00 | 5.000 | 1.460 | 87.8 | 70 | 130 | | | | |
| Yield | 1.00 | | | 1.000 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70288**

Sample ID: **MB-70288** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174559**
Client ID: **PBW** Batch ID: **70288** TestNo: **E904.0** **E903-904** Analysis Date: **11/10/2023** SeqNo: **4721756**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | U |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-70288** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174559**
Client ID: **LCSW** Batch ID: **70288** TestNo: **E904.0** **E903-904** Analysis Date: **11/10/2023** SeqNo: **4721757**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.82 | 1.00 | 5.000 | 0 | 96.4 | 70 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-70288** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174559**
Client ID: **LCSS02** Batch ID: **70288** TestNo: **E904.0** **E903-904** Analysis Date: **11/10/2023** SeqNo: **4721758**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.74 | 1.00 | 5.000 | 0 | 74.8 | 70 | 130 | 4.820 | 25.2 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101164 **BatchID:** **70288**

| Sample ID: **RLCD-70288** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/7/2023** | RunNo: **174559** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **70288** | TestNo: **E904.0** | **E903-904** | Analysis Date: **11/10/2023** | SeqNo: **4721761** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.10 | 1.00 | 1.000 | 0 | 110 | 50 | 150 | | | | |
| Yield | 0.970 | | | 0 | 0 | | | | | | |

| Sample ID: **23110191-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/7/2023** | RunNo: **174559** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **70288** | TestNo: **E904.0** | **E903-904** | Analysis Date: **11/10/2023** | SeqNo: **4721783** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0.7400 | 200 | 20 | RU |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101164 **BatchID:** **70288**

Sample ID: **23110093-002AMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**

Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721797**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70288**

Sample ID: **MB-70288** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **PBW** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721791**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | U |
| Yield | 0.990 | | | | | | | | | | |

Sample ID: **LCS-70288** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **LCSW** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721792**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.76 | 1.00 | 5.000 | 0 | 95.2 | 70 | 130 | | | | |

Sample ID: **LCSD-70288** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **LCSS02** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721793**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.50 | 1.00 | 5.000 | 0 | 90.0 | 70 | 130 | 4.760 | 5.62 | 20 | |

Sample ID: **RLC-70288** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721795**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |

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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70288**

Sample ID: **RLC-70288** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721795**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.29 | 1.00 | 1.000 | 0 | 129 | 50 | 150 | | | | |

Sample ID: **RLCD-70288** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721796**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.18 | 1.00 | 1.000 | 0 | 118 | 50 | 150 | | | | |

Sample ID: **23110190-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721816**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | U |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **23110191-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**
Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721818**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101164 **BatchID:** **70288**

Sample ID: **23110191-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/7/2023** RunNo: **174560**

Client ID: **BatchQC** Batch ID: **70288** TestNo: **E903.0** **E903-904** Analysis Date: **11/13/2023** SeqNo: **4721818**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | U |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
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| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70385**

Sample ID: **23110328-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174694**
Client ID: **BatchQC** Batch ID: **70385** TestNo: **E904.0** **E903-904** Analysis Date: **11/14/2023** SeqNo: **4725143**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0.7700 | 200 | 30 | RU |
| Yield | 0.840 | | | 0 | 0 | | | 0.9100 | 8.00 | | |

Sample ID: **23110328-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174694**
Client ID: **BatchQC** Batch ID: **70385** TestNo: **E904.0** **E903-904** Analysis Date: **11/14/2023** SeqNo: **4725145**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.910 | 1.00 | | 0 | 0 | | | 0 | 200 | 30 | JR |
| Yield | 0.730 | | | 0 | 0 | | | 0.9600 | 27.2 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



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# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70385**

| Sample ID: **MB-70385** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/9/2023** | RunNo: **174694** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **70385** | TestNo: **E904.0** | **E903-904** | Analysis Date: **11/14/2023** | SeqNo: **4725103** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | U |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-70385** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/9/2023** | RunNo: **174694** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **70385** | TestNo: **E904.0** | **E903-904** | Analysis Date: **11/14/2023** | SeqNo: **4725104** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.03 | 1.00 | 5.000 | 0 | 80.6 | 70 | 130 | | | | |
| Yield | 0.850 | | | 0 | 0 | | | | | | |

| Sample ID: **RLC-70385** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/9/2023** | RunNo: **174694** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **70385** | TestNo: **E904.0** | **E903-904** | Analysis Date: **11/14/2023** | SeqNo: **4725107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 0.930 | 1.00 | 1.000 | 0 | 93.0 | 50 | 150 | | | | J |
| Yield | 0.920 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70385**

Sample ID: **23110328-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174727**
Client ID: **BatchQC** Batch ID: **70385** TestNo: **E903.0** **E903-904** Analysis Date: **11/15/2023** SeqNo: **4726100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | U |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **23110328-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174727**
Client ID: **BatchQC** Batch ID: **70385** TestNo: **E903.0** **E903-904** Analysis Date: **11/15/2023** SeqNo: **4726102**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | U |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70385**

Sample ID: **MB-70385** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174727**
Client ID: **PBW** Batch ID: **70385** TestNo: **E903.0** **E903-904** Analysis Date: **11/15/2023** SeqNo: **4726091**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | U |
| Yield | 0.960 | | | | | | | | | | |

Sample ID: **LCS-70385** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174727**
Client ID: **LCSW** Batch ID: **70385** TestNo: **E903.0** **E903-904** Analysis Date: **11/15/2023** SeqNo: **4726092**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.82 | 1.00 | 5.000 | 0 | 116 | 70 | 130 | | | | |

Sample ID: **LCSD-70385** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174727**
Client ID: **LCSS02** Batch ID: **70385** TestNo: **E903.0** **E903-904** Analysis Date: **11/15/2023** SeqNo: **4726093**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.96 | 1.00 | 5.000 | 0 | 99.2 | 70 | 130 | 5.820 | 16.0 | 20 | |

Sample ID: **RLC-70385** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/9/2023** RunNo: **174727**
Client ID: **BatchQC** Batch ID: **70385** TestNo: **E903.0** **E903-904** Analysis Date: **11/15/2023** SeqNo: **4726095**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **23110120**

***22-Nov-23***

**Client:** TEKLAB Inc,
**Project:** 23101164 **BatchID:** **70385**

| Sample ID: **RLC-70385** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/9/2023** | RunNo: **174727** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **70385** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/15/2023** | SeqNo: **4726095** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 60.0 | 50 | 150 | | | | |

| Sample ID: **RLCD-70385** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/9/2023** | RunNo: **174727** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **70385** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/15/2023** | SeqNo: **4726096** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 0.820 | 1.00 | 1.000 | 0 | 82.0 | 50 | 150 | | | | J |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits | M | Manual Integration used to determine area respons |
| ND | Not Detected | PL | Permit Limit | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as spe |



Original

Pg 1 of 2 23110120

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Teklab INC QC Level: 1

Comments: Please Issue reports and invoices via email only
Please analyze for Radium (226, 228, and combined) by method EPA903.0/904.0
on standard TAT Please include negative values (no ND).
Batch QC and CCR EDD are required. Receipt summary requested.

Project# 23101164

Contact: Shelly Hennessy Email: shennessy
Requested Due Date: 20 business days or less Billing/PO: 35260
Phone: 618 344 1004 State of Origin: IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | Combined Radium | | | | | | | | | | pH | CPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23101164-001 | 10/25/23 1235 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 25 |
| | 23101164-002 | 10/26/23 1222 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 21 |
| | 23101164-003 | 10/26/23 1305 | ~~Unpres~~ HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 31 |
| | 23101164-004 | 10/26/23 1335 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 31 |
| | 23101164-005 | 10/26/23 1406 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 18 |
| | 23101164-006 | 10/26/23 1444 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 31 |
| | 23101164-007 | 10/26/23 0909 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 18 |
| | 23101164-008 | 10/26/23 1358 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 18 |
| | 23101164-009 | 10/26/23 0930 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 31 |
| | 23101164-010 | 10/26/23 1446 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 27 |
| | 23101164-011 | 10/26/23 1243 | ~~Unpres~~ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | | | 1 | 15 |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | Jackie Nesbitt | 11-1-23 11:45 |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016



17.3, 13.5, 13.6 / Couriers / FedEx

17.6, 13.4, 13.5

# TEKLAB, INC. Chain of Custody

23110120

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Teklab INC QC Level: 1

Project# 23101164

Comments: Please Issue reports and invoices via email only
Please analyze for Radium (226, 228, and combined) by method EPA903.0/904.0
on standard TAT Please include negative values (no ND).
Batch QC and CCR EDD are required. Receipt summary requested.

Contact: Shelly Hennessy Email: shennessy
Requested Due Date: 20 business days or less Billing/PO: 35260
Phone: 618 344 1004 State of Origin:

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | Combined Radium | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23101164-012 10/26/23 | ~~10/26/23~~ 1152 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | | | | | 11 | | |
| | 23101164-013 | 10/26/23 1120 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | | | | | 1 | | |
| | 23101164-014 | 10/26/23 1033 | ~~Unpres~~ HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | | | | | 1 | | |
| | 23101164-015 | 10/26/23 1351 | ~~Unpres~~ ↓ | Groundwater | ✔ | ✔ | ✔ | | | | | | | | 1 | | |
| | | | Unpres | Groundwater | | | | | | | | | | | | | |
| | | | Unpres | Groundwater | | | | | | | | | | | | | |
| | | | Unpres | Groundwater | | | | | | | | | | | | | |
| | | | Unpres | Groundwater | | | | | | | | | | | | | |
| | | | Unpres | Groundwater | | | | | | | | | | | | | |
| | | | Unpres | Groundwater | | | | | | | | | | | | | |

CPM
11
15
18
50

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | 11-1-23/1145 |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2018

*Summit Environmental Technologies, Inc.*
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*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 23110120 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Jacqueline Rasile | 11/1/2023 11:45:00 AM | Jackie Rasile |
| Completed By: | Jacqueline Rasile | 11/2/2023 11:10:56 AM | Jackie Rasile |
| Reviewed By: | Jennifer Woolf | 11/2/2023 1:45:17 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☑
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☐ NA ☑
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 13.5 | Good | Not Present | | | |

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*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 23110120 RcptNo: 1

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 13.6 | Good | Not Present | | | |
| 3 | 17.7 | Good | Not Present | | | |

November 14, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 23101166

Dear Eric Staley:

TEKLAB, INC received 12 samples on 10/25/2023 5:15:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 23101166
**Client Project:** Landfill Monitoring Wells
**Report Date:** 14-Nov-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23101166

**Client Project:** Landfill Monitoring Wells **Report Date:** 14-Nov-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 23101166

**Client Project:** Landfill Monitoring Wells

**Report Date:** 14-Nov-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23101166
**Report Date:** 14-Nov-23

**Cooler Receipt Temp:** 4.8 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 23101166

**Client Project:** Landfill Monitoring Wells

**Report Date:** 14-Nov-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 23101166
**Client Project:** Landfill Monitoring Wells
**Report Date:** 14-Nov-23
**Lab ID:** 23101166-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 10/25/2023 9:59

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 10/25/2023 9:59 | R338510 |
| Depth to water | * | -5.00 | | **14.63** | ft | 1 | 10/25/2023 9:59 | R338510 |
| Depth to water from measuring point | * | 0 | | **17.38** | ft | 1 | 10/25/2023 9:59 | R338510 |
| Elevation of groundwater surface | * | 0 | | **538.22** | ft | 1 | 10/25/2023 9:59 | R338510 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 10/25/2023 9:59 | R338510 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.1** | °F | 1 | 10/25/2023 9:59 | R338510 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 10/25/2023 9:59 | R338510 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1450** | µmhos/cm @25C | 1 | 10/25/2023 9:59 | R338510 |
| **EPA 600 350.1 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Ammonia (as N) | NELAP | 0.10 | | **1.56** | mg/L | 1 | 10/27/2023 13:38 | R338368 |
| **EPA 600 353.2 R2.0 (DISSOLVED)** | | | | | | | | |
| Nitrogen, Nitrate (as N) | NELAP | 0.050 | | **0.086** | mg/L | 1 | 10/26/2023 13:49 | R338390 |
| **STANDARD METHODS 2540 C (DISSOLVED) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **965** | mg/L | 2.5 | 10/30/2023 12:58 | R338538 |
| **SW-846 9012A (TOTAL)** | | | | | | | | |
| Cyanide | NELAP | 0.005 | | **< 0.005** | mg/L | 1 | 10/31/2023 16:41 | 213865 |
| **SW-846 9036 (DISSOLVED)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **360** | mg/L | 10 | 10/27/2023 17:47 | R338425 |
| **SW-846 9251 (DISSOLVED)** | | | | | | | | |
| Chloride | NELAP | 4 | | **43** | mg/L | 1 | 10/27/2023 17:41 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **7880** | µg/L | 1 | 11/02/2023 9:07 | 214021 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 11/01/2023 15:45 | 214021 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 11/01/2023 15:45 | 214021 |
| Magnesium | NELAP | 0.050 | | **80.3** | mg/L | 1 | 11/01/2023 15:45 | 214021 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 11/01/2023 15:45 | 214021 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **216** | µg/L | 5 | 11/01/2023 20:20 | 214021 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 11/01/2023 20:20 | 214021 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 11/01/2023 13:17 | 214030 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 23101166
**Report Date:** 14-Nov-23

**Carrier:** Justin Colp

**Received By:** HAW

**Completed by:** Timothy W. Mathis
**On:** 26-Oct-23

**Reviewed by:** Ellie Hopkins
**On:** 26-Oct-23

**Pages to follow:** Chain of custody 3 Extra pages included 12

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 4.8 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | | | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | | | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | | | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | | | |

**Any No responses must be detailed below or on the COC.**

pH strip #90719/79929 CET. - TMathis - 10/26/2023 12:35:55 PM

Additional NaOH (81662) was needed in all Cyanide containers; Additional H2SO4 (90128) was needed upon arrival at the laboratory in G120.- TMathis - 10/26/2023 12:36:37 PM

Samples collected on 10/26/23 were delivered to the laboratory on 10/26/23 at 1707 (on ice - 2.4C - LTG1). - AMD/ERH 10/27/23

Additional NaOH (81662) was needed upon arrival at the laboratory in G113. - amberdilallo - 10/27/2023 9:42:38 AM

pH strip #79929/90719. - amberdilallo - 10/27/2023 9:42:58 AM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23101166

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 4.8 °C CTG
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH 90719/79929. Added NaOH(81662) to all NaOH Samples Added H2SO4(90218) to G120. GKS 10-26-23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
XTE SAH 11/6/23

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101166-001 | R101 | 10-25-23 / 1442 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | 10-25-23 / 1053 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | 10-25-23 / 1339 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | 1201 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | 1129 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | 0959 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | 1318 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | 10-25-23 / 1235 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 10-25-23 1715 | Harold Wa[illegible] | 10/25/23 1715 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

GKS 10-26-23

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 23101166

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**

Quarters 1, 3, & 4

*elevations, pH, conductivity, temperature

**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**

Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

Justin Colp

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101166-012 | DUPLICATE | 10-25-23 1201 | Groundwater | 1 | 1 | 1 | 1 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 10-25-23 1715 | [signature] | 10/25/23 1715 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 23101166

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.4 °C
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY LTGL
LAB NOTES: Added NaOH (8 ice) to G113. pH ✓
XTE 8/11/6/23 7992919079
[illegible] 10/27/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
Quarters 1, 3, & 4
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Cop

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101166-001 | R101 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | 10-26-23 / 1220 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 10-26-23 / 1135 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | 10-26-23 / ~~1422~~ 1 | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | 1422 ~~1415~~ * | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 2 | 1 | 1 | 1 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 10-26-23 1707 | [signature] | 10/26/23 1707 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101166
**Technician(s)**: JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AW-1 | 10/25/2023 | 9:38 | 17.38 | 15.1 | 6.44 | 1,447.0 | 1,447.0 | 2.11 | 123.41 | -45.2 |
| AW-1 | 10/25/2023 | 9:41 | 17.38 | 15.0 | 6.48 | 1,448.4 | 1,448.4 | 1.63 | 117.73 | -59.6 |
| AW-1 | 10/25/2023 | 9:44 | 17.38 | 15.0 | 6.50 | 1,447.7 | 1,447.7 | 1.38 | 121.79 | -68.3 |
| AW-1 | 10/25/2023 | 9:47 | 17.38 | 15.1 | 6.51 | 1,448.1 | 1,448.1 | 1.22 | 117.33 | -74.4 |
| AW-1 | 10/25/2023 | 9:50 | 17.38 | 15.1 | 6.52 | 1,449.6 | 1,449.6 | 1.11 | 103.92 | -79.5 |
| AW-1 | 10/25/2023 | 9:53 | 17.38 | 14.9 | 6.53 | 1,449.9 | 1,449.9 | 0.99 | 97.27 | -83.9 |
| AW-1 | 10/25/2023 | 9:56 | 17.38 | 15.1 | 6.54 | 1,448.8 | 1,448.8 | 0.91 | 86.14 | -87 |
| AW-1 | 10/25/2023 | 9:59 | 17.38 | 15.1 | 6.54 | 1,449.2 | 1,449.2 | 0.86 | 80.77 | -89.9 |

November 30, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 23101165

Dear Eric Staley:

TEKLAB, INC received 11 samples on 10/25/2023 5:15:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 23101165
**Report Date:** 30-Nov-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 23101165
**Client Project:** FGDS Landfill
**Report Date:** 30-Nov-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 23101165
**Client Project:** FGDS Landfill
**Report Date:** 30-Nov-23

**Cooler Receipt Temp:** 4.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & Radium-228 analyses were performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 23101165
**Client Project:** FGDS Landfill
**Report Date:** 30-Nov-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 9:59

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 10/25/2023 9:59 | R338823 |
| Depth to water | * | -5.00 | | **14.63** | ft | 1 | 10/25/2023 9:59 | R338823 |
| Depth to water from measuring point | * | 0 | | **17.38** | ft | 1 | 10/25/2023 9:59 | R338823 |
| Elevation of groundwater surface | * | 0 | | **538.22** | ft | 1 | 10/25/2023 9:59 | R338823 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 10/25/2023 9:59 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 10/25/2023 9:59 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **81** | NTU | 1 | 10/25/2023 9:59 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.1** | °F | 1 | 10/25/2023 9:59 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 10/25/2023 9:59 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1450** | µmhos/cm @25C | 1 | 10/25/2023 9:59 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1220** | mg/L | 5 | 10/30/2023 11:50 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **384** | mg/L | 10 | 10/27/2023 20:51 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 11/02/2023 15:50 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **40** | mg/L | 1 | 10/27/2023 20:45 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **1.96** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Boron | NELAP | 0.0200 | | **8.66** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Calcium | NELAP | 0.100 | | **197** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Chromium | NELAP | 0.0050 | | **0.0101** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0739** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 11:49 | 213836 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 20:16 | 213836 |
| Arsenic | NELAP | 0.0010 | | **0.208** | mg/L | 5 | 11/02/2023 20:16 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 20:16 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 20:16 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:24 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/21/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/21/2023 0:00 | R339861 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 23101165
**Report Date:** 30-Nov-23

**Carrier:** Justin Colp

**Received By:** HAW

**Completed by:** Timothy W. Mathis
**On:** 26-Oct-23

**Reviewed by:** Ellie Hopkins
**On:** 27-Oct-23

**Pages to follow:** Chain of custody 2 Extra pages included 45

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 4.8 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | | | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | | | |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ | | | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | | | |

**Any No responses must be detailed below or on the COC.**

pH strip #90719 CET. - TMathis - 10/26/2023 12:50:41 PM

Additional Nitric Acid (92447) was needed in AW-2 250 and G120 2L upon arrival at the laboratory. - TMathis - 10/26/2023 12:55:07 PM

pH strip #90719. - amberdilallo - 10/27/2023 9:46:53 AM

Samples collected on 10/26/23 were delivered to the laboratory on 10/26/23 at 1707 (on ice - 2.4C - LTG1). - HW/ERH 10/27/23

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 23101165

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.8 °C CT GS
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH 0.9 0719, Added HNO3 (92447) to AW-2 250m and G120 2L. CAO 10-26-23.

Client Comments: *TE 1234 SAH 11/7/23
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 23101164-001

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

PROJECT NAME/NUMBER: FGDS Landfill
SAMPLE COLLECTOR'S NAME: Justin Colp

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101165-001 | R101 | 10-25-23 / 1442 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | 10-25-23 / 1053 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | 10-25-23 / 1339 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | 1201 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | 1129 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | 0959 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | 1318 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 ⊛ | * 12354 | Groundwater | 0 | 0 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J Colp | 10-25-23 1715 | [signature] | 10/25/23 1715 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CAO 10-26-23

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 23101165

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.4 °C LTCU
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 90719 SVM 10/27/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 23101164-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Cop

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101165-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | 10-26-23/1220 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 10-26-23/1135 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 * | 10-26-23 / ~~1422~~ | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | 10/25 1422 1415 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | TE SAW 11/7/23 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 ⊛ | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Brett [signature] | 10-26-23 17:07 | Hardin [signature] | 10/26/23 1707 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | R101 | Groundwater Sample | 74.0 | None | S | Clear | Good | Good | Good | Yes | **No** |
| 002 | G110 | Groundwater Sample | 71.0 | Light | S | Cloudy | Good | Good | Good | **No** | **No** |
| 003 | R111 | Groundwater Sample | 71.0 | None | S | Cloudy | Good | Good | Good | Yes | **No** |
| 004 | G112 | Groundwater Sample | 64.0 | None | SW | Cloudy | Good | Good | Good | Yes | **No** |
| 005 | G113 | Groundwater Sample | 73.0 | None | S | Clear | Good | Good | Good | Yes | **No** |
| 006 | G120 | Groundwater Sample | 71.0 | None | S | Clear | Good | Good | Good | Yes | **No** |
| 007 | G121 | Groundwater Sample | 68.0 | None | S | Cloudy | Good | Good | Good | Yes | **No** |
| 008 | G122 | Groundwater Sample | 67.0 | None | S | Partly cloudy | Good | Good | Good | Yes | **No** |
| 009 | AW-1 | Groundwater Sample | 64.0 | None | SW | Cloudy | Good | Good | Good | Yes | **No** |
| 010 | AW-2 | Groundwater Sample | 71.0 | None | S | Partly cloudy | Good | Good | Good | Yes | **No** |
| 011 | RW-3 | Groundwater Sample | 70.0 | None | S | Clear | Good | Good | Good | **No** | **No** |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Sampler Initials** | **Purge Date** | | | **Sampling Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 001 | R101 | BG | 10/25/23 14:35 | 8.73 | 35.27 | BG | 10/25/2023 | 14:34 | 14:42 | Submersible Pump | 2" | 3.0 | 375.0 |
| 002 | G110 | TAC | 10/26/23 12:00 | 25.72 | 57.15 | TAC | 10/26/2023 | 12:05 | 12:20 | Peristaltic Pump | 2" | 3.5 | 233.3 |
| 003 | R111 | TAC | 10/26/23 11:14 | 26.87 | 55.75 | TAC | 10/26/2023 | 11:18 | 11:35 | Submersible Pump | 2" | 6.0 | 352.9 |
| 004 | G112 | BG | 10/25/23 10:22 | 30.42 | 58.81 | BG | 10/25/2023 | 10:23 | 10:53 | Submersible Pump | 2" | 7.0 | 233.3 |
| 005 | G113 | BG | 10/25/23 14:10 | 9.62 | 12.85 | BG | 10/25/2023 | 14:11 | 14:22 | Submersible Pump | 2" | 3.0 | 272.7 |
| 006 | G120 | bg | 10/25/23 13:30 | 18.61 | 50.37 | BG | 10/25/2023 | 13:32 | 13:39 | Submersible Pump | 2" | 2.0 | 285.7 |
| 007 | G121 | BG | 10/25/23 11:39 | 30.54 | 58.56 | BG | 10/25/2023 | 11:40 | 12:01 | Submersible Pump | 2" | 8.0 | 381.0 |
| 008 | G122 | BG | 10/25/23 11:07 | 32.24 | 49.29 | BG | 10/25/2023 | 11:09 | 11:29 | Submersible Pump | 2" | 7.0 | 350.0 |
| 009 | AW-1 | BG | 10/25/23 9:25 | 17.38 | 54.81 | BG | 10/25/2023 | 09:28 | 09:59 | Submersible Pump | 2" | 7.0 | 225.8 |
| 010 | AW-2 | BG | 10/25/23 12:51 | 7.41 | 32.64 | BG | 10/25/2023 | 12:52 | 13:18 | Submersible Pump | 2" | 6.0 | 230.8 |
| 011 | RW-3 | BG | 10/26/23 12:26 | 11.79 | 44.01 | BG | 10/25/2023 | 12:24 | 12:35 | Bladder Pump | 2" | 2.0 | 181.8 |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

November 28, 2023

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 23101165

Dear Shelly Hennessy:

Order No.: 23110123

Summit Environmental Technologies, Inc. received 11 sample(s) on 11/1/2023 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **23110123**
Date: **11/28/2023**

**CLIENT:** TEKLAB Inc,
**Project:** 23101165

WorkOrder Narrative:
23110123: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-448*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **23110123**
Date: **11/28/2023**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **23110123**

***28-Nov-23***

**CLIENT:** TEKLAB Inc,
**Project:** 23101165

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 23110123-001 | 23101165-001 | | 10/25/2023 2:42:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-002 | 23101165-002 | | 10/26/2023 12:20:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-003 | 23101165-003 | | 10/26/2023 11:35:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-004 | 23101165-004 | | 10/25/2023 10:53:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-005 | 23101165-005 | | 10/26/2023 2:15:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-006 | 23101165-006 | | 10/25/2023 1:39:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-007 | 23101165-007 | | 10/25/2023 12:01:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-008 | 23101165-008 | | 10/25/2023 11:29:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-009 | 23101165-009 | | 10/25/2023 9:59:00 AM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-010 | 23101165-010 | | 10/25/2023 1:18:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |
| 23110123-011 | 23101165-011 | | 10/25/2023 12:35:00 PM | 11/1/2023 11:45:00 AM | Non-Potable Water |

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# DATES REPORT

WO#: **23110123**

***28-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101165

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23110123-001A | 23101165-001 | 10/25/2023 2:42:00 PM | Non-Potable Water | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-002A | 23101165-002 | 10/26/2023 12:20:00 PM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-003A | 23101165-003 | 10/26/2023 11:35:00 AM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-004A | 23101165-004 | 10/25/2023 10:53:00 AM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-005A | 23101165-005 | 10/26/2023 2:15:00 PM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-006A | 23101165-006 | 10/25/2023 1:39:00 PM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-007A | 23101165-007 | 10/25/2023 12:01:00 PM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/9/2023 2:11:46 PM | 11/15/2023 10:35:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/9/2023 2:11:46 PM | 11/14/2023 2:13:00 PM |
| 23110123-008A | 23101165-008 | 10/25/2023 11:29:00 AM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/21/2023 12:03:19 PM | 11/22/2023 9:43:00 AM |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# DATES REPORT

WO#: **23110123**

***28-Nov-23***

**Client:** TEKLAB Inc,

**Project:** 23101165

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23110123-008A | 23101165-008 | 10/25/2023 11:29:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 11/21/2023 12:03:19 PM | 11/21/2023 2:30:00 PM |
| 23110123-009A | 23101165-009 | 10/25/2023 9:59:00 AM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/21/2023 12:03:19 PM | 11/22/2023 9:43:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/21/2023 12:03:19 PM | 11/21/2023 2:30:00 PM |
| 23110123-010A | 23101165-010 | 10/25/2023 1:18:00 PM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/21/2023 12:03:19 PM | 11/22/2023 9:43:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/21/2023 12:03:19 PM | 11/21/2023 2:30:00 PM |
| 23110123-011A | 23101165-011 | 10/25/2023 12:35:00 PM | | Combined Radium (EPA903+904) | | | 11/28/2023 8:32:00 AM |
| | | | | Radium-226 (EPA 903.0) | | 11/21/2023 12:03:19 PM | 11/22/2023 9:43:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/21/2023 12:03:19 PM | 11/21/2023 2:30:00 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **23110123**

Date Reported: **11/28/2023**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 10/25/2023 9:59:00 AM

**Project:** 23101165

**Lab ID:** 23110123-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 23101165-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **CXS** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | 0.45 | 2.00 | U | pCi/L | ± 0.450 | 1 | 11/28/2023 8:32:00 AM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | 0.11 | 1.00 | U | pCi/L | ± 0.0600 | 1 | 11/22/2023 9:43:00 AM |
| Yield | 0.94 | | | | | 1 | 11/22/2023 9:43:00 AM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | 0.34 | 1.00 | U | pCi/L | ± 0.390 | 1 | 11/21/2023 2:30:00 PM |
| Yield | 0.95 | | | | | 1 | 11/21/2023 2:30:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| U | Samples with CalcVal < MDL | W | Sample container temperature is out of limit as specified at testcode |

Original

November 30, 2023

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 23101165

Dear Eric Staley:

TEKLAB, INC received 11 samples on 10/25/2023 5:15:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 23101165
**Report Date:** 30-Nov-23

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 23101165
**Client Project:** FGDS Landfill
**Report Date:** 30-Nov-23

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 23101165
**Client Project:** FGDS Landfill
**Report Date:** 30-Nov-23

**Cooler Receipt Temp:** 4.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & Radium-228 analyses were performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 23101165
**Client Project:** FGDS Landfill
**Report Date:** 30-Nov-23

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2024 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2024 | Collinsville |
| Missouri | MDNR | 00930 | | 5/31/2023 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 14:42

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 10/25/2023 14:42 | R338823 |
| Depth to water | * | -5.00 | | **5.93** | ft | 1 | 10/25/2023 14:42 | R338823 |
| Depth to water from measuring point | * | 0 | | **8.73** | ft | 1 | 10/25/2023 14:42 | R338823 |
| Elevation of groundwater surface | * | 0 | | **538.07** | ft | 1 | 10/25/2023 14:42 | R338823 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 10/25/2023 14:42 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 10/25/2023 14:42 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 10/25/2023 14:42 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.2** | °F | 1 | 10/25/2023 14:42 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.81** | | 1 | 10/25/2023 14:42 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1200** | µmhos/cm @25C | 1 | 10/25/2023 14:42 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **840** | mg/L | 1 | 10/30/2023 11:49 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **271** | mg/L | 10 | 10/27/2023 19:55 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 11/02/2023 15:24 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **112** | mg/L | 5 | 10/27/2023 19:49 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0621** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Boron | NELAP | 0.0200 | | **0.126** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Calcium | NELAP | 0.100 | | **162** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0524** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 10:48 | 213836 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:09 | 213836 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:09 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:09 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 19:09 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 10:30 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-002 **Client Sample ID:** G110

**Matrix:** GROUNDWATER **Collection Date:** 10/26/2023 12:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.05** | ft | 1 | 10/26/2023 12:20 | R338823 |
| Depth to water | * | -5.00 | | **23.11** | ft | 1 | 10/26/2023 12:20 | R338823 |
| Depth to water from measuring point | * | 0 | | **25.72** | ft | 1 | 10/26/2023 12:20 | R338823 |
| Elevation of groundwater surface | * | 0 | | **531.48** | ft | 1 | 10/26/2023 12:20 | R338823 |
| Measuring Point Elevation | * | 0 | | **557.20** | ft | 1 | 10/26/2023 12:20 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.61** | ft | 1 | 10/26/2023 12:20 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.9** | NTU | 1 | 10/26/2023 12:20 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.8** | °F | 1 | 10/26/2023 12:20 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.84** | | 1 | 10/26/2023 12:20 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **603** | µmhos/cm @25C | 1 | 10/26/2023 12:20 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **418** | mg/L | 1 | 10/31/2023 12:12 | R338603 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 10/30/2023 16:19 | R338498 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 11/02/2023 15:27 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **6** | mg/L | 1 | 10/30/2023 16:19 | R338509 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.174** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Boron | NELAP | 0.0200 | | **0.0951** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Calcium | NELAP | 0.100 | | **103** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| Lithium | NELAP | 0.0050 | | **0.0248** | mg/L | 1 | 11/02/2023 10:17 | 213981 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 10/31/2023 15:55 | 213981 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 10/31/2023 19:47 | 213981 |
| Arsenic | NELAP | 0.0010 | | **0.0053** | mg/L | 5 | 10/31/2023 19:47 | 213981 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 14:21 | 213981 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 10/31/2023 19:47 | 213981 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:04 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-004 **Client Sample ID:** G112

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 10:53

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.99** | ft | 1 | 10/25/2023 10:53 | R338823 |
| Depth to water | * | -5.00 | | **28.24** | ft | 1 | 10/25/2023 10:53 | R338823 |
| Depth to water from measuring point | * | 0 | | **30.42** | ft | 1 | 10/25/2023 10:53 | R338823 |
| Elevation of groundwater surface | * | 0 | | **524.38** | ft | 1 | 10/25/2023 10:53 | R338823 |
| Measuring Point Elevation | * | 0 | | **554.80** | ft | 1 | 10/25/2023 10:53 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.18** | ft | 1 | 10/25/2023 10:53 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **39** | NTU | 1 | 10/25/2023 10:53 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.9** | °F | 1 | 10/25/2023 10:53 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.01** | | 1 | 10/25/2023 10:53 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1410** | µmhos/cm @25C | 1 | 10/25/2023 10:53 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **950** | mg/L | 5 | 10/30/2023 11:50 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **223** | mg/L | 10 | 10/27/2023 20:03 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.18** | mg/L | 1 | 11/02/2023 15:40 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **135** | mg/L | 5 | 10/27/2023 19:57 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.462** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Boron | NELAP | 0.0200 | | **0.387** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Calcium | NELAP | 0.100 | S | **202** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0496** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 10:50 | 213836 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:34 | 213836 |
| Arsenic | NELAP | 0.0010 | | **0.0021** | mg/L | 5 | 11/02/2023 19:34 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:34 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 19:34 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:13 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-005 **Client Sample ID:** G113

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 14:22

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **524.85** | ft | 1 | 10/25/2023 14:22 | R338823 |
| Depth to water | * | -5.00 | | **7.12** | ft | 1 | 10/25/2023 14:22 | R338823 |
| Depth to water from measuring point | * | 0 | | **9.62** | ft | 1 | 10/25/2023 14:22 | R338823 |
| Elevation of groundwater surface | * | 0 | | **528.08** | ft | 1 | 10/25/2023 14:22 | R338823 |
| Measuring Point Elevation | * | 0 | | **537.70** | ft | 1 | 10/25/2023 14:22 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 10/25/2023 14:22 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.8** | NTU | 1 | 10/25/2023 14:22 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.0** | °F | 1 | 10/25/2023 14:22 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.21** | | 1 | 10/25/2023 14:22 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1790** | µmhos/cm @25C | 1 | 10/25/2023 14:22 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1300** | mg/L | 1 | 10/31/2023 12:13 | R338603 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **366** | mg/L | 20 | 10/30/2023 16:47 | R338498 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.32** | mg/L | 1 | 11/02/2023 15:43 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **61** | mg/L | 5 | 10/30/2023 16:29 | R338509 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.437** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Boron | NELAP | 0.0200 | | **1.88** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Calcium | NELAP | 0.100 | | **323** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| Lithium | NELAP | 0.0050 | | **0.0682** | mg/L | 1 | 11/02/2023 10:21 | 213981 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 10/31/2023 15:56 | 213981 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 10/31/2023 19:57 | 213981 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 10/31/2023 19:57 | 213981 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/01/2023 14:32 | 213981 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 10/31/2023 19:57 | 213981 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:15 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-007 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 12:01

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 10/25/2023 12:01 | R338823 |
| Depth to water | * | -5.00 | | **28.67** | ft | 1 | 10/25/2023 12:01 | R338823 |
| Depth to water from measuring point | * | 0 | | **30.54** | ft | 1 | 10/25/2023 12:01 | R338823 |
| Elevation of groundwater surface | * | 0 | | **525.06** | ft | 1 | 10/25/2023 12:01 | R338823 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 10/25/2023 12:01 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 10/25/2023 12:01 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **15** | NTU | 1 | 10/25/2023 12:01 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.0** | °F | 1 | 10/25/2023 12:01 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.83** | | 1 | 10/25/2023 12:01 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1410** | µmhos/cm @25C | 1 | 10/25/2023 12:01 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1040** | mg/L | 5 | 10/30/2023 11:50 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **293** | mg/L | 10 | 10/27/2023 20:34 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.18** | mg/L | 1 | 11/02/2023 15:47 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **31** | mg/L | 1 | 10/27/2023 20:29 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.527** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Boron | NELAP | 0.0200 | | **3.09** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Calcium | NELAP | 0.100 | | **180** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0433** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 11:46 | 213836 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:22 | 213836 |
| Arsenic | NELAP | 0.0010 | | **0.0221** | mg/L | 5 | 11/02/2023 19:22 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:22 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 19:22 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:20 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/14/2023 0:00 | R339861 |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-008 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 11:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 10/25/2023 11:29 | R338823 |
| Depth to water | * | -5.00 | | **30.50** | ft | 1 | 10/25/2023 11:29 | R338823 |
| Depth to water from measuring point | * | 0 | | **32.24** | ft | 1 | 10/25/2023 11:29 | R338823 |
| Elevation of groundwater surface | * | 0 | | **522.16** | ft | 1 | 10/25/2023 11:29 | R338823 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 10/25/2023 11:29 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 10/25/2023 11:29 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.0** | NTU | 1 | 10/25/2023 11:29 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.4** | °F | 1 | 10/25/2023 11:29 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.70** | | 1 | 10/25/2023 11:29 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1670** | µmhos/cm @25C | 1 | 10/25/2023 11:29 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1470** | mg/L | 5 | 10/30/2023 11:50 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **554** | mg/L | 20 | 10/27/2023 20:42 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 11/02/2023 15:48 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **40** | mg/L | 1 | 10/27/2023 20:37 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.396** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Boron | NELAP | 0.0200 | | **12.0** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Calcium | NELAP | 0.100 | | **252** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0567** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 11:48 | 213836 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:28 | 213836 |
| Arsenic | NELAP | 0.0010 | | **0.0046** | mg/L | 5 | 11/02/2023 19:28 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 19:28 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 19:28 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:22 | 214005 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/21/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/21/2023 0:00 | R339861 |

**Client:** City Water, Light & Power **Work Order:** 23101165

**Client Project:** FGDS Landfill **Report Date:** 30-Nov-23

**Lab ID:** 23101165-010 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 10/25/2023 13:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 10/25/2023 13:18 | R338823 |
| Depth to water | * | -5.00 | | **4.11** | ft | 1 | 10/25/2023 13:18 | R338823 |
| Depth to water from measuring point | * | 0 | | **7.41** | ft | 1 | 10/25/2023 13:18 | R338823 |
| Elevation of groundwater surface | * | 0 | | **522.57** | ft | 1 | 10/25/2023 13:18 | R338823 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 10/25/2023 13:18 | R338823 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 10/25/2023 13:18 | R338823 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **21** | NTU | 1 | 10/25/2023 13:18 | R338823 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.1** | °F | 1 | 10/25/2023 13:18 | R338823 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.89** | | 1 | 10/25/2023 13:18 | R338823 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1200** | µmhos/cm @25C | 1 | 10/25/2023 13:18 | R338823 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **850** | mg/L | 5 | 10/30/2023 11:51 | R338538 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **163** | mg/L | 5 | 10/27/2023 20:59 | R338425 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 11/02/2023 15:54 | R338693 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **32** | mg/L | 1 | 10/27/2023 20:53 | R338455 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.629** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Boron | NELAP | 0.0200 | | **2.92** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Calcium | NELAP | 0.100 | | **151** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Lithium | NELAP | 0.0050 | | **0.0381** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/02/2023 11:51 | 213836 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 20:22 | 213836 |
| Arsenic | NELAP | 0.0010 | | **0.0266** | mg/L | 5 | 11/02/2023 20:22 | 213836 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/02/2023 20:22 | 213836 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/02/2023 20:22 | 213836 |
| *PQL recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/01/2023 12:43 | 214030 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/21/2023 0:00 | R339861 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/21/2023 0:00 | R339861 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 23101165
**Report Date:** 30-Nov-23

**Carrier:** Justin Colp

**Received By:** HAW

**Completed by:** Timothy W. Mathis
**On:** 26-Oct-23

**Reviewed by:** Ellie Hopkins
**On:** 27-Oct-23

**Pages to follow:** Chain of custody 2 Extra pages included 45

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 4.8 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | | | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | | | |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ | | | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | | | |

**Any No responses must be detailed below or on the COC.**

pH strip #90719 CET. - TMathis - 10/26/2023 12:50:41 PM

Additional Nitric Acid (92447) was needed in AW-2 250 and G120 2L upon arrival at the laboratory. - TMathis - 10/26/2023 12:55:07 PM

pH strip #90719. - amberdilallo - 10/27/2023 9:46:53 AM

Samples collected on 10/26/23 were delivered to the laboratory on 10/26/23 at 1707 (on ice - 2.4C - LTG1). - HW/ERH 10/27/23

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 23101165

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.8 °C CT GS
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH 0.9 0719, Added HNO3 (92447) to AW-2 250m and G120 2L. CAO 10-26-23.

Client Comments: *TE 1234 SAH 11/7/23
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 23101164-001

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

PROJECT NAME/NUMBER: FGDS Landfill
SAMPLE COLLECTOR'S NAME: Justin Colp

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

# and Type of Containers / INDICATE ANALYSIS REQUESTED

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101165-001 | R101 | 10-25-23 / 1442 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | 10-25-23 / 1053 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | 10-25-23 / 1339 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | 1201 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | 1129 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | 0959 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | 1318 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 ⊛ | * 12354 | Groundwater | 0 | 0 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J Colp | 10-25-23 1715 | [signature] | 10/25/23 1715 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

CAO 10-26-23

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 23101165

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.4 °C LTCU
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 90719 SVM 10/27/23

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 23101164-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Cop

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23101165-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | 10-26-23/1220 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 10-26-23/1135 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 * | 10-26-23 / ~~1422~~ | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | 10/25 1422 1415 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | TE SAW 11/7/23 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 ⊛ | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Brett [signature] | 10-26-23 17:07 | Hardin [signature] | 10/26/23 1707 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | R101 | Groundwater Sample | 74.0 | None | S | Clear | Good | Good | Good | Yes | **No** |
| 002 | G110 | Groundwater Sample | 71.0 | Light | S | Cloudy | Good | Good | Good | **No** | **No** |
| 003 | R111 | Groundwater Sample | 71.0 | None | S | Cloudy | Good | Good | Good | Yes | **No** |
| 004 | G112 | Groundwater Sample | 64.0 | None | SW | Cloudy | Good | Good | Good | Yes | **No** |
| 005 | G113 | Groundwater Sample | 73.0 | None | S | Clear | Good | Good | Good | Yes | **No** |
| 006 | G120 | Groundwater Sample | 71.0 | None | S | Clear | Good | Good | Good | Yes | **No** |
| 007 | G121 | Groundwater Sample | 68.0 | None | S | Cloudy | Good | Good | Good | Yes | **No** |
| 008 | G122 | Groundwater Sample | 67.0 | None | S | Partly cloudy | Good | Good | Good | Yes | **No** |
| 009 | AW-1 | Groundwater Sample | 64.0 | None | SW | Cloudy | Good | Good | Good | Yes | **No** |
| 010 | AW-2 | Groundwater Sample | 71.0 | None | S | Partly cloudy | Good | Good | Good | Yes | **No** |
| 011 | RW-3 | Groundwater Sample | 70.0 | None | S | Clear | Good | Good | Good | **No** | **No** |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Sampler Initials** | **Purge Date** | | | **Sampling Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 001 | R101 | BG | 10/25/23 14:35 | 8.73 | 35.27 | BG | 10/25/2023 | 14:34 | 14:42 | Submersible Pump | 2" | 3.0 | 375.0 |
| 002 | G110 | TAC | 10/26/23 12:00 | 25.72 | 57.15 | TAC | 10/26/2023 | 12:05 | 12:20 | Peristaltic Pump | 2" | 3.5 | 233.3 |
| 003 | R111 | TAC | 10/26/23 11:14 | 26.87 | 55.75 | TAC | 10/26/2023 | 11:18 | 11:35 | Submersible Pump | 2" | 6.0 | 352.9 |
| 004 | G112 | BG | 10/25/23 10:22 | 30.42 | 58.81 | BG | 10/25/2023 | 10:23 | 10:53 | Submersible Pump | 2" | 7.0 | 233.3 |
| 005 | G113 | BG | 10/25/23 14:10 | 9.62 | 12.85 | BG | 10/25/2023 | 14:11 | 14:22 | Submersible Pump | 2" | 3.0 | 272.7 |
| 006 | G120 | bg | 10/25/23 13:30 | 18.61 | 50.37 | BG | 10/25/2023 | 13:32 | 13:39 | Submersible Pump | 2" | 2.0 | 285.7 |
| 007 | G121 | BG | 10/25/23 11:39 | 30.54 | 58.56 | BG | 10/25/2023 | 11:40 | 12:01 | Submersible Pump | 2" | 8.0 | 381.0 |
| 008 | G122 | BG | 10/25/23 11:07 | 32.24 | 49.29 | BG | 10/25/2023 | 11:09 | 11:29 | Submersible Pump | 2" | 7.0 | 350.0 |
| 009 | AW-1 | BG | 10/25/23 9:25 | 17.38 | 54.81 | BG | 10/25/2023 | 09:28 | 09:59 | Submersible Pump | 2" | 7.0 | 225.8 |
| 010 | AW-2 | BG | 10/25/23 12:51 | 7.41 | 32.64 | BG | 10/25/2023 | 12:52 | 13:18 | Submersible Pump | 2" | 6.0 | 230.8 |
| 011 | RW-3 | BG | 10/26/23 12:26 | 11.79 | 44.01 | BG | 10/25/2023 | 12:24 | 12:35 | Bladder Pump | 2" | 2.0 | 181.8 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| | | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date** | **Sample Time** | **Sampling Method** | **Field Filtered** | **Appearance** | **Odor** | **Color** | **Post-Sample DTW (ft)** | **Drawdown (ft)** |
| 001 | R101 | BG | 10/25/23 | 14:42 | Low Flow | Yes | Clear | Slight | clear | 10.19 | **1.46** |
| 002 | G110 | TAC | 10/26/23 | 12:20 | Low Flow | Yes | Clear | None | Lt Brown | 26.68 | 0.96 |
| 003 | R111 | TAC | 10/26/23 | 11:35 | Low Flow | Yes | Clear | None | Lt Brown | 27.23 | 0.36 |
| 004 | G112 | BG | 10/25/23 | 10:53 | Low Flow | Yes | Slightly cloudy | Slight | clear | 34.62 | **4.20** |
| 005 | G113 | BG | 10/25/23 | 14:22 | Low Flow | Yes | Clear | Slight | clear | 12.85 | **3.23** |
| 006 | G120 | BG | 10/25/23 | 13:39 | Low Flow | Yes | Clear | None | clear | 19.72 | **1.11** |
| 007 | G121 | BG | 10/25/23 | 12:01 | Low Flow | Yes | Clear | None | Clear | 31.61 | **1.07** |
| 008 | G122 | BG | 10/25/23 | 11:29 | Low Flow | Yes | Clear | Strong | Clear | 31.45 | -0.79 |
| 009 | AW-1 | bg | 10/25/23 | 09:59 | Low Flow | Yes | Slightly cloudy | Moderate | clear | 20.81 | **3.43** |
| 010 | AW-2 | BG | 10/25/23 | 13:18 | Low Flow | Yes | Clear | None | clear | 7.65 | 0.24 |
| 011 | RW-3 | bg | 10/25/23 | 12:34 | Low Flow | Yes | Clear | Slight | CLEAR | 14.45 | **2.66** |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Summary**
**CWLP- 4Q 2023**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | R101 | |
| 002 | G110 | |
| 003 | R111 | |
| 004 | G112 | |
| 005 | G113 | went dry during filling, filled on 10-26 at 1415 |
| 006 | G120 | |
| 007 | G121 | |
| 008 | G122 | |
| 009 | AW-1 | |
| 010 | AW-2 | |
| 011 | RW-3 | GW Level measurement time should be 1226 not 1504. logged this in the worng column |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Stabilized Field Parameters Summary**
**CWLP- 4Q 2023**

| Well ID | Date | Time | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTB (ft) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 10/25/2023 | 14:42 | 14.6 | 58.2 | 6.81 | 1,201.5 | 1,201.5 | 2.81 | 13.78 | -76.1 | 35.27 | 8.73 | 23101165-001A |
| G110 | 10/26/2023 | 12:20 | 16.6 | 61.8 | 6.84 | 603.1 | 603.1 | 2.93 | 2.89 | -105.0 | 57.15 | 25.72 | 23101165-002A |
| R111 | 10/26/2023 | 11:35 | 14.6 | 58.3 | 6.42 | 87.5 | 87.5 | 0.81 | 7.18 | 40.6 | 55.75 | 26.87 | 23101165-003A |
| G112 | 10/25/2023 | 10:53 | 14.9 | 58.9 | 7.01 | 1,406.9 | 1,406.9 | 0.72 | 39.35 | -116.2 | 58.81 | 30.42 | 23101165-004A |
| G113 | 10/25/2023 | 14:22 | 17.2 | 63.0 | 6.21 | 1,793.3 | 1,793.3 | 1.36 | 7.81 | -150.8 | 12.85 | 9.62 | 23101165-005A |
| G120 | 10/25/2023 | 13:39 | 17.3 | 63.2 | 6.78 | 1,775.7 | 1,775.7 | 1.36 | 8.15 | -80.0 | 50.37 | 18.61 | 23101165-006A |
| G121 | 10/25/2023 | 12:01 | 15.0 | 59.0 | 6.83 | 1,409.2 | 1,409.2 | 0.71 | 14.82 | -111.9 | 58.56 | 30.54 | 23101165-007A |
| G122 | 10/25/2023 | 11:29 | 14.7 | 58.4 | 6.70 | 1,666.1 | 1,666.1 | 0.82 | 7.04 | -88.9 | 49.29 | 32.24 | 23101165-008A |
| AW-1 | 10/25/2023 | 9:59 | 15.1 | 59.1 | 6.54 | 1,449.2 | 1,449.2 | 0.86 | 80.77 | -89.9 | 54.81 | 17.38 | 23101165-009A |
| AW-2 | 10/25/2023 | 13:18 | 16.7 | 62.1 | 6.89 | 1,198.1 | 1,198.1 | 0.92 | 20.56 | -115.0 | 32.64 | 7.41 | 23101165-010A |
| RW-3 | 10/25/2023 | 12:34 | 15.7 | 60.2 | 7.31 | 632.4 | 632.4 | 1.39 | 8.60 | -125.8 | 44.01 | 11.79 | 23101165-011A |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 10/25/2023 | 14:36 | 8.73 | 13.6 | 56.4 | 7.00 | 1,208.2 | 1,208.2 | 3.95 | 13.42 | -104.5 |
| R101 | 10/25/2023 | 14:39 | 8.73 | 14.0 | 57.2 | 6.86 | 1,203.6 | 1,203.6 | 2.99 | 12.73 | -85.3 |
| R101 | 10/25/2023 | 14:42 | 8.73 | 14.6 | 58.2 | 6.81 | 1,201.5 | 1,201.5 | 2.81 | 13.78 | -76.1 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G110 | 10/26/2023 | 12:14 | 25.72 | 16.7 | 62.1 | 6.86 | 606.4 | 606.4 | 3.54 | 3.27 | -108.7 |
| G110 | 10/26/2023 | 12:17 | 25.72 | 16.6 | 61.9 | 6.85 | 604.5 | 604.5 | 3.15 | 2.77 | -106.0 |
| G110 | 10/26/2023 | 12:20 | 25.72 | 16.6 | 61.8 | 6.84 | 603.1 | 603.1 | 2.93 | 2.89 | -105.0 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G112 | 10/25/2023 | 10:26 | 30.42 | 14.7 | 58.5 | 7.03 | 1,467.7 | 1,467.7 | 3.81 | 13.11 | -64.9 |
| G112 | 10/25/2023 | 10:29 | 30.42 | 14.8 | 58.7 | 7.00 | 1,466.2 | 1,466.2 | 2.24 | 14.96 | -88.7 |
| G112 | 10/25/2023 | 10:32 | 30.42 | 15.0 | 59.0 | 7.01 | 1,465.6 | 1,465.6 | 1.66 | 17.03 | -99.1 |
| G112 | 10/25/2023 | 10:35 | 30.42 | 14.7 | 58.5 | 7.01 | 1,468.9 | 1,468.9 | 1.35 | 20.96 | -105.5 |
| G112 | 10/25/2023 | 10:38 | 30.42 | 14.7 | 58.5 | 7.02 | 1,464.1 | 1,464.1 | 1.14 | 25.49 | -109.5 |
| G112 | 10/25/2023 | 10:41 | 30.42 | 15.2 | 59.3 | 7.01 | 1,455.7 | 1,455.7 | 0.99 | 29.35 | -112.3 |
| G112 | 10/25/2023 | 10:44 | 30.42 | 15.7 | 60.2 | 7.01 | 1,447.9 | 1,447.9 | 0.88 | 32.21 | -114.4 |
| G112 | 10/25/2023 | 10:47 | 30.42 | 15.7 | 60.2 | 7.01 | 1,442.7 | 1,442.7 | 0.81 | 35.27 | -115.7 |
| G112 | 10/25/2023 | 10:50 | 30.42 | 15.4 | 59.7 | 7.01 | 1,426.0 | 1,426.0 | 0.76 | 37.25 | -116.2 |
| G112 | 10/25/2023 | 10:53 | 30.42 | 14.9 | 58.9 | 7.01 | 1,406.9 | 1,406.9 | 0.72 | 39.35 | -116.2 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G113 | 10/25/2023 | 14:13 | 9.62 | 17.2 | 62.9 | 6.23 | 1,811.9 | 1,811.9 | 3.63 | 27.15 | -100.8 |
| G113 | 10/25/2023 | 14:16 | 9.62 | 17.2 | 63.0 | 6.17 | 1,806.8 | 1,806.8 | 2.18 | 21.61 | -122.1 |
| G113 | 10/25/2023 | 14:19 | 9.62 | 17.2 | 62.9 | 6.19 | 1,807.4 | 1,807.4 | 1.63 | 12.74 | -137.5 |
| G113 | 10/25/2023 | 14:22 | 9.62 | 17.2 | 63.0 | 6.21 | 1,793.3 | 1,793.3 | 1.36 | 7.81 | -150.8 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G121 | 10/25/2023 | 11:49 | 30.54 | 14.7 | 58.5 | 6.83 | 1,402.0 | 1,402.0 | 1.10 | 17.33 | -86.3 |
| G121 | 10/25/2023 | 11:52 | 30.54 | 15.1 | 59.1 | 6.83 | 1,405.7 | 1,405.7 | 0.94 | 15.48 | -97.8 |
| G121 | 10/25/2023 | 11:55 | 30.54 | 15.2 | 59.3 | 6.83 | 1,408.8 | 1,408.8 | 0.84 | 13.70 | -104.5 |
| G121 | 10/25/2023 | 11:58 | 30.54 | 15.1 | 59.1 | 6.83 | 1,409.9 | 1,409.9 | 0.77 | 14.05 | -108.9 |
| G121 | 10/25/2023 | 12:01 | 30.54 | 15.0 | 59.0 | 6.83 | 1,409.2 | 1,409.2 | 0.71 | 14.82 | -111.9 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G122 | 10/25/2023 | 11:23 | 32.24 | 14.6 | 58.3 | 6.72 | 1,623.5 | 1,623.5 | 1.12 | 15.04 | -76.0 |
| G122 | 10/25/2023 | 11:26 | 32.24 | 14.7 | 58.4 | 6.70 | 1,650.4 | 1,650.4 | 0.92 | 9.29 | -83.4 |
| G122 | 10/25/2023 | 11:29 | 32.24 | 14.7 | 58.4 | 6.70 | 1,666.1 | 1,666.1 | 0.82 | 7.04 | -88.9 |

**Site Samping Event:** CWLP- 4Q 2023
**LIMS Workorder:** 23101165
**Technician(s):** JC, BG

**Groundwater Sampling Field Form- Groundwater Quality Parameters**
**CWLP- 4Q 2023**

| Well ID | Date | Time | DTW | Temp (deg C) | Temp (deg F) | pH (SU) | Sp Cond (µS/cm) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-2 | 10/25/2023 | 12:54 | 7.41 | 16.7 | 62.0 | 6.96 | 1,151.6 | 1,151.6 | 3.89 | 16.12 | -66.3 |
| AW-2 | 10/25/2023 | 12:57 | 7.41 | 17.1 | 62.7 | 6.90 | 1,179.7 | 1,179.7 | 2.15 | 14.72 | -90.5 |
| AW-2 | 10/25/2023 | 13:00 | 7.41 | 17.2 | 62.9 | 6.89 | 1,192.8 | 1,192.8 | 1.72 | 28.68 | -98.4 |
| AW-2 | 10/25/2023 | 13:03 | 7.41 | 17.0 | 62.6 | 6.89 | 1,198.4 | 1,198.4 | 1.46 | 35.49 | -103.8 |
| AW-2 | 10/25/2023 | 13:06 | 7.41 | 17.1 | 62.7 | 6.89 | 1,199.1 | 1,199.1 | 1.27 | 29.18 | -107.5 |
| AW-2 | 10/25/2023 | 13:09 | 7.41 | 16.8 | 62.3 | 6.89 | 1,200.0 | 1,200.0 | 1.13 | 25.13 | -110.4 |
| AW-2 | 10/25/2023 | 13:12 | 7.41 | 16.7 | 62.1 | 6.89 | 1,198.6 | 1,198.6 | 1.05 | 25.23 | -112.5 |
| AW-2 | 10/25/2023 | 13:15 | 7.41 | 16.6 | 61.9 | 6.89 | 1,198.8 | 1,198.8 | 0.99 | 20.08 | -113.7 |
| AW-2 | 10/25/2023 | 13:18 | 7.41 | 16.7 | 62.1 | 6.89 | 1,198.1 | 1,198.1 | 0.92 | 20.56 | -115.0 |

First Quarter 2024

March 18, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 24010117

Dear Eric Staley:

TEKLAB, INC received 15 samples on 2/26/2024 6:45:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24010117
**Report Date:** 18-Mar-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 27 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24010117

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 18-Mar-24

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24

**Cooler Receipt Temp:** 3.3 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24010117

**Report Date:** 18-Mar-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24
**Lab ID:** 24010117-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 02/21/2024 11:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 02/21/2024 11:38 | R343702 |
| Depth to water | * | -5.00 | | **6.40** | ft | 1 | 02/21/2024 11:38 | R343702 |
| Depth to water from measuring point | * | 0 | | **9.10** | ft | 1 | 02/21/2024 11:38 | R343702 |
| Elevation of groundwater surface | * | 0 | | **530.40** | ft | 1 | 02/21/2024 11:38 | R343702 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 02/21/2024 11:38 | R343702 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 02/21/2024 11:38 | R343702 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **120** | NTU | 1 | 02/21/2024 11:38 | R343702 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.2** | °F | 1 | 02/21/2024 11:38 | R343702 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.10** | | 1 | 02/21/2024 11:38 | R343702 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **648** | µmhos/cm @25C | 1 | 02/21/2024 11:38 | R343702 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **335** | mg/L | 2.5 | 02/23/2024 9:53 | R343558 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **14** | mg/L | 1 | 02/22/2024 22:24 | R343452 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.37** | mg/L | 1 | 02/23/2024 13:07 | R343485 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **27** | mg/L | 1 | 02/22/2024 22:24 | R343454 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.166** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Boron | NELAP | 0.0200 | | **0.116** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Calcium | NELAP | 0.100 | | **63.4** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 18:50 | 219117 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 2:18 | 219117 |
| Arsenic | NELAP | 0.0010 | | **0.306** | mg/L | 5 | 02/28/2024 2:18 | 219117 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 2:18 | 219117 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 2:18 | 219117 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/23/2024 15:29 | 219103 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24
**Lab ID:** 24010117-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 02/22/2024 11:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 02/22/2024 11:24 | R343702 |
| Depth to water | * | -5.00 | | **4.61** | ft | 1 | 02/22/2024 11:24 | R343702 |
| Depth to water from measuring point | * | 0 | | **7.11** | ft | 1 | 02/22/2024 11:24 | R343702 |
| Elevation of groundwater surface | * | 0 | | **528.99** | ft | 1 | 02/22/2024 11:24 | R343702 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 02/22/2024 11:24 | R343702 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 02/22/2024 11:24 | R343702 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **20** | NTU | 1 | 02/22/2024 11:24 | R343702 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.6** | °F | 1 | 02/22/2024 11:24 | R343702 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.41** | | 1 | 02/22/2024 11:24 | R343702 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1190** | µmhos/cm @25C | 1 | 02/22/2024 11:24 | R343702 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1020** | mg/L | 2.5 | 02/23/2024 12:34 | R343558 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **393** | mg/L | 20 | 02/23/2024 12:55 | R343641 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.21** | mg/L | 1 | 02/23/2024 13:26 | R343485 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **39** | mg/L | 2 | 02/23/2024 12:50 | R343643 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0678** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Boron | NELAP | 0.0200 | | **3.38** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Calcium | NELAP | 0.100 | | **210** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Cobalt | NELAP | 0.0050 | | **0.0068** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Lithium | NELAP | 0.0050 | | **0.0059** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:01 | 219117 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 2:30 | 219117 |
| Arsenic | NELAP | 0.0010 | | **0.0027** | mg/L | 5 | 02/28/2024 2:30 | 219117 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 2:30 | 219117 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 2:30 | 219117 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/23/2024 15:33 | 219103 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24
**Lab ID:** 24010117-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 02/22/2024 12:03

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 02/22/2024 12:03 | R343702 |
| Depth to water | * | -5.00 | | **7.62** | ft | 1 | 02/22/2024 12:03 | R343702 |
| Depth to water from measuring point | * | 0 | | **9.32** | ft | 1 | 02/22/2024 12:03 | R343702 |
| Elevation of groundwater surface | * | 0 | | **526.08** | ft | 1 | 02/22/2024 12:03 | R343702 |
| Measuring Point Elevation | * | 0 | | **535.40** | ft | 1 | 02/22/2024 12:03 | R343702 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.70** | ft | 1 | 02/22/2024 12:03 | R343702 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **22** | NTU | 1 | 02/22/2024 12:03 | R343702 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.0** | °F | 1 | 02/22/2024 12:03 | R343702 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 02/22/2024 12:03 | R343702 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1050** | µmhos/cm @25C | 1 | 02/22/2024 12:03 | R343702 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **935** | mg/L | 2.5 | 02/23/2024 12:34 | R343558 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **512** | mg/L | 20 | 02/23/2024 13:03 | R343641 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 02/23/2024 13:28 | R343485 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **54** | mg/L | 2 | 02/23/2024 12:58 | R343643 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0952** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Boron | NELAP | 0.0200 | | **14.8** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Calcium | NELAP | 0.100 | | **177** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Lithium | NELAP | 0.0050 | | **0.0062** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:02 | 219117 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 11:23 | 219117 |
| Arsenic | NELAP | 0.0010 | | **0.0101** | mg/L | 5 | 02/28/2024 3:18 | 219117 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 3:18 | 219117 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 3:18 | 219117 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/23/2024 15:36 | 219103 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24
**Lab ID:** 24010117-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 02/26/2024 14:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 02/26/2024 14:20 | R343702 |
| Depth to water | * | -5.00 | | **8.42** | ft | 1 | 02/26/2024 14:20 | R343702 |
| Depth to water from measuring point | * | 0 | | **11.08** | ft | 1 | 02/26/2024 14:20 | R343702 |
| Elevation of groundwater surface | * | 0 | | **527.94** | ft | 1 | 02/26/2024 14:20 | R343702 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 02/26/2024 14:20 | R343702 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 02/26/2024 14:20 | R343702 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **34** | NTU | 1 | 02/26/2024 14:20 | R343702 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.2** | °F | 1 | 02/26/2024 14:20 | R343702 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.15** | | 1 | 02/26/2024 14:20 | R343702 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **646** | µmhos/cm @25C | 1 | 02/26/2024 14:20 | R343702 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **330** | mg/L | 5 | 02/28/2024 7:46 | R343743 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **17** | mg/L | 1 | 02/28/2024 17:04 | R343726 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.44** | mg/L | 1 | 02/27/2024 9:22 | R343589 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **42** | mg/L | 1 | 02/28/2024 17:04 | R343732 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.118** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Boron | NELAP | 0.0200 | | **0.173** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Calcium | NELAP | 0.100 | B | **55.6** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Lead | NELAP | 0.0150 | B | **< 0.0150** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/29/2024 16:41 | 219241 |
| *Sample result(s) for Ca exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Contamination present in the MBLK for Pb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/29/2024 0:00 | 219241 |
| Arsenic | NELAP | 0.0010 | | **0.0555** | mg/L | 5 | 03/01/2024 12:00 | 219241 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/29/2024 0:00 | 219241 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 03/01/2024 4:48 | 219241 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 03/04/2024 17:37 | 219343 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24
**Lab ID:** 24010117-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 02/26/2024 14:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |

**Client:** City Water, Light & Power
**Work Order:** 24010117
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Mar-24
**Lab ID:** 24010117-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 02/21/2024 12:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 02/21/2024 12:24 | R343702 |
| Depth to water | * | -5.00 | | **1.58** | ft | 1 | 02/21/2024 12:24 | R343702 |
| Depth to water from measuring point | * | 0 | | **4.48** | ft | 1 | 02/21/2024 12:24 | R343702 |
| Elevation of groundwater surface | * | 0 | | **532.72** | ft | 1 | 02/21/2024 12:24 | R343702 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 02/21/2024 12:24 | R343702 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 02/21/2024 12:24 | R343702 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.7** | NTU | 1 | 02/21/2024 12:24 | R343702 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.3** | °F | 1 | 02/21/2024 12:24 | R343702 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.83** | | 1 | 02/21/2024 12:24 | R343702 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **861** | µmhos/cm @25C | 1 | 02/21/2024 12:24 | R343702 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **520** | mg/L | 2.5 | 02/23/2024 10:04 | R343558 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/22/2024 22:34 | R343452 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.26** | mg/L | 1 | 02/23/2024 13:23 | R343485 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **24** | mg/L | 1 | 02/22/2024 22:34 | R343454 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.374** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Boron | NELAP | 0.0200 | | **0.0866** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Calcium | NELAP | 0.100 | | **99.3** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Lithium | NELAP | 0.0050 | | **0.0069** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:07 | 219117 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 3:36 | 219117 |
| Arsenic | NELAP | 0.0010 | | **0.0426** | mg/L | 5 | 02/28/2024 3:36 | 219117 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 3:36 | 219117 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 3:36 | 219117 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/23/2024 15:54 | 219103 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344494 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24010117
**Report Date:** 18-Mar-24

**Carrier:** Tracy Carroll

**Received By:** AMD

**Completed by:** Amber Dilallo
**On:** 22-Feb-24

**Reviewed by:** Ellie Hopkins
**On:** 27-Feb-24

**Pages to follow:** Chain of custody 6 Extra pages included 50

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.3 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip #90719. - amberdilallo - 2/22/2024 8:40:42 AM

Samples were received on 2/22/24 at 15:40 on ice [7.3C - LTG5]. pH strip #90719. Collection date per Tracy Carroll. - amberdilallo - 2/22/2024 4:41:18 PM

Samples were received on 2/23/24 at 13:07 on ice [6.7C - LTG#7]. pH strip #90719. Additional Nitric Acid (96331) preservative was needed for AP-4 & AP-14 upon arrival at the laboratory. - nickreed - 2/23/2024 2:35:40 PM

Samples were received on 2/26/24 at 18:45 on ice [5.3c - LTG5]. pH strip #90719. - amberdilallo - 2/27/2024 8:11:24 AM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24010117

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.3 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY LTGS
LAB NOTES: 40719 SM 2/22/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: TCarroll

RESULTS REQUESTED: [✓] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other ____ [ ] 3 Day (50% Surcharge)
BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010117-001 | RW-3 | 2/21/24 1138 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 2/21/24 1341 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 2/21/24 1224 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | 2/21/24 1436 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 2/21/24 1715 | [illegible] | 2/21/24 1715 |

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24010117

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 9.3 °C L105
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 9079 2/22/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring
Date per Tracy Carroll. DMM 2/22/24

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TCarrol

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010117-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 2/22/24 1124 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | 1203 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 1344 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 1640 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 2/22/24 3:40 | Emily Sackett | 2/22/24 1540 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24010117

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 6.7 °C 7
Preserved in: [x] LAB [ ] FIELD
FOR LAB USE ONLY
LAB NOTES: ph ✓ 2/23/24 added HNO3 (96331) ES 2/23/24 to 2 liters

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TCarroll

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010117-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 2/23/24 1121 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 2/23/24 1:07 | Whitney Dunger | 2/23/24 1:07 |

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24010117

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TCarrell

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010117-012 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 015 | AP-14 | 2/23/24 1025 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carrell | 2/23/24 1:07 | Whitney Lewis | 2/23/24 1:35 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24010117

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Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 5.3 °C
Preserved in: ☐ LAB ☑ FIELD FOR LAB USE ONLY LTG 5
LAB NOTES: 901A SM 2/27/24

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: TCarroll

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010117-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 2/26/24 1420 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 2/26/24 1350 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 2/26/24 1845 | [illegible] | 2/26/24 1845 |
| | | | |
| | | | |
| | | | |

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24010117

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Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:
AP-11, AP-12 & AP-13 times per Tracy Carroll
SM 2/27/24

Client Comments:
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: TCarroll

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010117 012 | AP-11 | 2/26/24 1108 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 1200 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 1234 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 2/26/24 1845 | [signature] | 2/26/24 1845 |
| | | | |
| | | | |
| | | | |
| | | | |

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**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder:** 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Ash Pond- 1Q 2024**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | RW-3 | Groundwater Sample | 57.0 | None | N | Clear | Good | Good | Good | Yes | **No** |
| 002 | AP-1 | Groundwater Sample | 59.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 003 | AP-2 | Groundwater Sample | 60.0 | None | W | Cloudy | Good | Good | Good | **No** | **No** |
| 004 | AP-3 | Groundwater Sample | 62.0 | None | W | Clear | Good | Good | Good | Yes | **No** |
| 005 | AP-4 | Groundwater Sample | 50.0 | None | SE | Clear | Good | Good | Good | Yes | **No** |
| 006 | AP-5 | Groundwater Sample | 63.0 | None | W | Clear | Good | Good | Good | Yes | **No** |
| 007 | AP-6 | Groundwater Sample | 60.0 | None | W | Cloudy | Good | Good | Good | **No** | **No** |
| 008 | AP-7 | Groundwater Sample | 74.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 009 | AP-8 | Groundwater Sample | 57.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 010 | AP-9 | Groundwater Sample | 74.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 011 | AP-10 | Groundwater Sample | 60.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 012 | AP-11 | Groundwater Sample | 64.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 013 | AP-12 | Groundwater Sample | 67.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 014 | AP-13 | Groundwater Sample | 70.0 | None | N | Clear | Good | Good | Good | **No** | **No** |
| 015 | AP-14 | Groundwater Sample | 45.0 | None | SE | Clear | Good | Good | Good | Yes | **No** |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder:** 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Ash Pond- 1Q 2024**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Sampler Initials** | **Purge Date** | **Purge Start Time** | **Purge End Time** | **Purging Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 001 | RW-3 | DC | 2/21/24 11:20 | 9.10 | 44.01 | DC | 2/21/2024 | 11:21 | 11:38 | Bladder Pump | 2" | 4.0 | 235.3 |
| 002 | AP-1 | DC | 2/21/24 12:42 | 8.48 | 31.08 | DC | 2/21/2024 | 13:27 | 13:41 | Bladder Pump | 2" | 3.0 | 214.3 |
| 003 | AP-2 | DC | 2/22/24 10:58 | 7.11 | 21.33 | DC | 2/22/2024 | 10:59 | 11:24 | Bladder Pump | 2" | 6.0 | 240.0 |
| 004 | AP-3 | DC | 2/22/24 11:44 | 9.32 | - | DC | 2/22/2024 | 11:45 | 12:03 | Bladder Pump | 2" | 4.0 | 222.2 |
| 005 | AP-4 | DC | 2/23/24 10:46 | 9.04 | 60.41 | DC | 2/23/2024 | 10:47 | 11:21 | Bladder Pump | 2" | 9.0 | 264.7 |
| 006 | AP-5 | DC | 2/22/24 13:21 | 15.95 | 31.27 | DC | 2/22/2024 | 13:22 | 13:44 | Bladder Pump | 2" | 5.0 | 227.3 |
| 007 | AP-6 | DC | 2/22/24 10:22 | 7.85 | 39.62 | DC | 2/22/2024 | 10:24 | 10:40 | Bladder Pump | 2" | 3.0 | 187.5 |
| 008 | AP-7 | DC | 2/26/24 14:04 | 11.08 | 42.52 | DC | 2/26/2024 | 14:05 | 14:20 | Bladder Pump | 2" | 3.0 | 200.0 |
| 009 | AP-8 | DC | 2/21/24 12:07 | 4.48 | 39.60 | DC | 2/21/2024 | 12:08 | 12:24 | Peristaltic Pump | 2" | 4.0 | 250.0 |
| 010 | AP-9 | DC | 2/26/24 13:27 | 12.05 | 39.60 | DC | 2/26/2024 | 13:30 | 13:50 | Peristaltic Pump | 2" | 5.0 | 250.0 |
| 011 | AP-10 | DC | 2/21/24 14:04 | 2.82 | 38.07 | DC | 2/21/2024 | 14:05 | 14:36 | Peristaltic Pump | 2" | 6.0 | 193.5 |
| 012 | AP-11 | DC | 2/26/24 10:46 | 14.42 | 22.95 | DC | 2/26/2024 | 10:50 | 11:08 | Peristaltic Pump | 2" | 4.0 | 222.2 |
| 013 | AP-12 | DC | 2/26/24 11:22 | 17.35 | 30.40 | DC | 2/26/2024 | 11:22 | 12:00 | Peristaltic Pump | 2" | 8.0 | 210.5 |
| 014 | AP-13 | DC | 2/26/24 12:11 | 17.10 | 31.00 | DC | 2/26/2024 | 12:12 | 12:34 | Peristaltic Pump | 2" | 6.0 | 272.7 |
| 015 | AP-14 | DC | 2/23/24 9:57 | 1.72 | 31.20 | DC | 2/23/2024 | 09:58 | 10:25 | Peristaltic Pump | 2" | 6.0 | 222.2 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder:** 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Ash Pond- 1Q 2024**

| | | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date** | **Time** | **Sampling Method** | **Field Filtered** | **Appearance** | **Odor** | **Color** | **Post-Sample DTW (ft)** | **Drawdown (ft)** |
| 001 | RW-3 | TAC | 02/21/24 | 11:38 | Low Flow | Yes | Clear | None | None | 13.25 | **4.15** |
| 002 | AP-1 | TAC | 02/21/24 | 13:41 | Low Flow | No | Clear | None | None | 9.00 | **0.52** |
| 003 | AP-2 | TAC | 02/22/24 | 11:24 | Low Flow | No | Clear | None | None | 7.20 | 0.09 |
| 004 | AP-3 | TAC | 02/22/24 | 12:03 | Low Flow | No | Clear | None | None | 9.68 | 0.36 |
| 005 | AP-4 | TAC | 02/23/24 | 11:21 | Low Flow | No | Clear | None | None | 9.21 | 0.17 |
| 006 | AP-5 | TAC | 02/22/24 | 13:44 | Low Flow | No | Clear | None | None | 17.45 | **1.5** |
| 007 | AP-6 | TAC | 02/22/24 | 10:40 | Low Flow | No | Clear | None | None | 12.45 | **4.6** |
| 008 | AP-7 | TAC | 02/26/24 | 14:20 | Low Flow | No | Clear | None | None | 13.29 | **2.21** |
| 009 | AP-8 | TAC | 02/21/24 | 12:24 | Low Flow | No | Clear | None | None | 4.84 | 0.36 |
| 010 | AP-9 | TAC | 02/26/24 | 13:50 | Low Flow | No | Clear | None | None | 16.30 | **4.25** |
| 011 | AP-10 | TAC | 02/21/24 | 14:36 | Low Flow | No | Clear | Slight | None | 3.11 | 0.29 |
| 012 | AP-11 | TAC | 02/26/24 | 11:08 | Low Flow | No | Clear | None | None | 14.95 | **0.53** |
| 013 | AP-12 | TAC | 02/26/24 | 12:00 | Low Flow | No | Slightly cloudy | Slight | light grey | 18.64 | **1.29** |
| 014 | AP-13 | TAC | 02/26/24 | 12:34 | Low Flow | No | Clear | Slight | None | 18.86 | **1.76** |
| 015 | AP-14 | TAC | 02/23/24 | 10:25 | Low Flow | No | Cloudy | None | None | 1.90 | 0.18 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder:** 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Ash Pond- 1Q 2024**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | RW-3 | |
| 002 | AP-1 | |
| 003 | AP-2 | |
| 004 | AP-3 | |
| 005 | AP-4 | |
| 006 | AP-5 | |
| 007 | AP-6 | |
| 008 | AP-7 | |
| 009 | AP-8 | |
| 010 | AP-9 | |
| 011 | AP-10 | |
| 012 | AP-11 | |
| 013 | AP-12 | |
| 014 | AP-13 | |
| 015 | AP-14 | |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Stabilized Field Parameters Summary**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-3 | 2/21/2024 | 11:38 | 14.0 | 57.2 | 7.10 | 647.6 | 0.78 | 124.34 | -134.4 | 9.10 | 24010117-001A |
| AP-1 | 2/21/2024 | 13:41 | 15.0 | 59.0 | 6.51 | 1,473.8 | 1.00 | 28.16 | -3.1 | 8.48 | 24010117-002A |
| AP-2 | 2/22/2024 | 11:24 | 13.1 | 55.6 | 6.41 | 1,190.1 | 0.56 | 20.20 | 115.3 | 7.11 | 24010117-003A |
| AP-3 | 2/22/2024 | 12:03 | 12.8 | 55.0 | 6.55 | 1,048.2 | 0.65 | 21.97 | 78.1 | 9.32 | 24010117-004A |
| AP-4 | 2/23/2024 | 11:21 | 15.5 | 59.9 | 6.86 | 847.4 | 0.50 | 38.35 | -53.3 | 9.04 | 24010117-005A |
| AP-5 | 2/22/2024 | 13:44 | 14.0 | 57.2 | 7.01 | 590.8 | 2.26 | 0.66 | 63.7 | 15.95 | 24010117-006A |
| AP-6 | 2/22/2024 | 10:40 | 12.8 | 55.0 | 6.97 | 612.2 | 3.76 | 12.97 | 113.0 | 7.85 | 24010117-007A |
| AP-7 | 2/26/2024 | 14:20 | 14.0 | 57.2 | 7.15 | 646.0 | 1.56 | 33.97 | -88.6 | 11.08 | 24010117-008A |
| AP-8 | 2/21/2024 | 12:24 | 13.5 | 56.3 | 6.83 | 860.7 | 0.74 | 6.66 | -76.0 | 4.48 | 24010117-009A |
| AP-9 | 2/26/2024 | 13:50 | 15.1 | 59.2 | 6.82 | 813.3 | 1.06 | 23.11 | -49.8 | 12.05 | 24010117-010A |
| AP-10 | 2/21/2024 | 14:36 | 13.7 | 56.7 | 6.65 | 1,006.6 | 2.23 | 34.31 | -18.7 | 2.82 | 24010117-011A |
| AP-11 | 2/26/2024 | 11:08 | 12.8 | 55.0 | 6.45 | 1,103.0 | 1.12 | 5.21 | 86.7 | 14.42 | 24010117-012A |
| AP-12 | 2/26/2024 | 12:00 | 14.2 | 57.6 | 6.53 | 1,396.3 | 0.67 | 27.25 | -25.8 | 17.35 | 24010117-013A |
| AP-13 | 2/26/2024 | 12:34 | 13.8 | 56.8 | 6.73 | 709.8 | 0.87 | 10.08 | -47.2 | 17.10 | 24010117-014A |
| AP-14 | 2/23/2024 | 10:25 | 11.4 | 52.5 | 6.93 | 1,529.4 | 1.44 | 24.44 | 97.8 | 1.72 | 24010117-015A |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| RW-3 | 2/21/2024 | 11:32 | 9.10 | 13.9 | 57.0 | 7.11 | 648.4 | 0.89 | 46.09 | -126.70 |
| RW-3 | 2/21/2024 | 11:35 | 9.10 | 13.9 | 57.0 | 7.10 | 647.6 | 0.83 | 90.21 | -131.90 |
| RW-3 | 2/21/2024 | 11:38 | 9.10 | 14.0 | 57.2 | 7.10 | 647.6 | 0.78 | 124.34 | -134.40 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-1 | 2/21/2024 | 13:35 | 8.48 | 14.8 | 58.6 | 6.51 | 1,441.3 | 1.21 | 29.57 | 50.10 |
| AP-1 | 2/21/2024 | 13:38 | 8.48 | 14.7 | 58.5 | 6.51 | 1,459.6 | 1.04 | 30.53 | 22.00 |
| AP-1 | 2/21/2024 | 13:41 | 8.48 | 15.0 | 59.0 | 6.51 | 1,473.8 | 1.00 | 28.16 | -3.10 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-2 | 2/22/2024 | 11:15 | 7.11 | 12.8 | 55.0 | 6.42 | 1,189.9 | 0.69 | 66.56 | 119.50 |
| AP-2 | 2/22/2024 | 11:18 | 7.11 | 12.9 | 55.2 | 6.42 | 1,185.7 | 0.64 | 39.12 | 118.10 |
| AP-2 | 2/22/2024 | 11:21 | 7.11 | 12.9 | 55.2 | 6.42 | 1,187.5 | 0.60 | 30.02 | 116.60 |
| AP-2 | 2/22/2024 | 11:24 | 7.11 | 13.1 | 55.6 | 6.41 | 1,190.1 | 0.56 | 20.20 | 115.30 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-3 | 2/22/2024 | 11:54 | 9.32 | 12.6 | 54.7 | 6.61 | 1,022.4 | 1.28 | 128.69 | 98.60 |
| AP-3 | 2/22/2024 | 11:57 | 9.32 | 12.7 | 54.9 | 6.57 | 1,030.4 | 0.91 | 56.27 | 91.00 |
| AP-3 | 2/22/2024 | 12:00 | 9.32 | 12.8 | 55.0 | 6.56 | 1,040.2 | 0.75 | 39.31 | 84.30 |
| AP-3 | 2/22/2024 | 12:03 | 9.32 | 12.8 | 55.0 | 6.55 | 1,048.2 | 0.65 | 21.97 | 78.10 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-7 | 2/26/2024 | 14:14 | 11.08 | 14.5 | 58.1 | 7.19 | 666.9 | 2.50 | 15.92 | -43.90 |
| AP-7 | 2/26/2024 | 14:17 | 11.08 | 14.0 | 57.2 | 7.15 | 651.6 | 1.80 | 30.93 | -71.30 |
| AP-7 | 2/26/2024 | 14:20 | 11.08 | 14.0 | 57.2 | 7.15 | 646.0 | 1.56 | 33.97 | -88.60 |

**Site Samping Event:** CWLP Ash Pond- 1Q24
**LIMS Workorder**: 24010117
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Ash Pond- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-8 | 2/21/2024 | 12:18 | 4.48 | 13.5 | 56.3 | 6.84 | 857.8 | 0.91 | 6.45 | -50.90 |
| AP-8 | 2/21/2024 | 12:21 | 4.48 | 13.5 | 56.3 | 6.83 | 860.3 | 0.82 | 7.31 | -66.90 |
| AP-8 | 2/21/2024 | 12:24 | 4.48 | 13.5 | 56.3 | 6.83 | 860.7 | 0.74 | 6.66 | -76.00 |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

March 15, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24010117

Order No.: 24030039

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 15 sample(s) on 2/29/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# Case Narrative

WO#: **24030039**
Date: **3/15/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24010117

WorkOrder Narrative:
24030039: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-448*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24030039**
Date: **3/15/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24030039**

***15-Mar-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24010117

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24030039-001 | 24010117-001 | | 2/21/2024 11:38:00 AM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-002 | 24010117-002 | | 2/21/2024 1:41:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-003 | 24010117-003 | | 2/22/2024 11:24:00 AM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-004 | 24010117-004 | | 2/22/2024 12:03:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-005 | 24010117-005 | | 2/23/2024 11:21:00 AM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-006 | 24010117-006 | | 2/22/2024 1:44:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-007 | 24010117-007 | | 2/22/2024 10:40:00 AM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-008 | 24010117-008 | | 2/26/2024 2:20:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-009 | 24010117-009 | | 2/21/2024 12:24:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-010 | 24010117-010 | | 2/26/2024 1:50:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-011 | 24010117-011 | | 2/21/2024 2:36:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-012 | 24010117-012 | | 2/26/2024 11:08:00 AM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-013 | 24010117-013 | | 2/26/2024 12:00:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-014 | 24010117-014 | | 2/26/2024 12:34:00 PM | 2/29/2024 12:25:00 PM | Non-Potable Water |
| 24030039-015 | 24010117-015 | | 2/23/2024 10:25:00 AM | 2/29/2024 12:25:00 PM | Non-Potable Water |

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Website: http://www.settek.com

# DATES REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,

**Project:** 24010117

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24030039-001A | 24010117-001 | 2/21/2024 11:38:00 AM | Non-Potable Water | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-002A | 24010117-002 | 2/21/2024 1:41:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-003A | 24010117-003 | 2/22/2024 11:24:00 AM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-004A | 24010117-004 | 2/22/2024 12:03:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-005A | 24010117-005 | 2/23/2024 11:21:00 AM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-006A | 24010117-006 | 2/22/2024 1:44:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-007A | 24010117-007 | 2/22/2024 10:40:00 AM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-008A | 24010117-008 | 2/26/2024 2:20:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |

Original

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# DATES REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,

**Project:** 24010117

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24030039-008A | 24010117-008 | 2/26/2024 2:20:00 PM | Non-Potable Water | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-009A | 24010117-009 | 2/21/2024 12:24:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-010A | 24010117-010 | 2/26/2024 1:50:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-011A | 24010117-011 | 2/21/2024 2:36:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-012A | 24010117-012 | 2/26/2024 11:08:00 AM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-013A | 24010117-013 | 2/26/2024 12:00:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-014A | 24010117-014 | 2/26/2024 12:34:00 PM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |
| 24030039-015A | 24010117-015 | 2/23/2024 10:25:00 AM | | Combined Radium (EPA903+904) | | | 3/15/2024 7:25:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 3/5/2024 11:12:34 AM | 3/11/2024 10:03:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2024 11:12:34 AM | 3/8/2024 2:17:00 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC. Analytical Laboratories

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24030039**

Date Reported: **3/15/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 2/21/2024 11:38:00 AM

**Project:** 24010117

**Lab ID:** 24030039-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24010117-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **COMBINED RADIUM (EPA903+904)** | | | | **CALCULATION** | | | Analyst: **CXS** |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.340 | 1 | 3/15/2024 7:25:39 AM |
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0800 | 1 | 3/11/2024 10:03:00 AM |
| Yield | 1.00 | | | | | 1 | 3/11/2024 10:03:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.260 | 1 | 3/8/2024 2:17:00 PM |
| Yield | 1.00 | | | | | 1 | 3/8/2024 2:17:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24030039**

Date Reported: **3/15/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 2/22/2024 11:24:00 AM

**Project:** 24010117

**Lab ID:** 24030039-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24010117-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **COMBINED RADIUM (EPA903+904)** | | | | **CALCULATION** | | | Analyst: **CXS** |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.410 | 1 | 3/15/2024 7:25:39 AM |
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0600 | 1 | 3/11/2024 10:03:00 AM |
| Yield | 0.980 | | | | | 1 | 3/11/2024 10:03:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.350 | 1 | 3/8/2024 2:17:00 PM |
| Yield | 1.00 | | | | | 1 | 3/8/2024 2:17:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24030039**

Date Reported: **3/15/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 2/22/2024 12:03:00 PM

**Project:** 24010117

**Lab ID:** 24030039-004

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24010117-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **COMBINED RADIUM (EPA903+904)** | | | | **CALCULATION** | | | Analyst: **CXS** |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.320 | 1 | 3/15/2024 7:25:39 AM |
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0500 | 1 | 3/11/2024 10:03:00 AM |
| Yield | 1.00 | | | | | 1 | 3/11/2024 10:03:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.270 | 1 | 3/8/2024 2:17:00 PM |
| Yield | 1.00 | | | | | 1 | 3/8/2024 2:17:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24030039**

Date Reported: **3/15/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/26/2024 2:20:00 PM
**Project:** 24010117
**Lab ID:** 24030039-008
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 24010117-008

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **COMBINED RADIUM (EPA903+904)** | | | | **CALCULATION** | | | Analyst: **CXS** |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.530 | 1 | 3/15/2024 7:25:39 AM |
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0900 | 1 | 3/11/2024 10:03:00 AM |
| Yield | 1.00 | | | | | 1 | 3/11/2024 10:03:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.440 | 1 | 3/8/2024 2:17:00 PM |
| Yield | 1.00 | | | | | 1 | 3/8/2024 2:17:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24030039**

Date Reported: **3/15/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 2/21/2024 12:24:00 PM

**Project:** 24010117

**Lab ID:** 24030039-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24010117-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **COMBINED RADIUM (EPA903+904)** | | | | | **CALCULATION** | | Analyst: **CXS** |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.540 | 1 | 3/15/2024 7:25:39 AM |
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.120 | 1 | 3/11/2024 10:03:00 AM |
| Yield | 1.00 | | | | | 1 | 3/11/2024 10:03:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.420 | 1 | 3/8/2024 2:17:00 PM |
| Yield | 1.00 | | | | | 1 | 3/8/2024 2:17:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,
**Project:** 24010117 **BatchID:** **73522**

| Sample ID: **MB-73522** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181655** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **73522** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2024** | SeqNo: **4923941** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-73522** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181655** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **73522** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2024** | SeqNo: **4923942** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.32 | 1.00 | 5.000 | 0 | 66.4 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-73522** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181655** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **73522** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2024** | SeqNo: **4923943** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.49 | 1.00 | 5.000 | 0 | 69.8 | 50 | 130 | 3.320 | 4.99 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,
**Project:** 24010117 **BatchID:** **73522**

| Sample ID: **RLC-73522** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181655** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **73522** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2024** | SeqNo: **4923945** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.01 | 1.00 | 1.000 | 0 | 101 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-73522** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181655** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **73522** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2024** | SeqNo: **4923946** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 70.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **24030092-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181655** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **73522** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/8/2024** | SeqNo: **4923950** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,
**Project:** 24010117 **BatchID:** **73522**

Sample ID: **24030092-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2024** RunNo: **181655**
Client ID: **BatchQC** Batch ID: **73522** TestNo: **E904.0** **E903-904** Analysis Date: **3/8/2024** SeqNo: **4923952**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.41 | 1.00 | | 0 | 0 | | | 2.380 | 1.25 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,
**Project:** 24010117 **BatchID:** **73522**

| Sample ID: **MB-73522** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181663** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **73522** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/11/2024** | SeqNo: **4924195** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-73522** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181663** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **73522** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/11/2024** | SeqNo: **4924196** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.34 | 1.00 | 5.000 | 0 | 107 | 70 | 130 | | | | |

| Sample ID: **LCSD-73522** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181663** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **73522** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/11/2024** | SeqNo: **4924197** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.64 | 1.00 | 5.000 | 0 | 92.8 | 70 | 130 | 5.340 | 14.0 | 20 | |

| Sample ID: **RLC-73522** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2024** | RunNo: **181663** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **73522** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/11/2024** | SeqNo: **4924199** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24030039**

***15-Mar-24***

**Client:** TEKLAB Inc,
**Project:** 24010117 **BatchID:** **73522**

Sample ID: **RLC-73522** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2024** RunNo: **181663**
Client ID: **BatchQC** Batch ID: **73522** TestNo: **E903.0** **E903-904** Analysis Date: **3/11/2024** SeqNo: **4924199**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 91.0 | 50 | 150 | | | | |

Sample ID: **RLCD-73522** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2024** RunNo: **181663**
Client ID: **BatchQC** Batch ID: **73522** TestNo: **E903.0** **E903-904** Analysis Date: **3/11/2024** SeqNo: **4924200**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 78.0 | 50 | 150 | | | | |

Sample ID: **24030092-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2024** RunNo: **181663**
Client ID: **BatchQC** Batch ID: **73522** TestNo: **E903.0** **E903-904** Analysis Date: **3/11/2024** SeqNo: **4924202**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Pg ___ of ___ 2403 0039

# TEKLAB, INC. Chain of Custody

SN ~~2402~~

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

11.0-0.2=10.8°C, 11.2-0.2=11.0°C
13.5-0.2=13.3°C

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Teklab Sampler | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226, 228, and combined) on your standard turnaround time.
Receipt summary requested.

Project# 24010117

Contact: Shelly Hennessy | Email: shennessy@teklabinc.com
Requested Due Date: 20 business days or less | Billing/PO: 35852 | Phone: 618 344 1004 ext 36

State of Origin: IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | Combined Radium | | cpm | | | | pH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24010117-001 | 2/21/24 1138 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ~~15~~ | 18 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-002 | 2/21/24 1341 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ~~18~~ | 15 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-003 | 2/22/24 1124 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | 18 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-004 | 2/22/24 1203 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | 18 | 34 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-009 | 2/23/24 1121 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ~~3~~ | 18 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-006 | 2/22/24 1344 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ~~5~~ | 3 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-007 | 2/22/24 1040 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | 15 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-008 | 2/26/24 1420 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | 15 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-009 | 2/21/24 1224 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ~~38~~ | 19 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-010 | 2/26/24 1350 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ~~23~~ | 38 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 24010117-011 | 2/21/24 1436 | HNO3 | Groundwater | ☑ | ☑ | ☑ | ☐ | ☐ | ~~23~~ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 2/23/24 1700 | [signature] | 2/29/24, 1225 |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Teklab Sampler | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226, 228, and combined) on your standard turnaround time.
Receipt summary requested.

Project# 24010117

Contact: Shelly Hennessy | Email: shennessy@teklabinc.com
Requested Due Date: 20 business days or less | Billing/PO: 35852
Phone: 618 344 1004 ext 36

State of Origin: IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | Combined Radium | | cpm | | | pH | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24010117-012 | 2/26/24 1108 | HNO3 | Groundwater | ✔ | ✔ | ✔ | ☐ | 31 | ☐ | ☐ | 1 | ☐ | ☐ | ☐ | ☐ |
| | 24010117-013 | 2/26/24 1200 | HNO3 | Groundwater | ✔ | ✔ | ✔ | ☐ | 23 | ☐ | ☐ | 1 | ☐ | ☐ | ☐ | ☐ |
| | 24010117-014 | 2/26/24 1234 | HNO3 | Groundwater | ✔ | ✔ | ✔ | ☐ | 31 | ☐ | ☐ | 1 | ☐ | ☐ | ☐ | ☐ |
| | 24010117-015 | 2/23/24 1025 | HNO3 | Groundwater | ✔ | ✔ | ✔ | ☐ | 27 | ☐ | ☐ | 1 | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | HNO3 | Groundwater | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 2/27/24 1200 | | |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

February 21, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 24010118

Dear Eric Staley:

TEKLAB, INC received 11 samples on 2/1/2024 4:45:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 24010118
**Client Project:** FGDS Landfill
**Report Date:** 21-Feb-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 13 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24010118
**Client Project:** FGDS Landfill
**Report Date:** 21-Feb-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24010118
**Report Date:** 21-Feb-24

**Cooler Receipt Temp:** 8.5 °C

An employee of Teklab, Inc. collected the sample(s).

R101, G112, G113, AW-2 and RW-3 will be recollected at a later date.

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24010118
**Report Date:** 21-Feb-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

**Lab ID:** 24010118-002 **Client Sample ID:** G110

**Matrix:** GROUNDWATER **Collection Date:** 02/01/2024 13:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.05** | ft | 1 | 02/01/2024 13:16 | R342908 |
| Depth to water | * | -5.00 | | **20.75** | ft | 1 | 02/01/2024 13:16 | R342908 |
| Depth to water from measuring point | * | 0 | | **23.36** | ft | 1 | 02/01/2024 13:16 | R342908 |
| Elevation of groundwater surface | * | 0 | | **533.84** | ft | 1 | 02/01/2024 13:16 | R342908 |
| Measuring Point Elevation | * | 0 | | **557.20** | ft | 1 | 02/01/2024 13:16 | R342908 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.61** | ft | 1 | 02/01/2024 13:16 | R342908 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.4** | NTU | 1 | 02/01/2024 13:16 | R342908 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.1** | °F | 1 | 02/01/2024 13:16 | R342908 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.85** | | 1 | 02/01/2024 13:16 | R342908 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **658** | µmhos/cm @25C | 1 | 02/01/2024 13:16 | R342908 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **480** | mg/L | 2.5 | 02/02/2024 14:05 | R342621 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/05/2024 15:22 | R342640 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 02/02/2024 13:25 | R342565 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **8** | mg/L | 1 | 02/05/2024 15:23 | R342647 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.158** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Boron | NELAP | 0.0200 | | **0.105** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Calcium | NELAP | 0.100 | | **112** | mg/L | 1 | 02/06/2024 16:01 | 218215 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/07/2024 15:33 | 218215 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/05/2024 19:59 | 218215 |
| Arsenic | NELAP | 0.0010 | | **0.0057** | mg/L | 5 | 02/05/2024 19:59 | 218215 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/05/2024 19:59 | 218215 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/05/2024 19:59 | 218215 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/05/2024 15:18 | 218217 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

**Lab ID:** 24010118-003 **Client Sample ID:** R111

**Matrix:** GROUNDWATER **Collection Date:** 02/02/2024 11:02

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.25** | ft | 1 | 02/02/2024 11:02 | R342908 |
| Depth to water | * | -5.00 | | **24.34** | ft | 1 | 02/02/2024 11:02 | R342908 |
| Depth to water from measuring point | * | 0 | | **24.34** | ft | 1 | 02/02/2024 11:02 | R342908 |
| Elevation of groundwater surface | * | 0 | | **529.66** | ft | 1 | 02/02/2024 11:02 | R342908 |
| Measuring Point Elevation | * | 0 | | **554.00** | ft | 1 | 02/02/2024 11:02 | R342908 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 02/02/2024 11:02 | R342908 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.9** | NTU | 1 | 02/02/2024 11:02 | R342908 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.4** | °F | 1 | 02/02/2024 11:02 | R342908 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.14** | | 1 | 02/02/2024 11:02 | R342908 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **90.9** | µmhos/cm @25C | 1 | 02/02/2024 11:02 | R342908 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **78** | mg/L | 1 | 02/06/2024 11:33 | R342760 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 02/05/2024 15:30 | R342640 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 02/07/2024 11:16 | R342758 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **6** | mg/L | 1 | 02/05/2024 15:31 | R342647 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0139** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Boron | NELAP | 0.0200 | | **< 0.0200** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Calcium | NELAP | 0.100 | | **11.0** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/06/2024 12:01 | 218254 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:30 | 218254 |
| Arsenic | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 02/07/2024 2:30 | 218254 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:30 | 218254 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/09/2024 16:43 | 218254 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/06/2024 11:07 | 218284 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

**Lab ID:** 24010118-006 **Client Sample ID:** G120

**Matrix:** GROUNDWATER **Collection Date:** 02/02/2024 10:07

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.73** | ft | 1 | 02/02/2024 10:07 | R342908 |
| Depth to water | * | -5.00 | | **14.63** | ft | 1 | 02/02/2024 10:07 | R342908 |
| Depth to water from measuring point | * | 0 | | **14.63** | ft | 1 | 02/02/2024 10:07 | R342908 |
| Elevation of groundwater surface | * | 0 | | **538.47** | ft | 1 | 02/02/2024 10:07 | R342908 |
| Measuring Point Elevation | * | 0 | | **553.10** | ft | 1 | 02/02/2024 10:07 | R342908 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 02/02/2024 10:07 | R342908 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **10** | NTU | 1 | 02/02/2024 10:07 | R342908 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.7** | °F | 1 | 02/02/2024 10:07 | R342908 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.47** | | 1 | 02/02/2024 10:07 | R342908 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1460** | µmhos/cm @25C | 1 | 02/02/2024 10:07 | R342908 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1320** | mg/L | 5 | 02/05/2024 9:56 | R342697 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **503** | mg/L | 20 | 02/05/2024 15:43 | R342640 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 02/07/2024 14:39 | R342758 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **39** | mg/L | 1 | 02/05/2024 15:39 | R342647 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.628** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Boron | NELAP | 0.0200 | | **7.12** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Calcium | NELAP | 0.100 | | **265** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Lithium | NELAP | 0.0050 | | **0.0080** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/06/2024 12:16 | 218254 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:36 | 218254 |
| Arsenic | NELAP | 0.0010 | | **0.0116** | mg/L | 5 | 02/07/2024 2:36 | 218254 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:36 | 218254 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/09/2024 16:48 | 218254 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/06/2024 11:09 | 218284 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

**Lab ID:** 24010118-007 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 02/02/2024 10:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 02/02/2024 10:29 | R342908 |
| Depth to water | * | -5.00 | | **24.67** | ft | 1 | 02/02/2024 10:29 | R342908 |
| Depth to water from measuring point | * | 0 | | **26.54** | ft | 1 | 02/02/2024 10:29 | R342908 |
| Elevation of groundwater surface | * | 0 | | **529.06** | ft | 1 | 02/02/2024 10:29 | R342908 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 02/02/2024 10:29 | R342908 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 02/02/2024 10:29 | R342908 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.3** | NTU | 1 | 02/02/2024 10:29 | R342908 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.5** | °F | 1 | 02/02/2024 10:29 | R342908 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.62** | | 1 | 02/02/2024 10:29 | R342908 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1200** | µmhos/cm @25C | 1 | 02/02/2024 10:29 | R342908 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1000** | mg/L | 5 | 02/05/2024 9:56 | R342697 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **290** | mg/L | 20 | 02/05/2024 15:52 | R342640 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 02/07/2024 14:41 | R342758 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **30** | mg/L | 1 | 02/05/2024 15:47 | R342647 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.555** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Boron | NELAP | 0.0200 | | **3.30** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Calcium | NELAP | 0.100 | | **189** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Lithium | NELAP | 0.0050 | | **0.0073** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/06/2024 12:18 | 218254 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:42 | 218254 |
| Arsenic | NELAP | 0.0010 | | **0.0173** | mg/L | 5 | 02/07/2024 2:42 | 218254 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:42 | 218254 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/09/2024 16:53 | 218254 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/06/2024 11:12 | 218284 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

**Lab ID:** 24010118-008 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 02/02/2024 10:54

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 02/02/2024 10:54 | R342908 |
| Depth to water | * | -5.00 | | **24.97** | ft | 1 | 02/02/2024 10:54 | R342908 |
| Depth to water from measuring point | * | 0 | | **26.71** | ft | 1 | 02/02/2024 10:54 | R342908 |
| Elevation of groundwater surface | * | 0 | | **527.69** | ft | 1 | 02/02/2024 10:54 | R342908 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 02/02/2024 10:54 | R342908 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 02/02/2024 10:54 | R342908 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.4** | NTU | 1 | 02/02/2024 10:54 | R342908 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.2** | °F | 1 | 02/02/2024 10:54 | R342908 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.56** | | 1 | 02/02/2024 10:54 | R342908 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1390** | µmhos/cm @25C | 1 | 02/02/2024 10:54 | R342908 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1270** | mg/L | 5 | 02/05/2024 9:56 | R342697 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 500 | | **532** | mg/L | 50 | 02/07/2024 9:49 | R342767 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 02/07/2024 14:43 | R342758 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **40** | mg/L | 1 | 02/05/2024 16:11 | R342647 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.474** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Boron | NELAP | 0.0200 | | **11.3** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Calcium | NELAP | 0.100 | | **251** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Lithium | NELAP | 0.0050 | | **0.0070** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/06/2024 12:19 | 218254 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:47 | 218254 |
| Arsenic | NELAP | 0.0010 | | **0.0028** | mg/L | 5 | 02/07/2024 2:47 | 218254 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/07/2024 2:47 | 218254 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/09/2024 16:58 | 218254 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/06/2024 11:14 | 218284 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |

**Client:** City Water, Light & Power **Work Order:** 24010118

**Client Project:** FGDS Landfill **Report Date:** 21-Feb-24

**Lab ID:** 24010118-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 02/01/2024 14:27

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 02/01/2024 14:27 | R342908 |
| Depth to water | * | -5.00 | | **9.12** | ft | 1 | 02/01/2024 14:27 | R342908 |
| Depth to water from measuring point | * | 0 | | **11.87** | ft | 1 | 02/01/2024 14:27 | R342908 |
| Elevation of groundwater surface | * | 0 | | **543.73** | ft | 1 | 02/01/2024 14:27 | R342908 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 02/01/2024 14:27 | R342908 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 02/01/2024 14:27 | R342908 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **160** | NTU | 1 | 02/01/2024 14:27 | R342908 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.8** | °F | 1 | 02/01/2024 14:27 | R342908 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 02/01/2024 14:27 | R342908 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1030** | µmhos/cm @25C | 1 | 02/01/2024 14:27 | R342908 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1120** | mg/L | 5 | 02/02/2024 14:05 | R342621 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **369** | mg/L | 20 | 02/05/2024 16:23 | R342640 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 02/02/2024 13:27 | R342565 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **40** | mg/L | 1 | 02/05/2024 16:19 | R342647 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **2.02** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Boron | NELAP | 0.0200 | | **8.24** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Calcium | NELAP | 0.100 | | **203** | mg/L | 1 | 02/06/2024 16:02 | 218215 |
| Chromium | NELAP | 0.0050 | | **0.0087** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Cobalt | NELAP | 0.0050 | | **0.0055** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| Lithium | NELAP | 0.0050 | | **0.0184** | mg/L | 1 | 02/07/2024 15:34 | 218215 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/05/2024 8:43 | 218215 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/05/2024 20:04 | 218215 |
| Arsenic | NELAP | 0.0010 | | **0.160** | mg/L | 5 | 02/05/2024 20:04 | 218215 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/05/2024 20:04 | 218215 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/05/2024 20:04 | 218215 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/05/2024 15:25 | 218217 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 02/19/2024 14:24 | R343341 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24010118
**Client Project:** FGDS Landfill
**Report Date:** 21-Feb-24

**Carrier:** Tracy Carroll
**Received By:** AMD

**Completed by:** Amber Dilallo
**On:** 02-Feb-24

**Reviewed by:** Ellie Hopkins
**On:** 05-Feb-24

**Pages to follow:** Chain of custody 2 Extra pages included 29

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 8.5 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #90719. - amberdilallo - 2/2/2024 8:41:47 AM

pH strip #90719. - nickreed - 2/2/2024 3:02:17 PM

Samples collected on 2/2/24 were received at 7.3 degrees C on Ice (LTG#5) -NR 2/2/24

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # ~~240110~~ 24010118 TE SAH 1/2/24

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 8.5 °C #5
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 9079 [illegible] 2/2/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24010117-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
T Carroll

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010118 001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | 2/1/24 1316 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | 2/1/24 1427 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 2/1/24 1645 | [signature] | 2/1/24 1645 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder# ~~240110~~ 24010118 TE 2/2/24

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 7.3 °C LTG3
Preserved in: [ ] LAB [x] FIELD FOR LAB USE ONLY
LAB NOTES: pH 2/2/24 DS 2/2

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:** Courier
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24010117-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24010118-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 2/2/24 1102 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | 2/2/24 1007 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | 2/2/24 1029 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | 2/2/24 1054 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 2-2-24 1300 | | 2/2 1300 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions DS 2/2

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- 1Q 2024**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 002 | G110 | Groundwater Sample | 56.0 | None | SW | Cloudy | Good | Good | Good | No | No |
| 003 | R111 | Groundwater Sample | 42.0 | None | E | Partly cloudy | Good | Good | Good | Yes | No |
| 006 | G120 | Groundwater Sample | 39.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 007 | G121 | Groundwater Sample | 41.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 008 | G122 | Groundwater Sample | 42.0 | None | W | Partly cloudy | Good | Good | Good | Yes | No |
| 009 | AW-1 | Groundwater Sample | 56.0 | None | SW | Cloudy | Good | Good | Good | Yes | No |
| 012 | DUPLICATE | QA/QC Sample | 42.0 | None | E | Partly cloudy | Good | Good | Good | Yes | No |

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- 1Q 2024**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Sampler Initials** | **Purge Date** | **Purge Start Time** | **Purge End Time** | **Purging Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 002 | G110 | TAC | 2/1/24 12:45 | 23.36 | 57.15 | TAC | 2/1/2024 | 12:50 | 13:16 | Peristaltic Pump | 2" | 5.0 | 192.3 |
| 003 | R111 | DC | 2/2/24 10:36 | 24.34 | 55.75 | TAC | 2/2/2024 | 10:40 | 11:02 | Peristaltic Pump | 2" | 4.0 | 181.8 |
| 006 | G120 | JC | 2/2/24 9:50 | 14.63 | 50.37 | JC | 2/2/2024 | 09:55 | 10:07 | Submersible Pump | 2" | 4.0 | 333.3 |
| 007 | G121 | JC | 2/2/24 10:17 | 26.54 | 58.56 | JC | 2/2/2024 | 10:19 | 10:29 | Submersible Pump | 2" | 4.0 | **400.0** |
| 008 | G122 | JC | 2/2/24 10:44 | 26.71 | 49.29 | JC | 2/2/2024 | 10:44 | 10:54 | Submersible Pump | 2" | 3.0 | 300.0 |
| 009 | AW-1 | DC | 2/1/24 13:47 | 11.87 | 54.81 | TAC | 2/1/2024 | 14:00 | 14:27 | Submersible Pump | 2" | 6.0 | 222.2 |
| 012 | DUPLICATE | DC | 2/2/24 11:22 | 24.34 | | TAC | 2/2/2024 | 10:40 | 11:02 | Peristaltic Pump | 2" | 4.0 | 181.8 |

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- 1Q 2024**

| | | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date** | **Time** | **Sampling Method** | **Field Filtered** | **Appearance** | **Odor** | **Color** | **Post-Sample DTW (ft)** | **Drawdown (ft)** |
| 002 | G110 | DC | 02/01/24 | 13:16 | Low Flow | Yes | Clear | Slight | None | 23.38 | 0.02 |
| 003 | R111 | DC | 02/02/24 | 11:02 | Low Flow | Yes | Clear | None | None | 24.45 | 0.11 |
| 006 | G120 | JC | 02/02/24 | 10:07 | Low Flow | Yes | Clear | None | none | 19.04 | **4.41** |
| 007 | G121 | JC | 02/02/24 | 10:29 | Low Flow | Yes | Clear | None | none | 31.10 | **4.56** |
| 008 | G122 | JC | 02/02/24 | 10:54 | Low Flow | Yes | Clear | None | none | 28.57 | **1.86** |
| 009 | AW-1 | DC | 02/01/24 | 14:27 | Low Flow | Yes | Slightly cloudy | None | Lt Brown | 15.90 | **4.03** |
| 012 | DUPLICATE | DC | 02/02/24 | 11:02 | Low Flow | Yes | Clear | None | None | 24.45 | 0.11 |

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- 1Q 2024**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 002 | G110 | |
| 003 | R111 | |
| 006 | G120 | |
| 007 | G121 | |
| 008 | G122 | |
| 009 | AW-1 | |
| 012 | DUPLICATE | |

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Stabilized Field Parameters Summary**
**CWLP- 1Q 2024**

| Well ID | Date | Time | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G110 | 2/01/2024 | 13:16 | 14.5 | 58.1 | 6.85 | 657.8 | 1.89 | 6.40 | -61.3 | 23.36 | 24010116-002A |
| R111 | 2/02/2024 | 11:02 | 13.0 | 55.4 | 6.14 | 90.9 | 2.47 | 4.87 | 135.4 | 24.34 | 24010116-003A |
| G120 | 2/02/2024 | 10:07 | 13.7 | 56.7 | 6.47 | 1,462.1 | 1.67 | 10.45 | 144.9 | 14.63 | 24010116-006A |
| G121 | 2/02/2024 | 10:29 | 12.5 | 54.5 | 6.62 | 1,195.9 | 1.91 | 8.32 | 143.8 | 26.54 | 24010116-007A |
| G122 | 2/02/2024 | 10:54 | 12.9 | 55.2 | 6.56 | 1,390.5 | 1.72 | 9.40 | 143.3 | 26.71 | 24010116-008A |
| AW-1 | 2/01/2024 | 14:27 | 13.8 | 56.8 | 6.55 | 1,025.6 | 0.56 | 155.98 | -79.6 | 11.87 | 24010116-009A |
| DUPLICATE | 2/02/2024 | 11:02 | 13.0 | 55.4 | 6.14 | 90.9 | 2.47 | 4.87 | 135.4 | 24.34 | 24010116-012A |

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Forms- Groundwter Quality Parameters**
**CWLP- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G110 | 2/01/2024 | 13:07 | 23.36 | 14.3 | 57.7 | 6.84 | 668.3 | 1.880 | 4.6 | -35.6 |
| G110 | 2/01/2024 | 13:10 | 23.36 | 14.3 | 57.7 | 6.84 | 665.1 | 1.750 | 5.1 | -47.8 |
| G110 | 2/01/2024 | 13:13 | 23.36 | 14.5 | 58.1 | 6.85 | 660.4 | 1.710 | 5.4 | -56.0 |
| G110 | 2/01/2024 | 13:16 | 23.36 | 14.5 | 58.1 | 6.85 | 657.8 | 1.890 | 6.4 | -61.3 |

**Site Samping Event:** CWLP-LF 1Q24 **Groundwater Sampling Forms- Groundwter Quality Parameters**
**LIMS Workorder:** 24010118 **CWLP- 1Q 2024**
**Technician(s):** DC, JC, TC, BG

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| R111 | 2/02/2024 | 10:53 | 24.34 | 12.8 | 55.0 | 6.17 | 91.6 | 2.730 | 7.5 | 136.1 |
| R111 | 2/02/2024 | 10:56 | 24.34 | 13.0 | 55.4 | 6.15 | 91.6 | 2.620 | 5.8 | 136.1 |
| R111 | 2/02/2024 | 10:59 | 24.34 | 12.9 | 55.2 | 6.14 | 91.0 | 2.520 | 5.1 | 135.7 |
| R111 | 2/02/2024 | 11:02 | 24.34 | 13.0 | 55.4 | 6.14 | 90.9 | 2.470 | 4.9 | 135.4 |

**Site Samping Event:** CWLP-LF 1Q24 **Groundwater Sampling Forms- Groundwter Quality Parameters**
**LIMS Workorder:** 24010118 **CWLP- 1Q 2024**
**Technician(s):** DC, JC, TC, BG

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G120 | 2/02/2024 | 9:58 | 14.63 | 13.8 | 56.8 | 6.46 | 1,385.6 | 4.040 | 15.0 | 136.4 |
| G120 | 2/02/2024 | 10:01 | 14.63 | 13.9 | 57.0 | 6.57 | 1,392.8 | 2.640 | 12.5 | 138.0 |
| G120 | 2/02/2024 | 10:04 | 14.63 | 13.7 | 56.7 | 6.50 | 1,431.0 | 2.020 | 11.1 | 143.3 |
| G120 | 2/02/2024 | 10:07 | 14.63 | 13.7 | 56.7 | 6.47 | 1,462.1 | 1.670 | 10.5 | 144.9 |

**Site Samping Event:** CWLP-LF 1Q24
**LIMS Workorder:** 24010118
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Forms- Groundwter Quality Parameters**
**CWLP- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G121 | 2/02/2024 | 10:23 | 26.54 | 12.0 | 53.6 | 6.67 | 1,176.4 | 3.660 | 24.3 | 143.8 |
| G121 | 2/02/2024 | 10:26 | 26.54 | 12.2 | 54.0 | 6.63 | 1,195.2 | 2.460 | 12.5 | 144.5 |
| G121 | 2/02/2024 | 10:29 | 26.54 | 12.5 | 54.5 | 6.62 | 1,195.9 | 1.910 | 8.3 | 143.8 |

**Site Samping Event:** CWLP-LF 1Q24 **Groundwater Sampling Forms- Groundwter Quality Parameters**
**LIMS Workorder:** 24010118 **CWLP- 1Q 2024**
**Technician(s):** DC, JC, TC, BG

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G122 | 2/02/2024 | 10:48 | 26.71 | 12.8 | 55.0 | 6.59 | 1,368.6 | 2.790 | 17.4 | 143.6 |
| G122 | 2/02/2024 | 10:51 | 26.71 | 12.9 | 55.2 | 6.57 | 1,372.2 | 2.100 | 14.3 | 143.9 |
| G122 | 2/02/2024 | 10:54 | 26.71 | 12.9 | 55.2 | 6.56 | 1,390.5 | 1.720 | 9.4 | 143.3 |

**Site Samping Event:** CWLP-LF 1Q24 **Groundwater Sampling Forms- Groundwter Quality Parameters**
**LIMS Workorder:** 24010118 **CWLP- 1Q 2024**
**Technician(s):** DC, JC, TC, BG

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AW-1 | 2/01/2024 | 14:18 | 11.87 | 13.7 | 56.7 | 6.55 | 1,059.4 | 1.190 | 151.8 | -66.2 |
| AW-1 | 2/01/2024 | 14:21 | 11.87 | 13.7 | 56.7 | 6.55 | 1,052.9 | 1.010 | 133.9 | -71.6 |
| AW-1 | 2/01/2024 | 14:24 | 11.87 | 13.6 | 56.5 | 6.55 | 1,040.5 | 0.930 | 161.2 | -75.8 |
| AW-1 | 2/01/2024 | 14:27 | 11.87 | 13.8 | 56.8 | 6.55 | 1,025.6 | 0.560 | 156.0 | -79.6 |

**Site Samping Event:** CWLP-LF 1Q24 **Groundwater Sampling Forms- Groundwter Quality Parameters**
**LIMS Workorder:** 24010118 **CWLP- 1Q 2024**
**Technician(s):** DC, JC, TC, BG

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| DUPLICATE | 2/02/2024 | 10:53 | 24.34 | 12.8 | 55.0 | 6.17 | 91.6 | 2.730 | 7.5 | 136.1 |
| DUPLICATE | 2/02/2024 | 10:56 | 24.34 | 13.0 | 55.4 | 6.15 | 91.6 | 2.620 | 5.8 | 136.1 |
| DUPLICATE | 2/02/2024 | 10:59 | 24.34 | 12.9 | 55.2 | 6.14 | 91.0 | 2.520 | 5.1 | 135.7 |
| DUPLICATE | 2/02/2024 | 11:02 | 24.34 | 13.0 | 55.4 | 6.14 | 90.9 | 2.470 | 4.9 | 135.4 |

*Summit Environmental Technologies, Inc.*
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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24030039 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 2/29/2024 12:25:00 PM | Tegan Richards |
| Completed By: | Salwa A. Najjar | 3/1/2024 1:22:39 PM | Salwa Najjar |
| Reviewed By: | Jennifer Woolf | 3/1/2024 2:15:22 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 10.8 | Good | Not Present | | | |

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# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24030039 RcptNo: 1

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 11.0 | Good | Not Present | | | |
| 3 | 13.3 | Good | Not Present | | | |

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February 21, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24010118

Order No.: 24020447

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 6 sample(s) on 2/7/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24020447**
Date: **2/21/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24010118

WorkOrder Narrative:
24020447: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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*Cuyahoga Falls, Ohio 4422*
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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24020447**
Date: **2/21/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24020447**

***21-Feb-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24010118

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24020447-001 | 24010118-002 | | 2/1/2024 1:16:00 PM | 2/7/2024 11:30:00 AM | Non-Potable Water |
| 24020447-002 | 24010118-003 | | 2/2/2024 11:02:00 AM | 2/7/2024 11:30:00 AM | Non-Potable Water |
| 24020447-003 | 24010118-006 | | 2/2/2024 10:07:00 AM | 2/7/2024 11:30:00 AM | Non-Potable Water |
| 24020447-004 | 24010118-007 | | 2/2/2024 10:29:00 AM | 2/7/2024 11:30:00 AM | Non-Potable Water |
| 24020447-005 | 24010118-008 | | 2/2/2024 10:54:00 AM | 2/7/2024 11:30:00 AM | Non-Potable Water |
| 24020447-006 | 24010118-009 | | 2/1/2024 2:27:00 PM | 2/7/2024 11:30:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **24020447**

***21-Feb-24***

**Client:** TEKLAB Inc,

**Project:** 24010118

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24020447-001A | 24010118-002 | 2/1/2024 1:16:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 2/14/2024 12:42:04 PM | 2/20/2024 4:53:33 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/14/2024 12:42:04 PM | 2/19/2024 2:24:00 PM |
| 24020447-002A | 24010118-003 | 2/2/2024 11:02:00 AM | | Radium-226 (EPA 903.0) | | 2/14/2024 12:42:04 PM | 2/20/2024 4:53:33 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/14/2024 12:42:04 PM | 2/19/2024 2:24:00 PM |
| 24020447-003A | 24010118-006 | 2/2/2024 10:07:00 AM | | Radium-226 (EPA 903.0) | | 2/14/2024 12:42:04 PM | 2/20/2024 4:53:33 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/14/2024 12:42:04 PM | 2/19/2024 2:24:00 PM |
| 24020447-004A | 24010118-007 | 2/2/2024 10:29:00 AM | | Radium-226 (EPA 903.0) | | 2/14/2024 12:42:04 PM | 2/20/2024 4:53:33 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/14/2024 12:42:04 PM | 2/19/2024 2:24:00 PM |
| 24020447-005A | 24010118-008 | 2/2/2024 10:54:00 AM | | Radium-226 (EPA 903.0) | | 2/14/2024 12:42:04 PM | 2/20/2024 4:53:33 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/14/2024 12:42:04 PM | 2/19/2024 2:24:00 PM |
| 24020447-006A | 24010118-009 | 2/1/2024 2:27:00 PM | | Radium-226 (EPA 903.0) | | 2/14/2024 12:42:04 PM | 2/20/2024 4:53:33 PM |
| | | | | Radium-228 (EPA 904.0) | | 2/14/2024 12:42:04 PM | 2/19/2024 2:24:00 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24020447**

Date Reported: **2/21/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 2/1/2024 2:27:00 PM

**Project:** 24010118

**Lab ID:** 24020447-006

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24010118-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | 1.96 | 1.00 | | pCi/L | ± 0.260 | 1 | 2/20/2024 4:53:33 PM |
| Yield | 1.00 | | | | | 1 | 2/20/2024 4:53:33 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 1.43 | 1.00 | | pCi/L | ± 0.410 | 1 | 2/19/2024 2:24:00 PM |
| Yield | 1.00 | | | | | 1 | 2/19/2024 2:24:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# QC SUMMARY REPORT

WO#: **24020447**

***21-Feb-24***

**Client:** TEKLAB Inc,
**Project:** 24010118 **BatchID:** **72958**

Sample ID: **MB-72958** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/14/2024** RunNo: **180457**
Client ID: **PBW** Batch ID: **72958** TestNo: **E904.0** **E903-904** Analysis Date: **2/19/2024** SeqNo: **4892947**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-72958** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/14/2024** RunNo: **180457**
Client ID: **LCSW** Batch ID: **72958** TestNo: **E904.0** **E903-904** Analysis Date: **2/19/2024** SeqNo: **4892948**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.28 | 1.00 | 7.170 | 0 | 59.7 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-72958** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/14/2024** RunNo: **180457**
Client ID: **LCSS02** Batch ID: **72958** TestNo: **E904.0** **E903-904** Analysis Date: **2/19/2024** SeqNo: **4892949**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.67 | 1.00 | 7.170 | 0 | 65.1 | 50 | 130 | 4.280 | 8.72 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24020447**
***21-Feb-24***

**Client:** TEKLAB Inc,
**Project:** 24010118 **BatchID:** **72958**

Sample ID: **RLC1-72958** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/14/2024** RunNo: **180457**
Client ID: **BatchQC** Batch ID: **72958** TestNo: **E904.0** **E903-904** Analysis Date: **2/19/2024** SeqNo: **4892951**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 0.8962 | 0 | 74.8 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **RLC2-72958** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/14/2024** RunNo: **180457**
Client ID: **BatchQC** Batch ID: **72958** TestNo: **E904.0** **E903-904** Analysis Date: **2/19/2024** SeqNo: **4892952**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.32 | 1.00 | 0.8962 | 0 | 147 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **24020780-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/14/2024** RunNo: **180457**
Client ID: **BatchQC** Batch ID: **72958** TestNo: **E904.0** **E903-904** Analysis Date: **2/19/2024** SeqNo: **4892954**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24020447**

***21-Feb-24***

**Client:** TEKLAB Inc,
**Project:** 24010118 **BatchID:** **72958**

| Sample ID: **MB-72958** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/14/2024** | RunNo: **180466** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **72958** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/20/2024** | SeqNo: **4893053** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-72958** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/14/2024** | RunNo: **180466** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **72958** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/20/2024** | SeqNo: **4893054** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 7.56 | 1.00 | 8.260 | 0 | 91.5 | 70 | 130 | | | | |

| Sample ID: **LCSD-72958** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/14/2024** | RunNo: **180466** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **72958** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/20/2024** | SeqNo: **4893055** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.97 | 1.00 | 8.260 | 0 | 84.4 | 70 | 130 | 7.560 | 8.12 | 20 | |

| Sample ID: **RLC3-72958** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/14/2024** | RunNo: **180466** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **72958** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/20/2024** | SeqNo: **4893057** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24020447**

***21-Feb-24***

**Client:** TEKLAB Inc,
**Project:** 24010118 **BatchID:** **72958**

| Sample ID: **RLC3-72958** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/14/2024** | RunNo: **180466** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **72958** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/20/2024** | SeqNo: **4893057** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.02 | 1.00 | 1.000 | 0 | 102 | 50 | 150 | | | | |

| Sample ID: **RLC4-72958** | SampType: **RLC** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **2/14/2024** | RunNo: **180466** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **72958** | TestNo: **E903.0** | **E903-904** | Analysis Date: **2/20/2024** | SeqNo: **4893058** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 79.0 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005 24020447

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

12.6-0.2: Cooler Temp: 12.4C Sampler: Teklab Sampler QC Level: 2
Fedex, cooler

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium (226 and 228) by method EPA903.0/904.0
on your standard turnaround time.
Batch QC is required with the report. Receipt summary requested.

Project# 24010118

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: 20 business days or less Billing/PO: 35748 Phone: (618) 344-1004 ext. 36

State of Origin: IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Any changes to analysis/methods must be approved by Teklab, Inc.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226 | Radium 228 | | CPM | | | | | PH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24010118-002 | 2/1/24 1316 | HNO3 | Groundwater | ✔ | ✔ | | 15 | | | | | 1 | | | |
| | 24010118-003 | 2/2/24 1102 | HNO3 | Groundwater | ✔ | ✔ | | 15 | | | | | 1 | | | |
| | 24010118-006 | 2/2/24 1007 | HNO3 | Groundwater | ✔ | ✔ | | 31 | | | | | 1 | | | |
| | 24010118-007 | 2/2/24 1029 | HNO3 | Groundwater | ✔ | ✔ | | 34 | | | | | 1 | | | |
| | 24010118-008 | 2/2/24 1054 | HNO3 | Groundwater | ✔ | ✔ | | 31 | | | | | 1 | | | |
| | 24010118-009 | 2/1/24 1427 | HNO3 | Groundwater | ✔ | ✔ | | 27 | | | | | 1 | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Simon Civallo | 2/5/24 1700 | [signature] | 2/7/24, 1130 |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24020447 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 2/7/2024 11:30:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 2/7/2024 1:22:39 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 2/7/2024 2:34:24 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 12.4 | Good | Not Present | | | |

March 21, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 24020902

Dear Eric Staley:

TEKLAB, INC received 5 samples on 2/23/2024 1:07:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24020902
**Report Date:** 21-Mar-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 12 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24020902

**Client Project:** FGDS Landfill **Report Date:** 21-Mar-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24020902
**Client Project:** FGDS Landfill
**Report Date:** 21-Mar-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24020902
**Client Project:** FGDS Landfill
**Report Date:** 21-Mar-24

**Cooler Receipt Temp:** 3.3 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 24020902
**Client Project:** FGDS Landfill
**Report Date:** 21-Mar-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2024 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2024 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2024 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24020902

**Client Project:** FGDS Landfill **Report Date:** 21-Mar-24

**Lab ID:** 24020902-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 02/23/2024 10:00

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 02/23/2024 10:00 | R343711 |
| Depth to water | * | -5.00 | | **3.86** | ft | 1 | 02/23/2024 10:00 | R343711 |
| Depth to water from measuring point | * | 0 | | **6.66** | ft | 1 | 02/23/2024 10:00 | R343711 |
| Elevation of groundwater surface | * | 0 | | **540.14** | ft | 1 | 02/23/2024 10:00 | R343711 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 02/23/2024 10:00 | R343711 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 02/23/2024 10:00 | R343711 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 02/23/2024 10:00 | R343711 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **50.9** | °F | 1 | 02/23/2024 10:00 | R343711 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.91** | | 1 | 02/23/2024 10:00 | R343711 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1270** | µmhos/cm @25C | 1 | 02/23/2024 10:00 | R343711 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **830** | mg/L | 2.5 | 02/26/2024 12:48 | R343638 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **275** | mg/L | 10 | 02/28/2024 15:25 | R343726 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.13** | mg/L | 1 | 02/26/2024 13:12 | R343547 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **106** | mg/L | 5 | 02/28/2024 15:20 | R343732 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0302** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Boron | NELAP | 0.0200 | | **0.126** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Calcium | NELAP | 0.100 | | **161** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Lithium | NELAP | 0.0050 | | **0.0139** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:46 | 219154 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 02/28/2024 16:16 | 219154 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 16:16 | 219154 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 16:16 | 219154 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 16:16 | 219154 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 03/06/2024 11:10 | 219512 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344590 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/08/2024 0:00 | R344590 |

**Client:** City Water, Light & Power **Work Order:** 24020902

**Client Project:** FGDS Landfill **Report Date:** 21-Mar-24

**Lab ID:** 24020902-002 **Client Sample ID:** G112

**Matrix:** GROUNDWATER **Collection Date:** 02/22/2024 12:49

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.99** | ft | 1 | 02/22/2024 12:49 | R343711 |
| Depth to water | * | -5.00 | | **24.32** | ft | 1 | 02/22/2024 12:49 | R343711 |
| Depth to water from measuring point | * | 0 | | **26.50** | ft | 1 | 02/22/2024 12:49 | R343711 |
| Elevation of groundwater surface | * | 0 | | **528.30** | ft | 1 | 02/22/2024 12:49 | R343711 |
| Measuring Point Elevation | * | 0 | | **554.80** | ft | 1 | 02/22/2024 12:49 | R343711 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.18** | ft | 1 | 02/22/2024 12:49 | R343711 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 02/22/2024 12:49 | R343711 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.6** | °F | 1 | 02/22/2024 12:49 | R343711 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.93** | | 1 | 02/22/2024 12:49 | R343711 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1020** | µmhos/cm @25C | 1 | 02/22/2024 12:49 | R343711 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **875** | mg/L | 2.5 | 02/23/2024 12:35 | R343558 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **229** | mg/L | 10 | 02/23/2024 13:32 | R343641 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.15** | mg/L | 1 | 02/23/2024 13:41 | R343485 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 40 | | **130** | mg/L | 10 | 02/23/2024 13:32 | R343643 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.436** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Boron | NELAP | 0.0200 | | **0.276** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Calcium | NELAP | 0.100 | | **185** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Lithium | NELAP | 0.0050 | | **0.0132** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:31 | 219117 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 5:12 | 219117 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 5:12 | 219117 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 5:12 | 219117 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 5:12 | 219117 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 03/06/2024 11:13 | 219512 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/11/2024 0:00 | R344590 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/11/2024 0:00 | R344590 |

**Client:** City Water, Light & Power **Work Order:** 24020902

**Client Project:** FGDS Landfill **Report Date:** 21-Mar-24

**Lab ID:** 24020902-003 **Client Sample ID:** G113

**Matrix:** GROUNDWATER **Collection Date:** 02/23/2024 9:28

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **524.85** | ft | 1 | 02/23/2024 9:28 | R343711 |
| Depth to water | * | -5.00 | | **1.62** | ft | 1 | 02/23/2024 9:28 | R343711 |
| Depth to water from measuring point | * | 0 | | **4.12** | ft | 1 | 02/23/2024 9:28 | R343711 |
| Elevation of groundwater surface | * | 0 | | **533.58** | ft | 1 | 02/23/2024 9:28 | R343711 |
| Measuring Point Elevation | * | 0 | | **537.70** | ft | 1 | 02/23/2024 9:28 | R343711 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 02/23/2024 9:28 | R343711 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **16** | NTU | 1 | 02/23/2024 9:28 | R343711 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **46.9** | °F | 1 | 02/23/2024 9:28 | R343711 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.08** | | 1 | 02/23/2024 9:28 | R343711 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1980** | µmhos/cm @25C | 1 | 02/23/2024 9:28 | R343711 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1540** | mg/L | 2.5 | 02/26/2024 12:49 | R343638 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **393** | mg/L | 20 | 02/28/2024 15:33 | R343726 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.24** | mg/L | 1 | 02/26/2024 13:15 | R343547 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **78** | mg/L | 5 | 02/28/2024 15:28 | R343732 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.374** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Boron | NELAP | 0.0200 | | **1.10** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Calcium | NELAP | 0.100 | | **363** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Lithium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:48 | 219154 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 03/01/2024 16:52 | 219154 |
| Arsenic | NELAP | 0.0010 | | **0.0029** | mg/L | 5 | 02/28/2024 16:22 | 219154 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 16:22 | 219154 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 16:22 | 219154 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 03/06/2024 11:15 | 219512 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/11/2024 0:00 | R344590 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/11/2024 0:00 | R344590 |

**Client:** City Water, Light & Power **Work Order:** 24020902

**Client Project:** FGDS Landfill **Report Date:** 21-Mar-24

**Lab ID:** 24020902-004 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 02/21/2024 10:51

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 02/21/2024 10:51 | R343711 |
| Depth to water | * | -5.00 | | **0.57** | ft | 1 | 02/21/2024 10:51 | R343711 |
| Depth to water from measuring point | * | 0 | | **3.87** | ft | 1 | 02/21/2024 10:51 | R343711 |
| Elevation of groundwater surface | * | 0 | | **526.11** | ft | 1 | 02/21/2024 10:51 | R343711 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 02/21/2024 10:51 | R343711 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 02/21/2024 10:51 | R343711 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **37** | NTU | 1 | 02/21/2024 10:51 | R343711 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.9** | °F | 1 | 02/21/2024 10:51 | R343711 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.71** | | 1 | 02/21/2024 10:51 | R343711 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1110** | µmhos/cm @25C | 1 | 02/21/2024 10:51 | R343711 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **760** | mg/L | 5 | 02/23/2024 13:45 | R343558 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **155** | mg/L | 5 | 02/22/2024 22:21 | R343452 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 02/23/2024 13:21 | R343485 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **31** | mg/L | 1 | 02/22/2024 22:16 | R343454 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.626** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Boron | NELAP | 0.0200 | | **2.79** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Calcium | NELAP | 0.100 | S | **150** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Lithium | NELAP | 0.0050 | | **0.0064** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/26/2024 19:54 | 219134 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 3:31 | 219134 |
| Arsenic | NELAP | 0.0010 | | **0.0235** | mg/L | 5 | 02/28/2024 17:34 | 219134 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/28/2024 3:31 | 219134 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/28/2024 17:34 | 219134 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 03/06/2024 11:17 | 219512 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/11/2024 0:00 | R344590 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/11/2024 0:00 | R344590 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24020902
**Client Project:** FGDS Landfill
**Report Date:** 21-Mar-24

**Carrier:** Tracy Carroll
**Received By:** AMD

**Completed by:** Amber Dilallo
**On:** 22-Feb-24

**Reviewed by:** Ellie Hopkins
**On:** 23-Feb-24

**Pages to follow:** Chain of custody 3 Extra pages included 33

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 3.3 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #90719. - amberdilallo - 2/22/2024 8:43:14 AM

Samples were received on 2/22/24 at 15:40 on ice [7.3C - LTG5]. pH strip #90719. - amberdilallo - 2/22/2024 4:38:19 PM

Samples were received on 2/23/24 at 13:07 on ice [6.7C - LTG#7]. pH strip #90719. Additional Nitric Acid (96331) was needed for R101 & G113 upon arrival at the laboratory. - nickreed - 2/23/2024 2:44:53 PM

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24020902

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.3 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY LTGS
LAB NOTES: 0014

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24010117-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
TGandi

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24020902-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -002 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -003 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -004 | AW-2 | 2/21/24 1051 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -005 | RW-3 | 2/21/24 1138 | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| TGandi | 2/21/24 1715 | | 2/21/24 1715 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24020902

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 1.3 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY LTCS
LAB NOTES: 90719

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24010117-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
TCarrd

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24020902-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -002 | G112 | 2/22/24 1249 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -003 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -004 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -005 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carrell | 2/22/24 3:40 | Emily Sackett | 2/22/24 1540 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24020902

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 6.7 °C 7
Preserved in: [x] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: ph ✓ 90719 added HNO3 to 2 liters ES 2/23/24 (960331)

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24010117-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Culp

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24020902-001 | R101 | 2-23-24 / 1000 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -002 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -003 | G113 | 2-23-24 / 0928 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -004 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -005 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Coup | 2-23-24 1:07 | Whitney Glynn | 2/23/24 1:07 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

ES

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Landfill- 1Q 2024**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | R101 | Groundwater Sample | 43.0 | None | SE | Clear | Good | Good | Good | Yes | Yes |
| 002 | G112 | Groundwater Sample | 62.0 | None | W | Clear | Good | Good | Good | Yes | **No** |
| 003 | G113 | Groundwater Sample | 42.0 | None | SE | Clear | Good | Good | Good | Yes | **No** |
| 004 | AW-2 | Groundwater Sample | 54.0 | None | N | Clear | Good | Good | Good | Yes | **No** |
| 005 | RW-3 | Groundwater Sample | 57.0 | None | N | Clear | Good | Good | Good | Yes | **No** |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Landfill- 1Q 2024**

| | | GW Level Measurement | | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Water Column** | **Sampler Initials** | **Purge Date** | **Purge Start Time** | **Purge End Time** | **Purging Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 001 | R101 | JC | 2/23/24 9:47 | 6.66 | 35.27 | 28.61 | JC | 2/23/2024 | 09:47 | 10:00 | Submersible Pump | 2" | 3.0 | 230.8 |
| 002 | G112 | TAC | 2/22/24 12:25 | 26.50 | 58.81 | 32.31 | DC | 2/22/2024 | 12:25 | 12:49 | Submersible Pump | 2" | 7.0 | 291.7 |
| 003 | G113 | JC | 2/23/24 9:11 | 4.12 | 12.85 | 8.73 | JC | 2/23/2024 | 09:18 | 09:28 | Submersible Pump | 2" | 2.5 | 250.0 |
| 004 | AW-2 | DC | 2/21/24 10:07 | 3.87 | 32.64 | 28.77 | DC | 2/21/2024 | 10:26 | 10:51 | Peristaltic Pump | 2" | 6.0 | 240.0 |
| 005 | RW-3 | DC | 2/21/24 11:20 | 9.10 | 44.01 | 34.91 | DC | 2/21/2024 | 11:21 | 11:38 | Bladder Pump | 2" | 4.0 | 235.3 |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Landfill- 1Q 2024**

| | | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date** | **Time** | **Sampling Method** | **Field Filtered** | **Appearance** | **Odor** | **Color** | **Post-Sample DTW (ft)** | **Drawdown (ft)** |
| 001 | R101 | JC | 02/23/24 | 10:00 | Low Flow | Yes | Clear | Slight | none | 9.12 | **2.46** |
| 002 | G112 | TAC | 02/22/24 | 12:49 | Low Flow | Yes | Clear | None | None | 32.75 | **6.25** |
| 003 | G113 | JC | 02/23/24 | 09:28 | Low Flow | Yes | Clear | Moderate | none | 7.21 | **3.09** |
| 004 | AW-2 | TAC | 02/21/24 | 10:51 | Low Flow | Yes | Clear | None | Lt Rust | 4.00 | 0.13 |
| 005 | RW-3 | TAC | 02/21/24 | 11:38 | Low Flow | Yes | Clear | None | None | 13.25 | **4.15** |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s):** DC, JC, TC, BG

**Groundwater Sampling Summary**
**CWLP- Landfill- 1Q 2024**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | R101 | |
| 002 | G112 | |
| 003 | G113 | |
| 004 | AW-2 | |
| 005 | RW-3 | |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s)**: DC, JC, TC, BG

**Stabilized Field Parameters Summary**
**CWLP- Landfill- 1Q 2024**

| Well ID | Date | Time | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 2/23/2024 | 10:00 | 10.5 | 50.9 | 6.91 | 1,266.9 | 6.73 | 12.31 | 14.7 | 6.66 | 24020902-001A |
| G112 | 2/22/2024 | 12:49 | 13.1 | 55.6 | 6.93 | 1,022.2 | 0.48 | 11.94 | -55.2 | 26.50 | 24020902-002A |
| G113 | 2/23/2024 | 9:28 | 8.3 | 46.9 | 6.08 | 1,981.9 | 4.34 | 15.80 | -104.4 | 4.12 | 24020902-003A |
| AW-2 | 2/21/2024 | 10:51 | 13.3 | 55.9 | 6.71 | 1,106.3 | 1.45 | 36.78 | -66.4 | 3.87 | 24020902-004A |
| RW-3 | 2/21/2024 | 11:38 | 14.0 | 57.2 | 7.10 | 647.6 | 0.78 | 124.34 | -134.4 | 9.10 | 24020902-005A |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s)**: DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Landfill- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 2/23/2024 | 9:51 | 6.66 | 10.4 | 50.7 | 6.92 | 1,279.1 | 7.66 | 18.12 | -0.8 |
| R101 | 2/23/2024 | 9:54 | 6.66 | 10.8 | 51.4 | 6.91 | 1,267.1 | 7.08 | 16.26 | 4.7 |
| R101 | 2/23/2024 | 9:57 | 6.66 | 10.5 | 50.9 | 6.91 | 1,265.3 | 6.88 | 14.27 | 10.0 |
| R101 | 2/23/2024 | 10:00 | 6.66 | 10.5 | 50.9 | 6.91 | 1,266.9 | 6.73 | 12.31 | 14.7 |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s)**: DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Landfill- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G112 | 2/22/2024 | 12:40 | 26.50 | 13.2 | 55.8 | 6.95 | 1,059.2 | 0.59 | 10.72 | -26.5 |
| G112 | 2/22/2024 | 12:43 | 26.50 | 13.1 | 55.6 | 6.95 | 1,043.5 | 0.54 | 10.44 | -39.3 |
| G112 | 2/22/2024 | 12:46 | 26.50 | 13.1 | 55.6 | 6.94 | 1,029.5 | 0.51 | 10.93 | -48.5 |
| G112 | 2/22/2024 | 12:49 | 26.50 | 13.1 | 55.6 | 6.93 | 1,022.2 | 0.48 | 11.94 | -55.2 |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s)**: DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Landfill- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G113 | 2/23/2024 | 9:22 | 4.12 | 8.0 | 46.4 | 6.00 | 1,974.6 | 5.56 | 49.84 | -72.7 |
| G113 | 2/23/2024 | 9:25 | 4.12 | 8.3 | 46.9 | 6.06 | 1,973.4 | 4.78 | 17.04 | -93.0 |
| G113 | 2/23/2024 | 9:28 | 4.12 | 8.3 | 46.9 | 6.08 | 1,981.9 | 4.34 | 15.80 | -104.4 |

**Site Samping Event:** CWLP Landfill- 1Q24
**LIMS Workorder:** 24020902
**Technician(s)**: DC, JC, TC, BG

**Groundwater Sampling Form- Groundwater Quality Parameters**
**CWLP- Landfill- 1Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µS/cm) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AW-2 | 2/21/2024 | 10:42 | 3.87 | 13.2 | 55.8 | 6.70 | 1,123.6 | 1.69 | 67.26 | -33.8 |
| AW-2 | 2/21/2024 | 10:45 | 3.87 | 13.3 | 55.9 | 6.70 | 1,119.4 | 1.61 | 84.98 | -49.2 |
| AW-2 | 2/21/2024 | 10:48 | 3.87 | 13.3 | 55.9 | 6.71 | 1,111.8 | 1.52 | 61.84 | -59.2 |
| AW-2 | 2/21/2024 | 10:51 | 3.87 | 13.3 | 55.9 | 6.71 | 1,106.3 | 1.45 | 36.78 | -66.4 |

Second Quarter 2024

July 15, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 24050003

Dear Eric Staley:

TEKLAB, INC received 20 samples on 5/14/2024 2:39:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24050003
**Report Date:** 15-Jul-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 27 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050003

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 15-Jul-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24050003

**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 15-Jul-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24050003
**Report Date:** 15-Jul-24

**Cooler Receipt Temp:** 12.1 °C

This report was revised on July 15, 2024 per Eric Staley's request to report the reanalysis of Cobalt for AP-11. Please replace report dated June 18, 2024 with this report. SAH 7/15/24

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24050003

**Report Date:** 15-Jul-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050003
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 15-Jul-24
**Lab ID:** 24050003-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 05/09/2024 12:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 05/09/2024 12:12 | R347528 |
| Depth to water | * | -5.00 | | **5.17** | ft | 1 | 05/09/2024 12:12 | R347528 |
| Depth to water from measuring point | * | 0 | | **7.87** | ft | 1 | 05/09/2024 12:12 | R347528 |
| Elevation of groundwater surface | * | 0 | | **531.63** | ft | 1 | 05/09/2024 12:12 | R347528 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 05/09/2024 12:12 | R347528 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 05/09/2024 12:12 | R347528 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **23** | NTU | 1 | 05/09/2024 12:12 | R347528 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.1** | °F | 1 | 05/09/2024 12:12 | R347528 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.70** | | 1 | 05/09/2024 12:12 | R347528 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **644** | µmhos/cm @25C | 1 | 05/09/2024 12:12 | R347528 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **345** | mg/L | 2.5 | 05/15/2024 12:24 | R347402 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **< 10** | mg/L | 1 | 05/21/2024 0:32 | R347580 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.40** | mg/L | 1 | 05/20/2024 13:43 | R347555 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **28** | mg/L | 1 | 05/21/2024 0:32 | R347642 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.143** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Boron | NELAP | 0.0200 | | **0.154** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Calcium | NELAP | 0.100 | | **65.6** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/20/2024 11:21 | 222813 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/15/2024 13:36 | 222813 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/14/2024 16:35 | 222813 |
| Arsenic | NELAP | 0.0010 | | **0.188** | mg/L | 5 | 05/14/2024 16:35 | 222813 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/14/2024 16:35 | 222813 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 17:05 | 222813 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/24/2024 9:40 | 223373 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |

**Client:** City Water, Light & Power
**Work Order:** 24050003
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 15-Jul-24
**Lab ID:** 24050003-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 05/13/2024 11:53

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 05/13/2024 11:53 | R347528 |
| Depth to water | * | -5.00 | | **4.55** | ft | 1 | 05/13/2024 11:53 | R347528 |
| Depth to water from measuring point | * | 0 | | **7.05** | ft | 1 | 05/13/2024 11:53 | R347528 |
| Elevation of groundwater surface | * | 0 | | **529.05** | ft | 1 | 05/13/2024 11:53 | R347528 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 05/13/2024 11:53 | R347528 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 05/13/2024 11:53 | R347528 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.9** | NTU | 1 | 05/13/2024 11:53 | R347528 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.2** | °F | 1 | 05/13/2024 11:53 | R347528 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.21** | | 1 | 05/13/2024 11:53 | R347528 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1290** | µmhos/cm @25C | 1 | 05/13/2024 11:53 | R347528 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1040** | mg/L | 2.5 | 05/17/2024 10:40 | R347497 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **411** | mg/L | 20 | 05/21/2024 0:48 | R347580 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.23** | mg/L | 1 | 05/20/2024 13:46 | R347555 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **36** | mg/L | 2 | 05/21/2024 0:43 | R347642 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0607** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Boron | NELAP | 0.0200 | | **3.43** | mg/L | 1 | 05/29/2024 12:39 | 223266 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Calcium | NELAP | 0.100 | | **194** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Cobalt | NELAP | 0.0050 | | **0.0102** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/30/2024 10:36 | 223266 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/22/2024 13:30 | 223266 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0021** | mg/L | 5 | 05/22/2024 19:34 | 223266 |
| Arsenic | NELAP | 0.0010 | | **0.0020** | mg/L | 5 | 05/22/2024 19:34 | 223266 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/22/2024 19:34 | 223266 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/22/2024 19:34 | 223266 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2024 16:22 | 223231 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |

**Client:** City Water, Light & Power
**Work Order:** 24050003
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 15-Jul-24
**Lab ID:** 24050003-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 05/13/2024 12:43

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.75** | ft | 1 | 05/13/2024 12:43 | R347528 |
| Depth to water | * | -5.00 | | **6.46** | ft | 1 | 05/13/2024 12:43 | R347528 |
| Depth to water from measuring point | * | 0 | | **9.11** | ft | 1 | 05/13/2024 12:43 | R347528 |
| Elevation of groundwater surface | * | 0 | | **526.44** | ft | 1 | 05/13/2024 12:43 | R347528 |
| Measuring Point Elevation | * | 0 | | **535.55** | ft | 1 | 05/13/2024 12:43 | R347528 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.65** | ft | 1 | 05/13/2024 12:43 | R347528 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.7** | NTU | 1 | 05/13/2024 12:43 | R347528 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.9** | °F | 1 | 05/13/2024 12:43 | R347528 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.36** | | 1 | 05/13/2024 12:43 | R347528 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1220** | µmhos/cm @25C | 1 | 05/13/2024 12:43 | R347528 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1040** | mg/L | 2.5 | 05/17/2024 10:40 | R347497 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **493** | mg/L | 20 | 05/21/2024 0:56 | R347580 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.19** | mg/L | 1 | 05/20/2024 13:48 | R347555 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **53** | mg/L | 2 | 05/21/2024 0:51 | R347642 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0767** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Boron | NELAP | 0.0200 | | **14.5** | mg/L | 1 | 05/29/2024 13:26 | 223235 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Calcium | NELAP | 0.100 | | **176** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Cobalt | NELAP | 0.0050 | | **0.0065** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/30/2024 10:43 | 223235 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/23/2024 13:19 | 223235 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/23/2024 22:39 | 223235 |
| Arsenic | NELAP | 0.0010 | | **0.0021** | mg/L | 5 | 05/23/2024 22:39 | 223235 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/23/2024 22:39 | 223235 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2024 22:39 | 223235 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2024 16:24 | 223231 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |

**Client:** City Water, Light & Power
**Work Order:** 24050003
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 15-Jul-24
**Lab ID:** 24050003-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 05/14/2024 11:21

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 05/14/2024 11:21 | R347528 |
| Depth to water | * | -5.00 | | **7.21** | ft | 1 | 05/14/2024 11:21 | R347528 |
| Depth to water from measuring point | * | 0 | | **9.87** | ft | 1 | 05/14/2024 11:21 | R347528 |
| Elevation of groundwater surface | * | 0 | | **529.15** | ft | 1 | 05/14/2024 11:21 | R347528 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 05/14/2024 11:21 | R347528 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 05/14/2024 11:21 | R347528 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **18** | NTU | 1 | 05/14/2024 11:21 | R347528 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.5** | °F | 1 | 05/14/2024 11:21 | R347528 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.15** | | 1 | 05/14/2024 11:21 | R347528 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **441** | µmhos/cm @25C | 1 | 05/14/2024 11:21 | R347528 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **340** | mg/L | 2.5 | 05/17/2024 10:41 | R347497 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **11** | mg/L | 1 | 05/21/2024 1:49 | R347580 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.38** | mg/L | 1 | 05/20/2024 14:04 | R347555 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **43** | mg/L | 1 | 05/21/2024 1:50 | R347642 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0915** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Boron | NELAP | 0.0200 | | **0.0978** | mg/L | 1 | 05/24/2024 14:23 | 223235 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Calcium | NELAP | 0.100 | | **52.3** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/30/2024 10:48 | 223235 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/23/2024 13:36 | 223235 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/23/2024 22:58 | 223235 |
| Arsenic | NELAP | 0.0010 | | **0.0395** | mg/L | 5 | 05/23/2024 22:58 | 223235 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/23/2024 22:58 | 223235 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2024 22:58 | 223235 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2024 19:09 | 223259 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |

**Client:** City Water, Light & Power
**Work Order:** 24050003
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 15-Jul-24
**Lab ID:** 24050003-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 05/10/2024 10:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 05/10/2024 10:35 | R347528 |
| Depth to water | * | -5.00 | | **0.84** | ft | 1 | 05/10/2024 10:35 | R347528 |
| Depth to water from measuring point | * | 0 | | **3.74** | ft | 1 | 05/10/2024 10:35 | R347528 |
| Elevation of groundwater surface | * | 0 | | **533.46** | ft | 1 | 05/10/2024 10:35 | R347528 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 05/10/2024 10:35 | R347528 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 05/10/2024 10:35 | R347528 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **34** | NTU | 1 | 05/10/2024 10:35 | R347528 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.3** | °F | 1 | 05/10/2024 10:35 | R347528 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.03** | | 1 | 05/10/2024 10:35 | R347528 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **917** | µmhos/cm @25C | 1 | 05/10/2024 10:35 | R347528 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **590** | mg/L | 2.5 | 05/15/2024 15:57 | R347402 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | SR | **< 10** | mg/L | 1 | 05/21/2024 1:59 | R347580 |
| *Matrix spike and RPD did not recover within control limits due to matrix interference.* | | | | | | | | |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.28** | mg/L | 1 | 05/20/2024 14:14 | R347555 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 8 | | **26** | mg/L | 2 | 05/21/2024 2:27 | R347642 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.373** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Boron | NELAP | 0.0200 | | **0.0877** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Calcium | NELAP | 0.100 | | **99.4** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/20/2024 11:24 | 222813 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/15/2024 13:37 | 222813 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/14/2024 16:46 | 222813 |
| Arsenic | NELAP | 0.0010 | | **0.0461** | mg/L | 5 | 05/14/2024 16:46 | 222813 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/14/2024 16:46 | 222813 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 17:15 | 222813 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/24/2024 19:41 | 223389 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/03/2024 0:00 | R348779 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24050003
**Report Date:** 15-Jul-24

**Carrier:** Daniel Crump

**Received By:** NR

**Completed by:** Paul Schultz
**On:** 10-May-24

**Reviewed by:** Ellie Hopkins
**On:** 14-May-24

**Pages to follow:** Chain of custody 6 Extra pages included 74

| | | | | | |
|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 12.1 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #96651. - pschultz - 5/10/2024 9:15:35 AM
Additional Nitric Acid (97737) was needed for sample T-2 upon arrival at the laboratory. - pschultz - 5/10/2024 9:15:38 AM

Samples were received on 5/10/2024 at 13:30 on ice [8.3C - LTG#7]. pH strip #96651. WO - pschultz - 5/10/2024 2:41:25 PM

Samples were received on 5/13/2024 at 16:10 on ice [19.3C - LTG#7]. pH strip #96651. NR - pschultz - 5/13/2024 4:45:02 PM
Additional Nitric Acid (97737) was needed for AR-10 upon arrival at the laboratory. NR - pschultz - 5/13/2024 4:45:05 PM

Samples were received on 5/14/2024 at 14:39 on ice [8.1C - LTG#7]. pH strip #96651. NR - pschultz - 5/14/2024 3:02:50 PM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050003

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 12.1 °C LT6#5
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH/Yes/S1
Added $HNO_3$ (9225) to T-2 5/5/10

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TCarrell

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050003-001 | RW-3 | 5/9/24 1212 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-9 1635 | Krista Reed | 5/9/24 1635 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24050003

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 12.1 °C LTG#5
Preserved in: [ ] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
TCarroll

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050003-012 | AP-11 14:28 | 5/9/24 TE SAH 5/22/24 ~~11:10~~ | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 013 | AP-12 | 5/9/24 13:14 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 014 | AP-13 | 5/9/24 1350 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 016 | T-1 11:10 | 5/9/24 TE SAH 5/22/24 ~~1428~~ | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 017 | T-2 | 5/9/24 1145 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-9/1635 | [illegible] | 5/9/24 1635 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050003

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

LT6-7

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 8.3 °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH ✓ 96652 5/10 WD

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050003-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 5-10-24 / 1013 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 5-10-24 / 1035 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 5-10-24 / 1330 | [signature] | 5/10/24 13:30 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050003

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 19.3 °C CTG-7
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: Added $HNO_3$ (97737) to AR-10 96651 MM 5/13

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| Ash Pond Monitoring Wells | Justin Colp |

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050003-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | 5-13-24 / 1101 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | 5-13-24 / 1153 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | 5-13-24 / 1243 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | 5-13-24 / 1325 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | ~~5-13-24~~ | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | 5-13-24 / 1408 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-13-24 / 1610 | Whitney Queen | 5/13/24 1610 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050003

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 6.0 °C LAB#1
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: 9651 MA 5/14

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| Ash Pond Monitoring Wells | Justin Gay |

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050003-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | 5-14-24 / 0954 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 5-14-24 / 1121 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 5-14-24 / 1145 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-14-24 / 1439 | [signature] | 5/14/24 1439 |

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24050003

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050003-012 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 5-14-24 / 1038 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | 5-14-24 / 1236 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | 5-14-24 / 1103 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | 5-14-24 / 1155 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Gump | 5-14-24 / 1439 | | 5/14/24 1439 |
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**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- Ash Ponds- 2Q 2024**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | RW-3 | Groundwater Sample | 73.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |
| 002 | AP-1 | Groundwater Sample | 68.0 | None | N | Cloudy | Good | Good | Good | Yes | No |
| 003 | AP-2 | Groundwater Sample | 70.0 | None | N | Cloudy | Good | Good | Good | Yes | No |
| 004 | AP-3 | Groundwater Sample | 69.0 | Light | N | Cloudy | Good | Good | Good | Yes | No |
| 005 | AP-4 | Groundwater Sample | 73.0 | None | S | Cloudy | Good | Good | Good | Yes | No |
| 006 | AP-5 | Groundwater Sample | 64.0 | Light | E | Cloudy | Good | Good | Good | Yes | No |
| 007 | AP-6 | Groundwater Sample | 68.0 | None | W | Partly cloudy | Good | Good | Good | Yes | No |
| 008 | AP-7 | Groundwater Sample | 65.0 | None | E | Cloudy | Good | Good | Good | Yes | No |
| 009 | AP-8 | Groundwater Sample | 59.0 | None | E | Clear | Good | Good | Good | Yes | No |
| 010 | AP-9 | Groundwater Sample | 65.0 | None | E | Cloudy | Good | Good | Good | Yes | No |
| 011 | AP-10 | Groundwater Sample | 71.0 | Light | N | Partly cloudy | Good | Good | Good | Yes | No |
| 012 | AP-11 | Groundwater Sample | 72.0 | None | E | Partly cloudy | Good | Good | Good | Yes | No |
| 013 | AP-12 | Groundwater Sample | 72.0 | None | E | Cloudy | Good | Good | Good | Yes | No |
| 014 | AP-13 | Groundwater Sample | 72.0 | None | E | Partly cloudy | Good | Good | Good | Yes | No |
| 015 | AP-14 | Groundwater Sample | 64.0 | Heavy | E | Cloudy | Good | Good | Good | Yes | No |
| 016 | T-1 | Groundwater Sample | 70.0 | None | E | Cloudy | Good | Good | Good | Yes | No |
| 017 | T-2 | Groundwater Sample | 71.0 | None | E | Cloudy | Good | Good | Good | Yes | No |
| 018 | T-4 | Groundwater Sample | 70.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 019 | T-5 | Groundwater Sample | 65.0 | Light | W | Cloudy | Good | Good | Good | Yes | No |
| 020 | T-6 | Groundwater Sample | 68.0 | None | W | Cloudy | Good | Good | Good | Yes | No |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- Ash Ponds- 2Q 2024**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date/Time** | **DTW (ft)** | **DTB (ft)** | **Sampler Initials** | **Purge Date** | **Purge Start Time** | **Purge End Time** | **Purging/Sampling Device** | **Well Diameter (in)** | **Actual Volume Purged (L)** | **Purge Rate (mL/min)** |
| 001 | RW-3 | TAC | 5/9/24 11:19 | 7.87 | 44.01 | TAC | 5/9/2024 | 11:23 | 12:12 | Bladder Pump | 2" | 9.0 | 183.7 |
| 002 | AP-1 | PY | 5/13/24 10:25 | 8.88 | 31.08 | PY | 5/13/2024 | 10:29 | 11:01 | Bladder Pump | 2" | 11.0 | 343.7 |
| 003 | AP-2 | PY | 5/13/24 11:24 | 7.05 | 21.33 | PY | 5/13/2024 | 11:25 | 11:53 | Bladder Pump | 2" | 11.0 | 392.9 |
| 004 | AP-3 | PY | 5/13/24 12:10 | 9.11 | 20.80 | PY | 5/13/2024 | 12:12 | 12:43 | Bladder Pump | 2" | 13.0 | 419.4 |
| 005 | AP-4 | JC | 5/13/24 13:08 | 8.68 | 60.41 | JC | 5/13/2024 | 13:08 | 13:25 | Bladder Pump | 2" | 5.0 | 294.1 |
| 006 | AP-5 | JC | 5/14/24 9:43 | 13.60 | 31.27 | JC | 5/14/2024 | 09:43 | 09:54 | Bladder Pump | 2" | 3.0 | 272.7 |
| 007 | AP-6 | TAC | 5/10/24 9:25 | 6.57 | 39.62 | TAC | 5/10/2024 | 09:26 | 10:13 | Bladder Pump | 2" | 8.0 | 170.2 |
| 008 | AP-7 | JC | 5/14/24 11:00 | 9.87 | 42.52 | JC | 5/14/2024 | 11:01 | 11:21 | Bladder Pump | 2" | 4.0 | 200.0 |
| 009 | AP-8 | BG | 5/10/24 9:54 | 3.74 | 39.60 | BG | 5/10/2024 | 09:54 | 10:35 | Peristaltic Pump | 2" | 5.0 | 122.0 |
| 010 | AP-9 | JC | 5/14/24 11:31 | 11.87 | 39.60 | JC | 5/28/1901 | 11:31 | 11:45 | Bladder Pump | 2" | 4.0 | 285.7 |
| 011 | AP-10 | PY | 5/13/24 13:16 | 2.54 | 38.07 | PY | 5/13/2024 | 13:23 | 14:08 | Peristaltic Pump | 2" | 13.5 | 300.0 |
| 012 | AP-11 | BG | 5/9/24 13:59 | 9.75 | 22.95 | BG | 5/9/2024 | 13:59 | 14:28 | Peristaltic Pump | 2" | 8.5 | 293.1 |
| 013 | AP-12 | BG | 5/9/24 12:26 | 12.24 | 30.40 | BG | 5/9/2024 | 12:26 | 13:14 | Peristaltic Pump | 2" | 5.0 | 104.2 |
| 014 | AP-13 | BG | 5/9/24 13:26 | 10.82 | 31.00 | BG | 5/9/2024 | 13:26 | 13:50 | Peristaltic Pump | 2" | 2.0 | 83.3 |
| 015 | AP-14 | JC | 5/14/24 10:12 | 1.55 | 31.20 | JC | 5/14/2024 | 10:12 | 10:38 | Submersible Pump | 2" | 10.0 | 384.6 |
| 016 | T-1 | BG | 5/9/24 12:15 | 9.78 | 22.95 | BG | 5/9/2024 | 10:44 | 11:10 | Peristaltic Pump | 2" | 3.0 | 115.4 |
| 017 | T-2 | BG | 5/9/24 11:22 | 19.25 | 34.44 | BG | 5/9/2024 | 11:22 | 11:45 | Peristaltic Pump | 2" | 3.0 | 130.4 |
| 018 | T-4 | PY | 5/14/24 12:09 | 12.72 | 27.42 | PY | 5/14/2024 | 12:10 | 12:36 | Peristaltic Pump | 2" | 8.0 | 307.7 |
| 019 | T-5 | PY | 5/14/24 10:26 | 5.30 | 22.34 | Py | 5/14/2024 | 10:31 | 11:03 | Peristaltic Pump | 2" | 8.0 | 250.0 |
| 020 | T-6 | py | 5/14/24 11:15 | 8.45 | 43.62 | PY | 5/14/2024 | 11:20 | 11:55 | Peristaltic Pump | 2" | 8.0 | 228.6 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- Ash Ponds- 2Q 2024**

| | | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date** | **Time** | **Sampling Method** | **Field Filtered** | **Appearance** | **Odor** | **Color** | **Post-Sample DTW (ft)** | **Drawdown (ft)** |
| 001 | RW-3 | TAC | 05/09/24 | 12:12 | Low Flow | Yes | Clear | None | None | 14.87 | **7.00** |
| 002 | AP-1 | TAC | 05/13/24 | 11:01 | Low Flow | No | Clear | None | None | 9.26 | 0.38 |
| 003 | AP-2 | TAC | 05/13/24 | 11:53 | Low Flow | No | Clear | None | None | 7.17 | 0.12 |
| 004 | AP-3 | TAC | 05/13/24 | 12:43 | Low Flow | No | Clear | None | None | 9.30 | 0.19 |
| 005 | AP-4 | JC | 05/13/24 | 13:25 | Low Flow | No | Clear | None | none | 9.05 | 0.37 |
| 006 | AP-5 | JC | 05/14/24 | 09:54 | Low Flow | No | Clear | None | none | 14.51 | **0.91** |
| 007 | AP-6 | TAC | 05/10/24 | 10:13 | Low Flow | No | Clear | None | None | 15.10 | **8.53** |
| 008 | AP-7 | JC | 05/14/24 | 11:21 | Low Flow | No | Clear | None | none | 12.47 | **2.60** |
| 009 | AP-8 | BG | 05/10/24 | `1035 | Low Flow | No | Clear | None | CLEAR | 4.04 | 0.30 |
| 010 | AP-9 | JC | 05/14/24 | 11:45 | Low Flow | No | Slightly cloudy | None | lt brown | 12.46 | **0.59** |
| 011 | AP-10 | TAC | 05/13/24 | 14:08 | Low Flow | No | Clear | None | None | 2.81 | 0.27 |
| 012 | AP-11 | BG | 05/09/24 | 14:28 | Low Flow | No | Slightly cloudy | Slight | LT BROWN | 9.86 | 0.11 |
| 013 | AP-12 | BG | 05/09/24 | 13:14 | Low Flow | No | Cloudy | Moderate | GRAY | 13.25 | **1.01** |
| 014 | AP-13 | BG | 05/09/24 | 13:50 | Low Flow | No | Clear | Slight | Lt GRAY | 11.02 | 0.20 |
| 015 | AP-14 | JC | 05/14/24 | 10:38 | Low Flow | No | Clear | None | none | 1.89 | 0.34 |
| 016 | T-1 | BG | 05/09/24 | 11:10 | Low Flow | No | Clear | None | Clear | 10.42 | **0.64** |
| 017 | T-2 | BG | 05/09/24 | 11:45 | Low Flow | No | Clear | None | CLEAR | 20.12 | **0.87** |
| 018 | T-4 | TAC | 05/14/24 | 12:36 | Low Flow | No | Clear | None | None | 14.26 | **1.54** |
| 019 | T-5 | TAC | 05/14/24 | 11:03 | Low Flow | No | Clear | None | None | 6.36 | **1.06** |
| 020 | T-6 | TAC | 05/14/24 | 11:55 | Low Flow | No | Clear | None | None | 8.89 | 0.44 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- Ash Ponds- 2Q 2024**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | RW-3 | |
| 002 | AP-1 | |
| 003 | AP-2 | |
| 004 | AP-3 | |
| 005 | AP-4 | |
| 006 | AP-5 | |
| 007 | AP-6 | |
| 008 | AP-7 | |
| 009 | AP-8 | |
| 010 | AP-9 | |
| 011 | AP-10 | |
| 012 | AP-11 | |
| 013 | AP-12 | |
| 014 | AP-13 | |
| 015 | AP-14 | |
| 016 | T-1 | |
| 017 | T-2 | |
| 018 | T-4 | |
| 019 | T-5 | |
| 020 | T-6 | |

**Site Samping Event**: CWLP- 2Q24

**LIMS Workorder:** 24050003

**Technician(s):** DC, JC, TC, BG, PY

**Stabilized Field Parameters Summary**

**CWLP- Ash Ponds- 2Q 2024**

| Well ID | Date | Time | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-3 | 5/9/2024 | 12:12 | 15.1 | 59.14 | 6.70 | 644.4 | 0.82 | 23.40 | -105.9 | 7.87 | 24050003-001A |
| AP-1 | 5/13/2024 | 11:01 | 14.7 | 58.50 | 6.31 | 1,758.0 | 0.69 | 5.74 | -86.5 | 8.88 | 24050003-002A |
| AP-2 | 5/13/2024 | 11:53 | 15.1 | 59.18 | 6.21 | 1,286.5 | 0.68 | 4.90 | -5.8 | 7.05 | 24050003-003A |
| AP-3 | 5/13/2024 | 12:43 | 16.0 | 60.86 | 6.36 | 1,218.9 | 0.68 | 2.72 | -53.2 | 9.11 | 24050003-004A |
| AP-4 | 5/13/2024 | 13:25 | 17.2 | 62.96 | 6.83 | 588.1 | 0.40 | 23.97 | -122.8 | 8.68 | 24050003-005A |
| AP-5 | 5/14/2024 | 9:54 | 13.6 | 56.49 | 6.99 | 468.0 | 0.71 | 5.17 | -67.9 | 13.60 | 24050003-006A |
| AP-6 | 5/10/2024 | 10:13 | 13.5 | 56.26 | 7.27 | 661.5 | 3.05 | 18.97 | -20.0 | 6.57 | 24050003-007A |
| AP-7 | 5/14/2024 | 11:21 | 14.2 | 57.47 | 7.15 | 440.8 | 0.92 | 17.95 | -122.2 | 9.87 | 24050003-008A |
| AP-8 | 5/10/2024 | 10:35 | 15.2 | 59.32 | 7.03 | 916.7 | 1.05 | 33.67 | -116.8 | 3.74 | 24050003-009A |
| AP-9 | 5/14/2024 | 11:45 | 14.6 | 58.19 | 6.75 | 658.9 | 0.41 | 39.76 | -40.2 | 11.87 | 24050003-010A |
| AP-10 | 5/13/2024 | 14:08 | 15.8 | 60.36 | 6.54 | 1,142.7 | 1.49 | 6.02 | -81.1 | 2.54 | 24050003-011A |
| AP-11 | 5/9/2024 | 14:28 | 17.7 | 63.82 | 6.75 | 1,351.2 | 2.84 | 60.05 | -61.7 | 9.75 | 24050003-012A |
| AP-12 | 5/9/2024 | 13:14 | 15.8 | 60.52 | 6.52 | 1,675.9 | 1.31 | 88.76 | -60.3 | 12.24 | 24050003-013A |
| AP-13 | 5/9/2024 | 13:50 | 16.3 | 61.41 | 6.70 | 804.3 | 2.21 | 5.64 | -73.7 | 10.82 | 24050003-014A |
| AP-14 | 5/14/2024 | 10:38 | 13.6 | 56.43 | 6.95 | 1,124.6 | 0.14 | 2.92 | -48.8 | 1.55 | 24050003-015A |
| T-1 | 5/9/2024 | 11:10 | 14.1 | 57.40 | 6.57 | 780.0 | 1.98 | 2.28 | 30.9 | 9.78 | 24050003-016A |
| T-2 | 5/9/2024 | 11:45 | 14.9 | 58.79 | 6.51 | 1,979.6 | 2.28 | 3.93 | 14.9 | 19.25 | 24050003-017A |
| T-4 | 5/14/2024 | 12:36 | 12.8 | 55.03 | 6.31 | 463.7 | 1.11 | 8.09 | -2.7 | 12.72 | 24050003-018A |
| T-5 | 5/14/2024 | 11:03 | 12.3 | 54.09 | 6.62 | 489.5 | 1.35 | 5.40 | -1.5 | 5.30 | 24050003-019A |
| T-6 | 5/14/2024 | 11:55 | 14.6 | 58.34 | 6.56 | 852.5 | 1.03 | 32.75 | -93.5 | 8.45 | 24050003-020A |

**Site Samping Event**: CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- GW Quality Parameters**
**CWLP- Ash Ponds- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| RW-3 | 5/9/2024 | 11:42 | 7.87 | 14.5 | 58.2 | 6.69 | 602.3 | 1.26 | 10.26 | -78.5 |
| RW-3 | 5/9/2024 | 11:45 | 7.87 | 14.5 | 58.2 | 6.69 | 608.1 | 1.20 | 11.81 | -82.6 |
| RW-3 | 5/9/2024 | 11:48 | 7.87 | 14.8 | 58.6 | 6.69 | 611.2 | 1.15 | 14.38 | -85.6 |
| RW-3 | 5/9/2024 | 11:51 | 7.87 | 15.0 | 59.0 | 6.68 | 619.0 | 1.10 | 17.50 | -88.8 |
| RW-3 | 5/9/2024 | 11:54 | 7.87 | 14.9 | 58.9 | 6.68 | 629.8 | 1.02 | 23.27 | -93.1 |
| RW-3 | 5/9/2024 | 11:57 | 7.87 | 14.9 | 58.9 | 6.68 | 634.7 | 0.97 | 23.78 | -96.7 |
| RW-3 | 5/9/2024 | 12:00 | 7.87 | 15.0 | 58.9 | 6.68 | 637.4 | 0.93 | 27.74 | -99.1 |
| RW-3 | 5/9/2024 | 12:03 | 7.87 | 15.0 | 58.9 | 6.69 | 640.9 | 0.89 | 18.67 | -101.4 |
| RW-3 | 5/9/2024 | 12:06 | 7.87 | 14.9 | 58.7 | 6.69 | 642.7 | 0.87 | 18.32 | -103.1 |
| RW-3 | 5/9/2024 | 12:09 | 7.87 | 15.0 | 59.0 | 6.69 | 642.8 | 0.84 | 18.38 | -104.6 |
| RW-3 | 5/9/2024 | 12:12 | 7.87 | 15.1 | 59.1 | 6.70 | 644.4 | 0.82 | 23.40 | -105.9 |

**Site Samping Event**: CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- GW Quality Parameters**
**CWLP- Ash Ponds- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-2 | 5/13/2024 | 11:35 | 7.05 | 13.5 | 56.3 | 6.26 | 1,257.7 | 1.06 | 15.63 | -9.9 |
| AP-2 | 5/13/2024 | 11:38 | 7.05 | 13.6 | 56.4 | 6.23 | 1,261.1 | 0.90 | 10.12 | -7.8 |
| AP-2 | 5/13/2024 | 11:41 | 7.05 | 13.6 | 56.5 | 6.22 | 1,267.6 | 0.81 | 8.13 | -6.6 |
| AP-2 | 5/13/2024 | 11:44 | 7.05 | 13.6 | 56.5 | 6.21 | 1,274.1 | 0.75 | 7.60 | -5.7 |
| AP-2 | 5/13/2024 | 11:47 | 7.05 | 13.6 | 56.5 | 6.20 | 1,282.5 | 0.70 | 6.27 | -5.1 |
| AP-2 | 5/13/2024 | 11:50 | 7.05 | 14.9 | 58.8 | 6.20 | 1,279.4 | 0.68 | 5.98 | -5.6 |
| AP-2 | 5/13/2024 | 11:53 | 7.05 | 15.1 | 59.2 | 6.21 | 1,286.5 | 0.68 | 4.90 | -5.8 |

**Site Samping Event**: CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- GW Quality Parameters**
**CWLP- Ash Ponds- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-3 | 5/13/2024 | 12:25 | 9.11 | 13.8 | 56.8 | 6.38 | 1,211.7 | 0.90 | 4.95 | -52.3 |
| AP-3 | 5/13/2024 | 12:28 | 9.11 | 13.8 | 56.8 | 6.37 | 1,212.2 | 0.80 | 4.33 | -53.6 |
| AP-3 | 5/13/2024 | 12:31 | 9.11 | 13.8 | 56.8 | 6.36 | 1,213.0 | 0.74 | 3.58 | -54.0 |
| AP-3 | 5/13/2024 | 12:34 | 9.11 | 13.8 | 56.8 | 6.35 | 1,212.9 | 0.69 | 3.39 | -54.4 |
| AP-3 | 5/13/2024 | 12:37 | 9.11 | 14.9 | 58.8 | 6.35 | 1,198.9 | 0.67 | 3.08 | -54.7 |
| AP-3 | 5/13/2024 | 12:40 | 9.11 | 15.7 | 60.3 | 6.35 | 1,213.7 | 0.68 | 2.95 | -54.6 |
| AP-3 | 5/13/2024 | 12:43 | 9.11 | 16.0 | 60.9 | 6.36 | 1,218.9 | 0.68 | 2.72 | -53.2 |

**Site Samping Event**: CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- GW Quality Parameters**
**CWLP- Ash Ponds- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-7 | 5/14/2024 | 11:03 | 9.87 | 13.9 | 57.0 | 7.27 | 422.2 | 1.76 | 10.35 | -106.4 |
| AP-7 | 5/14/2024 | 11:06 | 9.87 | 14.3 | 57.7 | 7.15 | 435.9 | 0.74 | 24.14 | -136.6 |
| AP-7 | 5/14/2024 | 11:09 | 9.87 | 14.0 | 57.2 | 7.13 | 457.1 | 0.82 | 56.85 | -134.2 |
| AP-7 | 5/14/2024 | 11:12 | 9.87 | 13.9 | 57.1 | 7.14 | 443.5 | 0.93 | 30.37 | -126.5 |
| AP-7 | 5/14/2024 | 11:15 | 9.87 | 14.0 | 57.2 | 7.15 | 438.8 | 0.96 | 18.73 | -123.1 |
| AP-7 | 5/14/2024 | 11:18 | 9.87 | 14.0 | 57.1 | 7.15 | 439.0 | 0.94 | 15.25 | -122.2 |
| AP-7 | 5/14/2024 | 11:21 | 9.87 | 14.2 | 57.5 | 7.15 | 440.8 | 0.92 | 17.95 | -122.2 |

**Site Samping Event**: CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- GW Quality Parameters**
**CWLP- Ash Ponds- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AP-8 | 5/10/2024 | 10:05 | 3.74 | 14.3 | 57.8 | 7.04 | 919.3 | 1.52 | 37.07 | -118.2 |
| AP-8 | 5/10/2024 | 10:08 | 3.74 | 14.4 | 57.9 | 7.04 | 913.6 | 1.47 | 39.30 | -117.1 |
| AP-8 | 5/10/2024 | 10:11 | 3.74 | 15.0 | 59.0 | 7.03 | 916.0 | 1.50 | 43.50 | -116.5 |
| AP-8 | 5/10/2024 | 10:14 | 3.74 | 14.3 | 57.8 | 7.03 | 918.1 | 1.38 | 30.38 | -116.8 |
| AP-8 | 5/10/2024 | 10:17 | 3.74 | 14.2 | 57.5 | 7.03 | 914.2 | 1.28 | 27.88 | -117.5 |
| AP-8 | 5/10/2024 | 10:20 | 3.74 | 14.5 | 58.2 | 7.03 | 915.8 | 1.18 | 30.64 | -118.3 |
| AP-8 | 5/10/2024 | 10:23 | 3.74 | 14.3 | 57.7 | 7.03 | 916.7 | 1.17 | 23.09 | -118.3 |
| AP-8 | 5/10/2024 | 10:26 | 3.74 | 14.5 | 58.0 | 7.03 | 915.1 | 1.12 | 25.30 | -118.0 |
| AP-8 | 5/10/2024 | 10:29 | 3.74 | 14.5 | 58.2 | 7.02 | 915.9 | 1.11 | 30.18 | -117.8 |
| AP-8 | 5/10/2024 | 10:32 | 3.74 | 14.8 | 58.7 | 7.03 | 916.3 | 1.07 | 32.46 | -117.5 |
| AP-8 | 5/10/2024 | 10:35 | 3.74 | 15.2 | 59.3 | 7.03 | 916.7 | 1.05 | 33.67 | -116.8 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/9/24 9:25 |
| 7.0 Buffer | WC240307F | 7.00 | 5/9/24 9:37 |
| 10.0 Buffer | WC231027D | 10.01 | 5/9/24 9:40 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/9/24 9:42 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.5 | 5/9/24 9:51 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/9/24 18:30 | 18.96 | 7.00 | 1,412 | 1.5 | | |
| CCV-1 | CCV | 5/9/24 18:29 | 20.62 | 7.02 | 1,413 | 1.5 | | |

**Comments:**

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.01 | 5/10/24 8:54 |
| 7.0 Buffer | WC240307F | 7.02 | 5/10/24 16:36 |
| 10.0 Buffer | WC231027D | 10.00 | 5/10/24 16:36 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1413 | 5/10/24 16:38 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.5 | 5/10/24 16:38 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/10/24 16:38 | 18.65 | 7.01 | 1,413 | 1.5 | | |
| CCV-2 | CCV | 5/10/24 16:39 | 20.64 | 7.02 | 1,415 | 1.4 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/13/24 9:29 |
| 7.0 Buffer | WC240307F | 7.03 | 5/13/24 9:36 |
| 10.0 Buffer | WC231027D | 10.01 | 5/13/24 9:42 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1415 | 5/13/24 9:51 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.6 | 5/13/24 9:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/13/24 10:05 | 19.72 | 7.02 | 1,415 | 1.6 | | |
| CCV-3 | CCV | 5/13/24 11:05 | 20.01 | 7.01 | 1,415 | 1.5 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Daniel Crump/Tracy Carroll Date: 5/8/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/8/24 10:09 |
| 7.0 Buffer | WC240307F | 7.01 | 5/8/24 10:07 |
| 10.0 Buffer | WC230619B | 10.00 | 5/8/24 10:11 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/8/24 10:14 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/8/24 10:16 | 22.9 | 7.09 | 1,413 | | | |
| CCV-1 | CCV | 5/8/24 13:21 | 21 | 7.02 | 1,439 | | | |

**Comments:**

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/9/24 11:02 |
| 7.0 Buffer | WC240307F | 7.02 | 5/9/24 11:01 |
| 10.0 Buffer | WC230619B | 10.00 | 5/9/24 11:03 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/9/24 11:11 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/9/24 11:16 | 24.2 | 7.06 | 1,413 | | | |
| CCV-2 | CCV | 5/9/24 15:03 | 25.2 | 7.08 | 1,488 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/10/24 9:28 |
| 7.0 Buffer | WC240307F | 7.04 | 5/10/24 9:25 |
| 10.0 Buffer | WC230619B | 10.00 | 5/10/24 9:31 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/10/24 9:32 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/10/24 9:36 | 14.5 | 7.05 | 1,414 | 1.95 | | |
| CCV-3 | CCV | 5/10/24 10:55 | 15.2 | 7.04 | 1,488 | | | |

**Comments:**

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll/Payton Yoch Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/13/24 10:00 |
| 7.0 Buffer | WC240307F | 7.01 | 5/13/24 9:57 |
| 10.0 Buffer | WC230619B | 10.00 | 5/13/24 10:04 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/13/24 10:09 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4 | LCS | 5/13/24 10:14 | 23.7 | 6.99 | 1,411 | | | |
| CCV-4 | CCV | 5/13/24 14:33 | 28 | 6.90 | 1,435 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll/Payton Yoch Date: 5/14/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/14/24 10:22 |
| 7.0 Buffer | WC240307F | 7.01 | 5/14/24 10:22 |
| 10.0 Buffer | WC230619B | 10.00 | 5/14/24 10:23 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/14/24 10:23 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-5 | LCS | 5/14/24 10:25 | 23.7 | 6.99 | 1,412 | | | |
| CCV-5 | CCV | 5/14/24 13:30 | 22.9 | 7.02 | 1,455 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 3.99 | 5/9/24 9:29 |
| 7.0 Buffer | wc240307f | 7.01 | 5/9/24 9:23 |
| 10.0 Buffer | wc231027d | 10.00 | 5/9/24 9:37 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1409 | 5/9/24 9:41 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.93 | 5/9/24 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/9/24 9:44 | 20.5 | 7.01 | 1,409 | 0.93 | | |
| CCV-M-1 | CCV | 5/9/24 12:11 | 21.7 | 7.03 | 1,421 | 0.96 | | |
| CCV-1 | CCV | 5/9/24 14:35 | 22.8 | 7.03 | 1,424 | 1.04 | | |

**Comments:**

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 4.00 | 5/10/24 9:32 |
| 7.0 Buffer | wc240307f | 7.02 | 5/10/24 9:30 |
| 10.0 Buffer | wc231027d | 9.98 | 5/10/24 9:35 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1410 | 5/10/24 9:40 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.87 | 5/10/24 9:40 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/10/24 9:43 | 18.8 | 7.02 | 1,410 | 0.87 | | |
| CCV-2 | CCV | 5/10/24 10:58 | 19.7 | 7.02 | 1,416 | 0.89 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050003
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- Ash Ponds- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 4.01 | 5/13/24 9:49 |
| 7.0 Buffer | wc240307f | 7.01 | 5/13/24 9:43 |
| 10.0 Buffer | wc231027d | 9.98 | 5/13/24 9:58 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/13/24 9:58 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.86 | 5/13/24 9:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/13/24 10:00 | 21.7 | 7.01 | 1,412 | 0.86 | | |
| CCV-3 | CCV | 5/13/24 14:28 | 22.1 | 7.03 | 1,420 | 0.92 | | |

**Comments:**

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/14/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 3.98 | 5/14/24 9:25 |
| 7.0 Buffer | wc240307f | 7.00 | 5/14/24 9:21 |
| 10.0 Buffer | wc231027d | 9.99 | 5/14/24 9:28 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1410 | 5/14/24 9:35 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.96 | 5/14/24 9:35 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4 | LCS | 5/14/24 9:37 | 20.2 | 7.00 | 1,410 | 0.96 | | |
| CCV-4 | CCV | 5/14/24 12:17 | 21 | 7.01 | 1,418 | 0.99 | | |

**Comments:**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

June 12, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050003

Order No.: 24051620

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 20 sample(s) on 5/17/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# Case Narrative

WO#: **24051620**
Date: **6/12/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050003

WorkOrder Narrative:
24051620: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-75651 Radium-228_NPW(904.0): LCS/LCSD exhibited a high RPD, individually each LCS/LCSD meets required criteria.
LCS/LCSD-75699 Radium-228_DW(904.0): LCS/LCSD exhibited a high RPD, individually each LCS/LCSD meets the required criteria.
LCS/LCSD-75740 Radium-226_DW(903.0): LCS/LCSD exhibit a high RPD, individually each LCS/LCSD meet required criteria.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-448*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24051620**
Date: **6/12/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24051620**
***12-Jun-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050003

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24051620-001 | 24050003-001 | | 5/9/2024 12:12:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-002 | 24050003-002 | | 5/13/2024 11:01:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-003 | 24050003-003 | | 5/13/2024 11:53:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-004 | 24050003-004 | | 5/13/2024 12:43:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-005 | 24050003-005 | | 5/13/2024 1:25:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-006 | 24050003-006 | | 5/14/2024 9:54:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-007 | 24050003-007 | | 5/10/2024 10:13:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-008 | 24050003-008 | | 5/14/2024 11:21:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-009 | 24050003-009 | | 5/10/2024 10:35:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-010 | 24050003-010 | | 5/14/2024 11:45:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-011 | 24050003-011 | | 5/13/2024 2:08:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-012 | 24050003-012 | | 5/9/2024 11:10:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-013 | 24050003-013 | | 5/9/2024 1:14:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-014 | 24050003-014 | | 5/9/2024 1:50:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-015 | 24050003-015 | | 5/14/2024 10:38:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-016 | 24050003-016 | | 5/9/2024 2:28:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-017 | 24050003-017 | | 5/9/2024 11:45:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-018 | 24050003-018 | | 5/14/2024 12:36:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-019 | 24050003-019 | | 5/14/2024 11:03:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051620-020 | 24050003-020 | | 5/14/2024 11:55:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,

**Project:** 24050003

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24051620-001A | 24050003-001 | 5/9/2024 12:12:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-002A | 24050003-002 | 5/13/2024 11:01:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-003A | 24050003-003 | 5/13/2024 11:53:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-004A | 24050003-004 | 5/13/2024 12:43:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-005A | 24050003-005 | 5/13/2024 1:25:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-006A | 24050003-006 | 5/14/2024 9:54:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-007A | 24050003-007 | 5/10/2024 10:13:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-008A | 24050003-008 | 5/14/2024 11:21:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-009A | 24050003-009 | 5/10/2024 10:35:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-010A | 24050003-010 | 5/14/2024 11:45:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-011A | 24050003-011 | 5/13/2024 2:08:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-012A | 24050003-012 | 5/9/2024 11:10:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |

Original

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# DATES REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,

**Project:** 24050003

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24051620-012A | 24050003-012 | 5/9/2024 11:10:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-013A | 24050003-013 | 5/9/2024 1:14:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-014A | 24050003-014 | 5/9/2024 1:50:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-015A | 24050003-015 | 5/14/2024 10:38:00 AM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-016A | 24050003-016 | 5/9/2024 2:28:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |
| 24051620-017A | 24050003-017 | 5/9/2024 11:45:00 AM | | Radium-226 (EPA 903.0) | | 5/29/2024 12:23:00 PM | 6/5/2024 10:01:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/29/2024 12:23:00 PM | 6/4/2024 2:54:00 PM |
| 24051620-018A | 24050003-018 | 5/14/2024 12:36:00 PM | | Radium-226 (EPA 903.0) | | 5/29/2024 12:23:00 PM | 6/5/2024 10:01:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/29/2024 12:23:00 PM | 6/4/2024 2:54:00 PM |
| 24051620-019A | 24050003-019 | 5/14/2024 11:03:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051620-020A | 24050003-020 | 5/14/2024 11:55:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24051620**

Date Reported: **6/12/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/9/2024 12:12:00 PM

**Project:** 24050003

**Lab ID:** 24051620-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050003-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0800 | 1 | 6/4/2024 9:57:00 AM |
| Yield | 1.00 | | | | | 1 | 6/4/2024 9:57:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.280 | 1 | 6/3/2024 2:37:00 PM |
| Yield | 1.00 | | | | | 1 | 6/3/2024 2:37:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24051620**

Date Reported: **6/12/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/13/2024 11:53:00 AM

**Project:** 24050003

**Lab ID:** 24051620-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050003-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0600 | 1 | 6/4/2024 9:57:00 AM |
| Yield | 1.00 | | | | | 1 | 6/4/2024 9:57:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.260 | 1 | 6/3/2024 2:37:00 PM |
| Yield | 1.00 | | | | | 1 | 6/3/2024 2:37:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24051620**

Date Reported: **6/12/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/13/2024 12:43:00 PM

**Project:** 24050003

**Lab ID:** 24051620-004

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050003-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 6/4/2024 9:57:00 AM |
| Yield | 1.00 | | | | | 1 | 6/4/2024 9:57:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.250 | 1 | 6/3/2024 2:37:00 PM |
| Yield | 1.00 | | | | | 1 | 6/3/2024 2:37:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24051620**

Date Reported: **6/12/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/14/2024 11:21:00 AM

**Project:** 24050003

**Lab ID:** 24051620-008

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050003-008

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0800 | 1 | 6/4/2024 9:57:00 AM |
| Yield | 1.00 | | | | | 1 | 6/4/2024 9:57:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.290 | 1 | 6/3/2024 2:37:00 PM |
| Yield | 0.990 | | | | | 1 | 6/3/2024 2:37:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24051620**

Date Reported: **6/12/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/10/2024 10:35:00 AM

**Project:** 24050003

**Lab ID:** 24051620-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050003-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.150 | 1 | 6/4/2024 9:57:00 AM |
| Yield | 1.00 | | | | | 1 | 6/4/2024 9:57:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.350 | 1 | 6/3/2024 2:37:00 PM |
| Yield | 0.990 | | | | | 1 | 6/3/2024 2:37:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75651**

| Sample ID: **MB-75651** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186770** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75651** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5060869** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75651** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186770** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75651** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5060871** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.50 | 1.00 | 5.000 | 0 | 90.0 | 50 | 130 | 3.520 | 24.4 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

| Sample ID: **24051612-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186770** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75651** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5060876** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 0.970 | | | 0 | 0 | | | 1.000 | 3.05 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75651**

Sample ID: **24051613-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186770**
Client ID: **BatchQC** Batch ID: **75651** TestNo: **E904.0** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5060878**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 0.950 | | | 0 | 0 | | | 0.9500 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75651**

Sample ID: **24051612-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **BatchQC** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.960 | | | | | | | 1.000 | 4.08 | 0 | |

Sample ID: **24051613-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **BatchQC** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061013**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.940 | | | | | | | 0.9500 | 1.06 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75651**

| Sample ID: **MB-75651** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186773** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75651** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/4/2024** | SeqNo: **5061004** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | ND | | | | | | | | | | |

| Sample ID: **LCS-75651** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186773** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75651** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/4/2024** | SeqNo: **5061005** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.94 | 1.00 | 5.000 | 0 | 98.8 | 70 | 130 | | | | |

| Sample ID: **LCSD-75651** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186773** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75651** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/4/2024** | SeqNo: **5061006** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.48 | 1.00 | 5.000 | 0 | 89.6 | 70 | 130 | 4.940 | 9.77 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



Original

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75699**

| Sample ID: **MB-75699** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186905** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75699** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/4/2024** | SeqNo: **5063570** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75699** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186905** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75699** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/4/2024** | SeqNo: **5063571** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.24 | 1.00 | 5.000 | 0 | 64.8 | 50 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75699** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186905** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75699** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/4/2024** | SeqNo: **5063572** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.05 | 1.00 | 5.000 | 0 | 81.0 | 50 | 130 | 3.240 | 22.2 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75699**

Sample ID: **24051688-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/29/2024** RunNo: **186905**
Client ID: **BatchQC** Batch ID: **75699** TestNo: **E904.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5063582**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 0.890 | | | 0 | 0 | | | 1.000 | 11.6 | | |

Sample ID: **24051688-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/29/2024** RunNo: **186905**
Client ID: **BatchQC** Batch ID: **75699** TestNo: **E904.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5063584**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 0.9300 | 7.25 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75699**

| Sample ID: **MB-75699** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186909** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75699** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/5/2024** | SeqNo: **5063797** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75699** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186909** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75699** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/5/2024** | SeqNo: **5063798** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.93 | 1.00 | 5.000 | 0 | 98.6 | 70 | 130 | | | | |

| Sample ID: **LCSD-75699** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186909** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75699** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/5/2024** | SeqNo: **5063799** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.16 | 1.00 | 5.000 | 0 | 103 | 70 | 130 | 4.930 | 4.56 | 20 | |

| Sample ID: **24051688-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/29/2024** | RunNo: **186909** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75699** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/5/2024** | SeqNo: **5063808** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75699**

Sample ID: **24051688-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/29/2024** RunNo: **186909**
Client ID: **BatchQC** Batch ID: **75699** TestNo: **E903.0** **E903-904** Analysis Date: **6/5/2024** SeqNo: **5063808**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24051688-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/29/2024** RunNo: **186909**
Client ID: **BatchQC** Batch ID: **75699** TestNo: **E903.0** **E903-904** Analysis Date: **6/5/2024** SeqNo: **5063810**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75740**

| Sample ID: **MB-75740** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187287** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75740** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/7/2024** | SeqNo: **5075299** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75740** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187287** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75740** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/7/2024** | SeqNo: **5075300** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.94 | 1.00 | 5.000 | 0 | 78.8 | 50 | 130 | | | | |
| Yield | 0.890 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75740** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187287** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75740** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/7/2024** | SeqNo: **5075301** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.07 | 1.00 | 5.000 | 0 | 81.4 | 50 | 130 | 3.940 | 3.25 | 20 | |
| Yield | 0.860 | | | 0 | 0 | | | 0.8900 | 3.43 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75740**

Sample ID: **24050773-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187287**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E904.0** **E903-904** Analysis Date: **6/7/2024** SeqNo: **5075306**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 0.910 | | | 0 | 0 | | | 0.8900 | 2.22 | | |

Sample ID: **24052198-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187287**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E904.0** **E903-904** Analysis Date: **6/7/2024** SeqNo: **5075324**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 0.930 | | | 0 | 0 | | | 0.9600 | 3.17 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75740**

| Sample ID: **MB-75740** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075489** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75740** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075490** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.05 | 1.00 | 5.000 | 0 | 81.0 | 70 | 130 | | | | QLR |

| Sample ID: **LCSD-75740** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075491** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.95 | 1.00 | 5.000 | 0 | 99.0 | 70 | 130 | 4.050 | 20.0 | 20 | R |

| Sample ID: **24050773-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075496** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24051620**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050003 **BatchID:** **75740**

Sample ID: **24050773-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187303**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E903.0** **E903-904** Analysis Date: **6/10/2024** SeqNo: **5075496**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 0.9400 | 6.19 | 0 | |

Sample ID: **24052198-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187303**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E903.0** **E903-904** Analysis Date: **6/10/2024** SeqNo: **5075514**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 0.960 | | | | | | | 1.000 | 4.08 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

24051620

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: 20.0-21.9° Sampler: Client QC Level: 2

20.0 +0.0 = 21.0 +0.0 =
21.9 +0.0 = Fedex, Cooler

Project# 24050003

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36305 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | cpm | | | | pH | | | | | | |
| | 24050003-001 | 5/9/2024 12:12 | HNO3 | Groundwater | ✔ | | 20 | | | | 1 | | | | | | |
| | 24050003-002 | 5/13/2024 11:01 | HNO3 | Groundwater | ✔ | | 38 | | | | 1 | | | | | | |
| | 24050003-003 | 5/13/2024 11:53 | HNO3 | Groundwater | ✔ | | 28 | | | | 1 | | | | | | |
| | 24050003-004 | 5/13/2024 12:43 | HNO3 | Groundwater | ✔ | | 30 | | | | 1 | | | | | | |
| | 24050003-005 | 5/13/2024 13:25 | HNO3 | Groundwater | ✔ | | 28 | | | | 1 | | | | | | |
| | 24050003-006 | 5/14/2024 09:54 | HNO3 | Groundwater | ✔ | | 34 | | | | 1 | | | | | | |
| | 24050003-007 | 5/10/2024 10:13 | HNO3 | Groundwater | ✔ | | 24 | | | | 1 | | | | | | |
| | 24050003-008 | 5/14/2024 11:21 | HNO3 | Groundwater | ✔ | | 14 | | | | 1 | | | | | | |
| | 24050003-009 | 5/10/2024 10:35 | HNO3 | Groundwater | ✔ | | 36 | | | | 1 | | | | | | |
| | 24050003-010 | 5/14/2024 11:45 | HNO3 | Groundwater | ✔ | | 20 | | | | 1 | | | | | | |
| | 24050003-011 | 5/13/2024 14:08 | HNO3 | Groundwater | ✔ | | 24 | | | | 1 | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5/14/24 | [signature] | 5/17/24, 1215 |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Cooler Temp: Sampler: Client QC Level: 2

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24050003

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36305 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | CPM | | | | | PH | | | | | |
| | 24050003-012 | 5/9/2024 11:10 | HNO3 | Groundwater | ✔ | | 20 | | | | | 1 | | | | | |
| | 24050003-013 | 5/9/2024 13:14 | HNO3 | Groundwater | ✔ | | 34 | | | | | 1 | | | | | |
| | 24050003-014 | 5/9/2024 13:50 | HNO3 | Groundwater | ✔ | | 32 | | | | | 1 | | | | | |
| | 24050003-015 | 5/14/2024 10:38 | HNO3 | Groundwater | ✔ | | 34 | | | | | 1 | | | | | |
| | 24050003-016 | 5/9/2024 14:28 | HNO3 | Groundwater | ✔ | | 30 | | | | | 1 | | | | | |
| | 24050003-017 | 5/9/2024 11:45 | HNO3 | Groundwater | ✔ | | 30 | | | | | 1 | | | | | |
| | 24050003-018 | 5/14/2024 12:36 | HNO3 | Groundwater | ✔ | | 24 | | | | | 1 | | | | | |
| | 24050003-019 | 5/14/2024 11:03 | HNO3 | Groundwater | ✔ | | 16 | | | | | 1 | | | | | |
| | 24050003-020 | 5/14/2024 11:55 | HNO3 | Groundwater | ✔ | | 18 | | | | | 1 | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Paul Ehlers | 5/14/24 | | |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24051620 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/17/2024 12:15:00 PM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/21/2024 1:52:00 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/21/2024 2:16:21 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 20.0 | Good | Not Present | | | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24051620 RcptNo: 1

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 21.0 | Good | Not Present | | | |
| 3 | 21.9 | Good | Not Present | | | |

June 18, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 24050002

Dear Eric Staley:

TEKLAB, INC received 11 samples on 5/13/2024 4:10:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 24050002
**Client Project:** FGDS Landfill
**Report Date:** 18-Jun-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050002

**Client Project:** FGDS Landfill **Report Date:** 18-Jun-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24050002

**Client Project:** FGDS Landfill
**Report Date:** 18-Jun-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050002
**Client Project:** FGDS Landfill
**Report Date:** 18-Jun-24

**Cooler Receipt Temp:** 13.5 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 24050002
**Client Project:** FGDS Landfill
**Report Date:** 18-Jun-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24050002

**Client Project:** FGDS Landfill **Report Date:** 18-Jun-24

**Lab ID:** 24050002-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 05/10/2024 10:37

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 05/10/2024 10:37 | R347527 |
| Depth to water | * | -5.00 | | **9.88** | ft | 1 | 05/10/2024 10:37 | R347527 |
| Depth to water from measuring point | * | 0 | | **12.63** | ft | 1 | 05/10/2024 10:37 | R347527 |
| Elevation of groundwater surface | * | 0 | | **542.97** | ft | 1 | 05/10/2024 10:37 | R347527 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 05/10/2024 10:37 | R347527 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 05/10/2024 10:37 | R347527 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **26** | NTU | 1 | 05/10/2024 10:37 | R347527 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.1** | °F | 1 | 05/10/2024 10:37 | R347527 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 05/10/2024 10:37 | R347527 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1060** | µmhos/cm @25C | 1 | 05/10/2024 10:37 | R347527 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1220** | mg/L | 2.5 | 05/15/2024 11:58 | R347402 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **416** | mg/L | 10 | 05/15/2024 1:09 | R347268 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 05/20/2024 10:53 | R347555 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **41** | mg/L | 1 | 05/15/2024 1:04 | R347274 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **1.57** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Boron | NELAP | 0.0200 | | **9.56** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Calcium | NELAP | 0.100 | | **208** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Chromium | NELAP | 0.0050 | | **0.0119** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Cobalt | NELAP | 0.0050 | | **0.0059** | mg/L | 1 | 05/17/2024 17:26 | 222813 |
| Lead | NELAP | 0.0150 | | **< 0.0150** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| Lithium | NELAP | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/20/2024 12:00 | 222813 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/15/2024 13:35 | 222813 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/14/2024 16:30 | 222813 |
| Arsenic | NELAP | 0.0010 | | **0.156** | mg/L | 5 | 05/14/2024 16:30 | 222813 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/14/2024 16:30 | 222813 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 17:00 | 222813 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2024 13:07 | 222958 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/07/2024 0:00 | R348779 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/07/2024 0:00 | R348779 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050002
**Client Project:** FGDS Landfill
**Report Date:** 18-Jun-24

**Carrier:** Daniel Stupar
**Received By:** WAO

**Completed by:** Amber Dilallo
**On:** 08-May-24

**Reviewed by:** Ellie Hopkins
**On:** 14-May-24

**Pages to follow:** Chain of custody 4 Extra pages included 50

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 13.5 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 5/8/24 at 1505 on ice [13.5C - LTG5]. pH strip #96651. - amberdilallo - 5/8/2024 4:32:04 PM

Samples were received on 5/9/2024 at 16:35 on ice [12.1C - LTG#5]. - pschultz - 5/10/2024 9:12:30 AM
pH strip #96651. Additional Nitric Acid (97737) was needed for samples G112 and G113 upon arrival at the laboratory. - pschultz - 5/10/2024 9:12:38 AM

Samples were received on 5/10/2024 at 13:30 on ice [10.7C - LTG#7]. - pschultz - 5/10/2024 2:35:09 PM
pH strip #96651. WO - pschultz - 5/10/2024 2:35:10 PM

Samples were received on 5/13/24 at 1610 on ice [19.3C - LTG7]. pH strip #[96651#]. - amberdilallo - 5/14/2024 8:15:38 AM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24050002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 13.5 °C 5
Preserved in: [ ] LAB [x] FIELD
LAB NOTES: PWS 96651 DSS/8

FOR LAB USE ONLY

TEKLAB

Courier

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Tracy Carrol / Danny Crump

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050002-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | 5/8/24 1114 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 5/8/24 1244 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-8-1505 | Whitney Owen | 5/8/24 1505 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

DSS/8

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24050002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 12.1 °C
Preserved in: [x] LAB [ ] FIELD
FOR LAB USE ONLY
LAB NOTES: pH in 96651
Added HNO3 (9773) to G112 + G113 PS 5/10

Client Comments: * per COC for 24050001
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

PROJECT NAME/NUMBER: FGDS Landfill
SAMPLE COLLECTOR'S NAME: TCarroll

RESULTS REQUESTED
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050002-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | 5/9/24 1232 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | 1348 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | 1028 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | 1119 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | 1153 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | 5/9 1212* | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-9 / 1635 | Nick Reed | 5/9/24 1635 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24050002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

LTG-7

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.7 °C
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: pH 4 unit 5110 30

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

PROJECT NAME/NUMBER: FGDS Landfill
SAMPLE COLLECTOR'S NAME: Justin Colp

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)
BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050002-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | 5-10-24 / 1037 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J Colp | 5-10-24 / 1330 | Whitney Clapp | 5/10/24 1330 |

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 24050002

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 19.3 °C LTC7
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH/96151 PS 5/14

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Li Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Culp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 24050002-001 | R101 | 5-13-24 / 1220 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 010 | AW-2 | 5-13-24 / 1052 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-8/ 1505 | Shawn Dilsaver | 5/13/24 1610 |
| | | | |
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**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- FGDS LF- 2Q 2024**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | R101 | Groundwater Sample | 72.0 | None | S | Cloudy | Good | Good | Good | Yes | No |
| 002 | G110 | Groundwater Sample | 75.0 | Light | S | Cloudy | Good | Good | Good | Yes | No |
| 003 | R111 | Groundwater Sample | 75.0 | Light | S | Cloudy | Good | Good | Good | Yes | No |
| 004 | G112 | Groundwater Sample | 71.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 005 | G113 | Groundwater Sample | 72.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 006 | G120 | Groundwater Sample | 68.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 007 | G121 | Groundwater Sample | 69.0 | None | W | Partly cloudy | Good | Good | Good | Yes | No |
| 008 | G122 | Groundwater Sample | 71.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 009 | AW-1 | Groundwater Sample | 59.0 | None | NW | Partly cloudy | Good | Good | Good | Yes | No |
| 010 | AW-2 | Groundwater Sample | 71.0 | None | S | Cloudy | Good | Good | Good | Yes | No |
| 011 | RW-3 | Groundwater Sample | 73.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- FGDS LF- 2Q 2024**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WO Sample | Well ID | Sampler Initials | Date/Time | DTW (ft) | DTB (ft) | Sampler Initials | Purge Date | Purge Start Time | Purge End Time | Purging/Sampling Device | Well Diameter (in) | Actual Volume Purged (L) | Purge Rate (mL/min) |
| 001 | R101 | JC | 5/13/24 11:56 | 5.95 | 35.27 | JC | 5/13/2024 | 11:58 | 12:20 | Submersible Pump | 2" | 7.0 | 318.2 |
| 002 | G110 | DC | 5/8/24 10:22 | 23.19 | 57.15 | DC | 5/8/2024 | 10:27 | 11:14 | Peristaltic Pump | 2" | 6.0 | 127.7 |
| 003 | R111 | DC | 5/8/24 12:04 | 24.22 | 55.75 | DC | 5/8/2024 | 12:09 | 12:44 | Peristaltic Pump | 2" | 7.0 | 200.0 |
| 004 | G112 | JC | 5/9/24 12:06 | 26.99 | 58.81 | JC | 5/9/2024 | 12:19 | 12:32 | Submersible Pump | 2" | 5.0 | 384.6 |
| 005 | G113 | JC | 5/9/24 13:31 | 3.85 | 12.85 | JC | 5/9/2024 | 13:34 | 13:48 | Submersible Pump | 2" | 3.0 | 214.3 |
| 006 | G120 | JC | 5/9/24 9:58 | 14.79 | 50.37 | JC | 5/9/2024 | 10:00 | 10:28 | Submersible Pump | 2" | 11.0 | 392.9 |
| 007 | G121 | JC | 5/9/24 11:03 | 26.76 | 58.56 | JC | 5/9/2024 | 11:03 | 11:19 | Submersible Pump | 2" | 6.0 | 375.0 |
| 008 | G122 | JC | 5/9/24 11:29 | 27.67 | 49.29 | JC | 5/9/2024 | 11:39 | 11:53 | Submersible Pump | 2" | 6.0 | 428.6 |
| 009 | AW-1 | JC | 5/10/24 9:39 | 12.63 | 54.81 | JC | 5/10/2024 | 09:44 | 10:37 | Submersible Pump | 2" | 17.0 | 320.8 |
| 010 | AW-2 | JC | 5/13/24 10:11 | 3.29 | 32.64 | JC | 5/13/2024 | 10:12 | 10:52 | Submersible Pump | 2" | 14.0 | 350.0 |
| 011 | RW-3 | TAC | 5/9/24 11:19 | 7.87 | 44.01 | TAC | 5/9/2024 | 11:23 | 12:12 | Bladder Pump | 2" | 9.0 | 183.7 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- FGDS LF- 2Q 2024**

| | | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Sampler Initials** | **Date** | **Time** | **Sampling Method** | **Field Filtered** | **Appearance** | **Odor** | **Color** | **Post-Sample DTW (ft)** | **Drawdown (ft)** |
| 001 | R101 | JC | 05/13/24 | 12:20 | Low Flow | Yes | Clear | None | none | 6.23 | 0.28 |
| 002 | G110 | TAC | 05/08/24 | 11:14 | Low Flow | Yes | Clear | None | None | 23.38 | 0.19 |
| 003 | R111 | TAC | 05/08/24 | 12:44 | Low Flow | Yes | Clear | None | None | 24.33 | 0.11 |
| 004 | G112 | JC | 05/09/24 | 12:32 | Low Flow | Yes | Clear | None | none | 27.09 | 0.10 |
| 005 | G113 | JC | 05/09/24 | 13:48 | Low Flow | Yes | Clear | Strong | none | 3.97 | 0.12 |
| 006 | G120 | JC | 05/09/24 | 10:28 | Low Flow | Yes | Clear | Slight | none | 15.36 | **0.57** |
| 007 | G121 | JC | 05/09/24 | 11:19 | Low Flow | Yes | Clear | None | none | 27.15 | 0.39 |
| 008 | G122 | JC | 05/09/24 | 11:53 | Low Flow | Yes | Clear | None | none | 27.97 | 0.30 |
| 009 | AW-1 | JC | 05/10/24 | 10:37 | Low Flow | Yes | Clear | None | none | 12.98 | 0.35 |
| 010 | AW-2 | JC | 05/13/24 | 10:52 | Low Flow | Yes | Slightly cloudy | Slight | lt brown | 4.67 | **1.38** |
| 011 | RW-3 | TAC | 05/09/24 | 12:12 | Low Flow | Yes | Clear | None | None | 14.87 | **7.00** |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- FGDS LF- 2Q 2024**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | R101 | |
| 002 | G110 | |
| 003 | R111 | |
| 004 | G112 | |
| 005 | G113 | |
| 006 | G120 | Flush Mount well |
| 007 | G121 | |
| 008 | G122 | |
| 009 | AW-1 | |
| 010 | AW-2 | |
| 011 | RW-3 | |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Stabilized Field Parameters Summary**
**CWLP- FGDS LF- 2Q 2024**

| Well ID | Date | Time | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 5/13/2024 | 12:20 | 13.8 | 56.9 | 6.92 | 804.8 | 2.63 | 16.14 | 77.6 | 5.95 | 24050001-001A |
| G110 | 5/8/2024 | 11:14 | 15.5 | 60.0 | 6.54 | 783.4 | 1.42 | 4.97 | -62.3 | 23.19 | 24050001-002A |
| R111 | 5/8/2024 | 12:44 | 14.5 | 58.0 | 6.01 | 120.4 | 3.91 | 2.71 | 66.5 | 24.22 | 24050001-003A |
| G112 | 5/9/2024 | 12:32 | 14.6 | 58.3 | 6.97 | 1,066.2 | 0.17 | 4.06 | -136.2 | 26.99 | 24050001-004A |
| G113 | 5/9/2024 | 13:48 | 15.5 | 59.8 | 6.27 | 1,357.4 | 0.17 | 5.05 | -273.2 | 3.85 | 24050001-005A |
| G120 | 5/9/2024 | 10:28 | 17.5 | 63.4 | 6.65 | 1,294.2 | 0.11 | 7.19 | -147.1 | 14.79 | 24050001-006A |
| G121 | 5/9/2024 | 11:19 | 15.0 | 59.0 | 6.76 | 1,041.5 | 0.15 | 8.16 | -144.6 | 26.76 | 24050001-007A |
| G122 | 5/9/2024 | 11:53 | 14.6 | 58.2 | 6.64 | 1,225.7 | 0.28 | 2.93 | -119.2 | 27.67 | 24050001-008A |
| AW-1 | 5/10/2024 | 10:37 | 14.5 | 58.1 | 6.58 | 1,063.8 | 0.14 | 25.85 | -122.3 | 12.63 | 24050001-009A |
| AW-2 | 5/13/2024 | 10:52 | 15.0 | 59.0 | 6.83 | 783.6 | 0.07 | 8.08 | -160.7 | 3.29 | 24050001-010A |
| RW-3 | 5/9/2024 | 12:12 | 15.1 | 59.1 | 6.70 | 644.4 | 0.82 | 23.4 | -105.9 | 7.87 | 24050001-011A |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- GW Quality Parameters**
**CWLP- FGDS LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AW-1 | 5/10/2024 | 10:07 | 12.63 | 14.2 | 57.6 | 6.57 | 1,059.0 | 0.18 | 122.74 | -124.4 |
| AW-1 | 5/10/2024 | 10:10 | 12.63 | 14.3 | 57.8 | 6.57 | 1,057.1 | 0.20 | 80.73 | -122.6 |
| AW-1 | 5/10/2024 | 10:13 | 12.63 | 14.5 | 58.1 | 6.58 | 1,057.4 | 0.21 | 51.13 | -121.0 |
| AW-1 | 5/10/2024 | 10:16 | 12.63 | 14.3 | 57.7 | 6.58 | 1,058.8 | 0.21 | 51.28 | -119.8 |
| AW-1 | 5/10/2024 | 10:19 | 12.63 | 14.4 | 58.0 | 6.58 | 1,059.7 | 0.20 | 40.08 | -119.8 |
| AW-1 | 5/10/2024 | 10:22 | 12.63 | 14.4 | 58.0 | 6.58 | 1,061.2 | 0.18 | 28.44 | -120.3 |
| AW-1 | 5/10/2024 | 10:25 | 12.63 | 14.5 | 58.0 | 6.58 | 1,061.5 | 0.17 | 26.24 | -121.0 |
| AW-1 | 5/10/2024 | 10:28 | 12.63 | 14.4 | 57.9 | 6.58 | 1,062.1 | 0.16 | 38.55 | -121.3 |
| AW-1 | 5/10/2024 | 10:31 | 12.63 | 14.4 | 58.0 | 6.58 | 1,063.9 | 0.15 | 26.09 | -121.7 |
| AW-1 | 5/10/2024 | 10:34 | 12.63 | 14.5 | 58.1 | 6.58 | 1,063.4 | 0.14 | 25.72 | -122.1 |
| AW-1 | 5/10/2024 | 10:37 | 12.63 | 14.5 | 58.1 | 6.58 | 1,063.8 | 0.14 | 25.85 | -122.3 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/9/24 9:25 |
| 7.0 Buffer | WC240307F | 7.00 | 5/9/24 9:37 |
| 10.0 Buffer | WC231027D | 10.01 | 5/9/24 9:40 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/9/24 9:42 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.5 | 5/9/24 9:51 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/9/24 18:30 | 18.96 | 7.00 | 1,412 | 1.5 | | |
| CCV-1 | CCV | 5/9/24 18:29 | 20.62 | 7.02 | 1,413 | 1.5 | | |

**Comments:**

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.01 | 5/10/24 8:54 |
| 7.0 Buffer | WC240307F | 7.02 | 5/10/24 16:36 |
| 10.0 Buffer | WC231027D | 10.00 | 5/10/24 16:36 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1413 | 5/10/24 16:38 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.5 | 5/10/24 16:38 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/10/24 16:38 | 18.65 | 7.01 | 1,413 | 1.5 | | |
| CCV-2 | CCV | 5/10/24 16:39 | 20.64 | 7.02 | 1,415 | 1.4 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/13/24 9:29 |
| 7.0 Buffer | WC240307F | 7.03 | 5/13/24 9:36 |
| 10.0 Buffer | WC231027D | 10.01 | 5/13/24 9:42 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1415 | 5/13/24 9:51 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.6 | 5/13/24 9:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/13/24 10:05 | 19.72 | 7.02 | 1,415 | 1.6 | | |
| CCV-3 | CCV | 5/13/24 11:05 | 20.01 | 7.01 | 1,415 | 1.5 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Daniel Crump/Tracy Carroll Date: 5/8/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/8/24 10:09 |
| 7.0 Buffer | WC240307F | 7.01 | 5/8/24 10:07 |
| 10.0 Buffer | WC230619B | 10.00 | 5/8/24 10:11 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/8/24 10:14 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/8/24 10:16 | 22.9 | 7.09 | 1,413 | | | |
| CCV-1 | CCV | 5/8/24 13:21 | 21 | 7.02 | 1,439 | | | |

**Comments:**

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/9/24 11:02 |
| 7.0 Buffer | WC240307F | 7.02 | 5/9/24 11:01 |
| 10.0 Buffer | WC230619B | 10.00 | 5/9/24 11:03 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/9/24 11:11 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/9/24 11:16 | 24.2 | 7.06 | 1,413 | | | |
| CCV-2 | CCV | 5/9/24 15:03 | 25.2 | 7.08 | 1,488 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/10/24 9:28 |
| 7.0 Buffer | WC240307F | 7.04 | 5/10/24 9:25 |
| 10.0 Buffer | WC230619B | 10.00 | 5/10/24 9:31 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/10/24 9:32 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/10/24 9:36 | 14.5 | 7.05 | 1,414 | 1.95 | | |
| CCV-3 | CCV | 5/10/24 10:55 | 15.2 | 7.04 | 1,488 | | | |

**Comments:**

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll/Payton Yoch Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/13/24 10:00 |
| 7.0 Buffer | WC240307F | 7.01 | 5/13/24 9:57 |
| 10.0 Buffer | WC230619B | 10.00 | 5/13/24 10:04 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/13/24 10:09 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4 | LCS | 5/13/24 10:14 | 23.7 | 6.99 | 1,411 | | | |
| CCV-4 | CCV | 5/13/24 14:33 | 28 | 6.90 | 1,435 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll/Payton Yoch Date: 5/14/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/14/24 10:22 |
| 7.0 Buffer | WC240307F | 7.01 | 5/14/24 10:22 |
| 10.0 Buffer | WC230619B | 10.00 | 5/14/24 10:23 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/14/24 10:23 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-5 | LCS | 5/14/24 10:25 | 23.7 | 6.99 | 1,412 | | | |
| CCV-5 | CCV | 5/14/24 13:30 | 22.9 | 7.02 | 1,455 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 3.99 | 5/9/24 9:29 |
| 7.0 Buffer | wc240307f | 7.01 | 5/9/24 9:23 |
| 10.0 Buffer | wc231027d | 10.00 | 5/9/24 9:37 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1409 | 5/9/24 9:41 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.93 | 5/9/24 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/9/24 9:44 | 20.5 | 7.01 | 1,409 | 0.93 | | |
| CCV-M-1 | CCV | 5/9/24 12:11 | 21.7 | 7.03 | 1,421 | 0.96 | | |
| CCV-1 | CCV | 5/9/24 14:35 | 22.8 | 7.03 | 1,424 | 1.04 | | |

**Comments:**

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 4.00 | 5/10/24 9:32 |
| 7.0 Buffer | wc240307f | 7.02 | 5/10/24 9:30 |
| 10.0 Buffer | wc231027d | 9.98 | 5/10/24 9:35 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1410 | 5/10/24 9:40 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.87 | 5/10/24 9:40 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/10/24 9:43 | 18.8 | 7.02 | 1,410 | 0.87 | | |
| CCV-2 | CCV | 5/10/24 10:58 | 19.7 | 7.02 | 1,416 | 0.89 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050002
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- FGDS LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 4.01 | 5/13/24 9:49 |
| 7.0 Buffer | wc240307f | 7.01 | 5/13/24 9:43 |
| 10.0 Buffer | wc231027d | 9.98 | 5/13/24 9:58 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/13/24 9:58 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.86 | 5/13/24 9:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/13/24 10:00 | 21.7 | 7.01 | 1,412 | 0.86 | | |
| CCV-3 | CCV | 5/13/24 14:28 | 22.1 | 7.03 | 1,420 | 0.92 | | |

**Comments:**

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/14/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 3.98 | 5/14/24 9:25 |
| 7.0 Buffer | wc240307f | 7.00 | 5/14/24 9:21 |
| 10.0 Buffer | wc231027d | 9.99 | 5/14/24 9:28 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1410 | 5/14/24 9:35 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.96 | 5/14/24 9:35 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4 | LCS | 5/14/24 9:37 | 20.2 | 7.00 | 1,410 | 0.96 | | |
| CCV-4 | CCV | 5/14/24 12:17 | 21 | 7.01 | 1,418 | 0.99 | | |

**Comments:**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

June 12, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050002

Order No.: 24051621

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 11 sample(s) on 5/17/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **24051621**
Date: **6/12/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050002

WorkOrder Narrative:
24051621: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-75740 Radium-226_DW(903.0): LCS/LCSD exhibit a high RPD, individually each LCS/LCSD meet required criteria.

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# Qualifiers and Acronyms

WO#: **24051621**
Date: **6/12/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24051621**

***12-Jun-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050002

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24051621-001 | 24050002-001 | | 5/13/2024 12:20:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-002 | 24050002-002 | | 5/8/2024 11:14:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-003 | 24050002-003 | | 5/8/2024 12:44:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-004 | 24050002-004 | | 5/9/2024 12:32:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-005 | 24050002-005 | | 5/9/2024 1:48:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-006 | 24050002-006 | | 5/9/2024 10:28:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-007 | 24050002-007 | | 5/9/2024 11:19:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-008 | 24050002-008 | | 5/9/2024 11:53:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-009 | 24050002-009 | | 5/10/2024 10:37:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-010 | 24050002-010 | | 5/13/2024 10:52:00 AM | 5/17/2024 12:15:00 PM | Non-Potable Water |
| 24051621-011 | 24050002-011 | | 5/9/2024 12:12:00 PM | 5/17/2024 12:15:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,

**Project:** 24050002

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24051621-001A | 24050002-001 | 5/13/2024 12:20:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-002A | 24050002-002 | 5/8/2024 11:14:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-003A | 24050002-003 | 5/8/2024 12:44:00 PM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-004A | 24050002-004 | 5/9/2024 12:32:00 PM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-005A | 24050002-005 | 5/9/2024 1:48:00 PM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-006A | 24050002-006 | 5/9/2024 10:28:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-007A | 24050002-007 | 5/9/2024 11:19:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-008A | 24050002-008 | 5/9/2024 11:53:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-009A | 24050002-009 | 5/10/2024 10:37:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-010A | 24050002-010 | 5/13/2024 10:52:00 AM | | Radium-226 (EPA 903.0) | | 5/30/2024 1:15:00 PM | 6/10/2024 12:05:07 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/30/2024 1:15:00 PM | 6/7/2024 12:56:15 PM |
| 24051621-011A | 24050002-011 | 5/9/2024 12:12:00 PM | | Radium-226 (EPA 903.0) | | 5/28/2024 10:05:00 AM | 6/4/2024 9:57:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/28/2024 10:05:00 AM | 6/3/2024 2:37:00 PM |

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# Analytical Report

(consolidated)

WO#: **24051621**

Date Reported: **6/12/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/10/2024 10:37:00 AM

**Project:** 24050002

**Lab ID:** 24051621-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050002-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | 1.25 | 1.00 | | pCi/L | ± 0.200 | 1 | 6/10/2024 12:05:07 PM |
| Yield | 0.960 | | | | | 1 | 6/10/2024 12:05:07 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.460 | 1 | 6/7/2024 12:56:15 PM |
| Yield | 0.830 | | | | | 1 | 6/7/2024 12:56:15 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75651**

| Sample ID: **MB-75651** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186770** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75651** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5060869** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75651** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186770** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75651** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5060871** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.50 | 1.00 | 5.000 | 0 | 90.0 | 50 | 130 | 3.520 | 24.4 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

| Sample ID: **24051612-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/28/2024** | RunNo: **186770** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75651** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/3/2024** | SeqNo: **5060876** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 0.970 | | | 0 | 0 | | | 1.000 | 3.05 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75651**

Sample ID: **24051613-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186770**
Client ID: **BatchQC** Batch ID: **75651** TestNo: **E904.0** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5060878**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 0.950 | | | 0 | 0 | | | 0.9500 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75651**

Sample ID: **24051612-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **BatchQC** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.960 | | | | | | | 1.000 | 4.08 | 0 | |

Sample ID: **24051613-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **BatchQC** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061013**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 0.940 | | | | | | | 0.9500 | 1.06 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75651**

Sample ID: **MB-75651** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **PBW** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061004**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | ND | | | | | | | | | | |

Sample ID: **LCS-75651** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **LCSW** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061005**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.94 | 1.00 | 5.000 | 0 | 98.8 | 70 | 130 | | | | |

Sample ID: **LCSD-75651** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/28/2024** RunNo: **186773**
Client ID: **LCSS02** Batch ID: **75651** TestNo: **E903.0** **E903-904** Analysis Date: **6/4/2024** SeqNo: **5061006**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.48 | 1.00 | 5.000 | 0 | 89.6 | 70 | 130 | 4.940 | 9.77 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75740**

| Sample ID: **MB-75740** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187287** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75740** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/7/2024** | SeqNo: **5075299** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75740** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187287** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75740** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/7/2024** | SeqNo: **5075300** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.94 | 1.00 | 5.000 | 0 | 78.8 | 50 | 130 | | | | |
| Yield | 0.890 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75740** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187287** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75740** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/7/2024** | SeqNo: **5075301** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.07 | 1.00 | 5.000 | 0 | 81.4 | 50 | 130 | 3.940 | 3.25 | 20 | |
| Yield | 0.860 | | | 0 | 0 | | | 0.8900 | 3.43 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75740**

Sample ID: **24050773-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187287**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E904.0** **E903-904** Analysis Date: **6/7/2024** SeqNo: **5075306**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 0.910 | | | 0 | 0 | | | 0.8900 | 2.22 | | |

Sample ID: **24052198-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187287**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E904.0** **E903-904** Analysis Date: **6/7/2024** SeqNo: **5075324**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 0.930 | | | 0 | 0 | | | 0.9600 | 3.17 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75740**

| Sample ID: **MB-75740** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075489** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75740** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075490** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.05 | 1.00 | 5.000 | 0 | 81.0 | 70 | 130 | | | | QLR |

| Sample ID: **LCSD-75740** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075491** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.95 | 1.00 | 5.000 | 0 | 99.0 | 70 | 130 | 4.050 | 20.0 | 20 | R |

| Sample ID: **24050773-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **5/30/2024** | RunNo: **187303** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75740** | TestNo: **E903.0** | **E903-904** | Analysis Date: **6/10/2024** | SeqNo: **5075496** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24051621**

***12-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050002 **BatchID:** **75740**

Sample ID: **24050773-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187303**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E903.0** **E903-904** Analysis Date: **6/10/2024** SeqNo: **5075496**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 0.9400 | 6.19 | 0 | |

Sample ID: **24052198-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/30/2024** RunNo: **187303**
Client ID: **BatchQC** Batch ID: **75740** TestNo: **E903.0** **E903-904** Analysis Date: **6/10/2024** SeqNo: **5075514**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 0.960 | | | | | | | 1.000 | 4.08 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Pg 1 of 1

24051621

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Cooler Temp: 20.3-21.3 Sampler: Client QC Level: 2

20.3+0.0=
21.3+0.0= Fedex, Cooler

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Project# 24050002

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36304 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | Comm | | | | DH | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050002-001 | 5/13/2024 12:20 | HNO3 | Groundwater | ✔ | 28 | | | | 1 | | | | | | |
| | 24050002-002 | 5/8/2024 11:14 | HNO3 | Groundwater | ✔ | 18 | | | | 1 | | | | | | |
| | 24050002-003 | 5/8/2024 12:44 | HNO3 | Groundwater | ✔ | 32 | | | | 1 | | | | | | |
| | 24050002-004 | 5/9/2024 12:32 | HNO3 | Groundwater | ✔ | 18 | | | | 1 | | | | | | |
| | 24050002-005 | 5/9/2024 13:48 | HNO3 | Groundwater | ✔ | 38 | | | | 1 | | | | | | |
| | 24050002-006 | 5/9/2024 10:28 | HNO3 | Groundwater | ✔ | 28 | | | | 1 | | | | | | |
| | 24050002-007 | 5/9/2024 11:19 | HNO3 | Groundwater | ✔ | 38 | | | | 1 | | | | | | |
| | 24050002-008 | 5/9/2024 11:53 | HNO3 | Groundwater | ✔ | 12 | | | | 1 | | | | | | |
| | 24050002-009 | 5/10/2024 10:37 | HNO3 | Groundwater | ✔ | 22 | | | | 1 | | | | | | |
| | 24050002-010 | 5/13/2024 10:52 | HNO3 | Groundwater | ✔ | 34 | | | | 1 | | | | | | |
| | 24050002-011 | 5/9/2024 12:12 | HNO3 | Groundwater | ✔ | | | Did not receive -011 | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Randy Reeley | 5/14/24 | Tonya Rabenda | 5/17/24, 1215 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24051621 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/17/2024 12:15:00 PM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/21/2024 2:09:09 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/21/2024 2:33:59 PM | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| | No. Seal Date: Signed By: | | | |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

same as Summit ID 240516201-001 per email
Did not receive -011

Cooler Information

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24051621 RcptNo: 1

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 20.3 | Good | Not Present | | | |
| 2 | 21.3 | Good | Not Present | | | |

June 07, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells G1-G2-G3 **WorkOrder:** 24050001

Dear Eric Staley:

TEKLAB, INC received 12 samples on 5/13/2024 4:10:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 24050001
**Client Project:** Landfill Monitoring Wells G1-G2-G3
**Report Date:** 07-Jun-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 67 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power

**Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3

**Report Date:** 07-Jun-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050001
**Client Project:** Landfill Monitoring Wells G1-G2-G3
**Report Date:** 07-Jun-24

**Cooler Receipt Temp:** 13.5 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 05/13/2024 12:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **120** | µg/L | 1 | 05/15/2024 19:00 | 222911 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/15/2024 19:00 | 222911 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/15/2024 19:00 | 222911 |
| Magnesium | NELAP | 0.050 | | **65.1** | mg/L | 1 | 05/15/2024 19:00 | 222911 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/15/2024 19:00 | 222911 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **190** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Barium | NELAP | 2.5 | | **23.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Boron | NELAP | 20.0 | | **124** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Calcium | NELAP | 0.100 | | **163** | mg/L | 1 | 05/15/2024 19:38 | 222939 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Iron | NELAP | 40.0 | | **225** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Magnesium | NELAP | 0.050 | | **67.2** | mg/L | 1 | 05/15/2024 19:38 | 222939 |
| Manganese | NELAP | 7.0 | | **1090** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Potassium | NELAP | 0.100 | | **0.647** | mg/L | 1 | 05/15/2024 19:38 | 222939 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Sodium | NELAP | 0.050 | | **28.2** | mg/L | 1 | 05/15/2024 19:38 | 222939 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/15/2024 19:38 | 222939 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 16:26 | 222911 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 16:26 | 222911 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | B | **< 1.0** | µg/L | 5 | 05/16/2024 19:10 | 222939 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/16/2024 19:10 | 222939 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/16/2024 19:10 | 222939 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/16/2024 19:10 | 222939 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 20:21 | 223077 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 20:19 | 223077 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/15/2024 16:37 | 222914 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:27 | 223091 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:27 | 223091 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:27 | 223091 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:27 | 223091 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:27 | 223091 |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-002 **Client Sample ID:** G110

**Matrix:** GROUNDWATER **Collection Date:** 05/08/2024 11:14

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **89.0** | µg/L | 1 | 05/14/2024 16:30 | 222458 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/14/2024 16:30 | 222458 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/14/2024 16:30 | 222458 |
| Magnesium | NELAP | 0.050 | | **41.2** | mg/L | 1 | 05/14/2024 16:30 | 222458 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/14/2024 16:30 | 222458 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **35.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Barium | NELAP | 2.5 | | **184** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Boron | NELAP | 20.0 | | **94.1** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Calcium | NELAP | 0.100 | | **109** | mg/L | 1 | 05/15/2024 19:39 | 222939 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Iron | NELAP | 40.0 | | **5730** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Magnesium | NELAP | 0.050 | | **45.6** | mg/L | 1 | 05/15/2024 19:39 | 222939 |
| Manganese | NELAP | 7.0 | | **80.5** | µg/L | 1 | 05/15/2024 19:39 | 222939 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Potassium | NELAP | 0.100 | | **1.55** | mg/L | 1 | 05/15/2024 19:39 | 222939 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Sodium | NELAP | 0.050 | | **13.1** | mg/L | 1 | 05/15/2024 19:39 | 222939 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 13:43 | 222764 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **4.6** | µg/L | 5 | 05/14/2024 22:09 | 222458 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 23:13 | 222458 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | B | **< 1.0** | µg/L | 5 | 05/15/2024 21:39 | 222764 |
| Arsenic | NELAP | 1.0 | | **5.8** | µg/L | 5 | 05/15/2024 21:39 | 222764 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 21:39 | 222764 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/15/2024 21:39 | 222764 |
| *Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 20:25 | 223077 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 20:23 | 223077 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/15/2024 16:53 | 222844 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/14/2024 12:13 | 222870 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/14/2024 12:13 | 222870 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/14/2024 12:13 | 222870 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/14/2024 12:13 | 222870 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/14/2024 12:13 | 222870 |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-004 **Client Sample ID:** G112

**Matrix:** GROUNDWATER **Collection Date:** 05/09/2024 12:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **343** | µg/L | 1 | 05/14/2024 16:32 | 222458 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/14/2024 16:32 | 222458 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/14/2024 16:32 | 222458 |
| Magnesium | NELAP | 0.050 | | **61.9** | mg/L | 1 | 05/14/2024 16:32 | 222458 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/14/2024 16:32 | 222458 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **47.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Barium | NELAP | 2.5 | | **449** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Boron | NELAP | 20.0 | | **330** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Calcium | NELAP | 0.100 | | **194** | mg/L | 1 | 05/13/2024 19:17 | 222798 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Iron | NELAP | 40.0 | | **6040** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Magnesium | NELAP | 0.050 | | **68.7** | mg/L | 1 | 05/13/2024 19:17 | 222798 |
| Manganese | NELAP | 7.0 | | **225** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Potassium | NELAP | 0.100 | | **2.30** | mg/L | 1 | 05/13/2024 19:17 | 222798 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Sodium | NELAP | 0.050 | | **32.0** | mg/L | 1 | 05/13/2024 19:17 | 222798 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:17 | 222798 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 22:19 | 222458 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 23:23 | 222458 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 22:40 | 222798 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 22:40 | 222798 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 19:34 | 222798 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/15/2024 19:34 | 222798 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2024 13:01 | 223077 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 20:37 | 223077 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/14/2024 19:43 | 222844 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 17:48 | 222988 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 17:48 | 222988 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 17:48 | 222988 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 17:48 | 222988 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 17:48 | 222988 |
| gamma-BHC | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 17:48 | 222988 |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-005 **Client Sample ID:** G113

**Matrix:** GROUNDWATER **Collection Date:** 05/09/2024 13:48

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **1290** | µg/L | 1 | 05/14/2024 16:36 | 222458 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/14/2024 16:36 | 222458 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/14/2024 16:36 | 222458 |
| Magnesium | NELAP | 0.050 | | **73.5** | mg/L | 1 | 05/14/2024 16:36 | 222458 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/14/2024 16:36 | 222458 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **123** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Barium | NELAP | 2.5 | | **359** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Boron | NELAP | 20.0 | | **1480** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Calcium | NELAP | 0.100 | | **354** | mg/L | 1 | 05/13/2024 19:18 | 222798 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Iron | NELAP | 40.0 | | **703** | µg/L | 1 | 05/15/2024 11:02 | 222798 |
| Magnesium | NELAP | 0.050 | | **82.8** | mg/L | 1 | 05/13/2024 19:18 | 222798 |
| Manganese | NELAP | 7.0 | | **12800** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Potassium | NELAP | 0.100 | | **3.52** | mg/L | 1 | 05/13/2024 19:18 | 222798 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Sodium | NELAP | 0.050 | | **21.3** | mg/L | 1 | 05/13/2024 19:18 | 222798 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:18 | 222798 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 22:24 | 222458 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 23:27 | 222458 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 23:38 | 222798 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 23:38 | 222798 |
| Lead | NELAP | 1.0 | | **4.6** | µg/L | 5 | 05/15/2024 19:39 | 222798 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/15/2024 19:39 | 222798 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 21:22 | 223077 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/21/2024 21:20 | 223077 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/14/2024 19:58 | 222844 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:02 | 222988 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:02 | 222988 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:02 | 222988 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:02 | 222988 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:02 | 222988 |
| gamma-BHC | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:02 | 222988 |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-007 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 05/09/2024 11:19

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **3220** | µg/L | 1 | 05/14/2024 16:37 | 222458 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/14/2024 16:37 | 222458 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/14/2024 16:37 | 222458 |
| Magnesium | NELAP | 0.050 | | **74.5** | mg/L | 1 | 05/14/2024 16:37 | 222458 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/14/2024 16:37 | 222458 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **295** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Barium | NELAP | 2.5 | | **606** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Boron | NELAP | 20.0 | | **3520** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Calcium | NELAP | 0.100 | | **191** | mg/L | 1 | 05/13/2024 19:33 | 222798 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Iron | NELAP | 40.0 | | **21000** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Magnesium | NELAP | 0.050 | | **83.1** | mg/L | 1 | 05/13/2024 19:33 | 222798 |
| Manganese | NELAP | 7.0 | | **209** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Potassium | NELAP | 0.100 | | **3.76** | mg/L | 1 | 05/13/2024 19:33 | 222798 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Silver | NELAP | 7.0 | | **24.5** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Sodium | NELAP | 0.050 | | **40.9** | mg/L | 1 | 05/13/2024 19:33 | 222798 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:33 | 222798 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **13.5** | µg/L | 5 | 05/14/2024 22:35 | 222458 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 23:37 | 222458 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 23:44 | 222798 |
| Arsenic | NELAP | 1.0 | | **14.6** | µg/L | 5 | 05/14/2024 23:44 | 222798 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 20:34 | 222798 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/15/2024 20:34 | 222798 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/24/2024 12:18 | 222922 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/24/2024 12:16 | 222922 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/15/2024 19:09 | 222844 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:29 | 222988 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:29 | 222988 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:29 | 222988 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:29 | 222988 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:29 | 222988 |
| gamma-BHC | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:29 | 222988 |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-008 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 05/09/2024 11:53

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | S | **11500** | µg/L | 1 | 05/14/2024 16:38 | 222458 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/14/2024 16:38 | 222458 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/14/2024 16:38 | 222458 |
| Magnesium | NELAP | 0.050 | S | **88.5** | mg/L | 1 | 05/14/2024 16:38 | 222458 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/14/2024 16:38 | 222458 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **< 25.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Barium | NELAP | 2.5 | | **520** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Boron | NELAP | 20.0 | | **12800** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Calcium | NELAP | 0.100 | | **266** | mg/L | 1 | 05/13/2024 19:34 | 222798 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Iron | NELAP | 40.0 | | **33200** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Magnesium | NELAP | 0.050 | | **101** | mg/L | 1 | 05/13/2024 19:34 | 222798 |
| Manganese | NELAP | 7.0 | | **1300** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Potassium | NELAP | 0.100 | | **2.40** | mg/L | 1 | 05/13/2024 19:34 | 222798 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Silver | NELAP | 7.0 | | **14.2** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Sodium | NELAP | 0.050 | | **38.4** | mg/L | 1 | 05/13/2024 19:34 | 222798 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/13/2024 19:34 | 222798 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **3.0** | µg/L | 5 | 05/15/2024 23:42 | 222458 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 23:42 | 222458 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/14/2024 23:49 | 222798 |
| Arsenic | NELAP | 1.0 | | **3.5** | µg/L | 5 | 05/14/2024 23:49 | 222798 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 20:39 | 222798 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/15/2024 20:39 | 222798 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/24/2024 12:23 | 222922 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/24/2024 12:20 | 222922 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/15/2024 17:23 | 222914 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:42 | 222988 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:42 | 222988 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:42 | 222988 |
| Dieldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:42 | 222988 |
| Endrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/15/2024 18:42 | 222988 |

**Client:** City Water, Light & Power **Work Order:** 24050001

**Client Project:** Landfill Monitoring Wells G1-G2-G3 **Report Date:** 07-Jun-24

**Lab ID:** 24050001-010 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 05/13/2024 10:52

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)** | | | | | | | | |
| Boron | NELAP | 20.0 | | **2640** | µg/L | 1 | 05/15/2024 19:01 | 222911 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/15/2024 19:01 | 222911 |
| Chromium | NELAP | 4.0 | | **< 4.0** | µg/L | 1 | 05/15/2024 19:01 | 222911 |
| Magnesium | NELAP | 0.050 | S | **57.7** | mg/L | 1 | 05/15/2024 19:01 | 222911 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/15/2024 19:01 | 222911 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | S | **921** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Barium | NELAP | 2.5 | | **607** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Boron | NELAP | 20.0 | | **2730** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Calcium | NELAP | 0.100 | | **141** | mg/L | 1 | 05/22/2024 9:20 | 222998 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Iron | NELAP | 40.0 | S | **18800** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Magnesium | NELAP | 0.050 | | **58.9** | mg/L | 1 | 05/22/2024 9:20 | 222998 |
| Manganese | NELAP | 7.0 | | **234** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Potassium | NELAP | 0.100 | | **2.35** | mg/L | 1 | 05/22/2024 9:20 | 222998 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Sodium | NELAP | 0.050 | S | **42.0** | mg/L | 1 | 05/22/2024 9:20 | 222998 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/21/2024 11:40 | 222998 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **23.1** | µg/L | 5 | 05/15/2024 15:07 | 222911 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/15/2024 15:07 | 222911 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | B | **< 1.0** | µg/L | 5 | 05/21/2024 13:20 | 222998 |
| Arsenic | NELAP | 1.0 | | **17.5** | µg/L | 5 | 05/21/2024 13:20 | 222998 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/21/2024 13:20 | 222998 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/21/2024 13:20 | 222998 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2024 15:04 | 223231 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2024 15:02 | 223231 |
| **EPA 600 548.1, ENDOTHALL BY GC/MS** | | | | | | | | |
| Endothall | * | 10 | | **ND** | µg/L | 1 | 05/15/2024 18:23 | 222914 |
| **SW-846 3510C, 8081B, CHLORINATED PESTICIDES BY GC/ECD** | | | | | | | | |
| 4,4´-DDT | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:41 | 223091 |
| Alachlor | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:41 | 223091 |
| Aldrin | NELAP | 0.05 | | **ND** | µg/L | 1 | 05/17/2024 15:41 | 223091 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050001
**Client Project:** Landfill Monitoring Wells G1-G2-G3
**Report Date:** 07-Jun-24

**Carrier:** Daniel Stupar
**Received By:** WAO

**Completed by:** Amber Dilallo
**On:** 08-May-24

**Reviewed by:** Ellie Hopkins
**On:** 13-May-24

**Pages to follow:** Chain of custody 6 Extra pages included 0

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 13.5 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☑ | No ☐ | No VOA vials ☐ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 5/8/24 at 1505 on ice [13.5C - LTG5]. Additional Sulfuric Acid (97586) was needed for R111 total container. pH strip #89660/96651.

Preservation checks for O&G analysis are to be completed by the laboratory technician prior to analysis. - amberdilallo - 5/8/2024 4:04:00 PM

Samples were received on 5/9/2024 at 16:35 on ice [12.1C - LTG#5]. pH strip #96651/89660 - pschultz - 5/10/202 9:08:23 AM

Samples were received on 5/10/2024 at 13:30 on ice [10.7C - LTG#3]. pH strip #96651/89660. - pschultz - 5/10/2024 2:31:44 PM

Samples were received on 5/13/2024 at 16:10 on ice [10.1C - LTG#7]. pH strip #96651/89660. - pschultz - 5/13/2024 4:35:48 PM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 13.5 °C 5
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: 2 pumps H2SO4 (97886) added to total
R111 PhV 96651 DS 5/8 OH 5/8/24

Client Comments: 89660
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

TEKLAB Courier

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

PROJECT NAME/NUMBER: Landfill Monitoring Wells G1-G2-G3
SAMPLE COLLECTOR'S NAME: T Carroll / D Crump

RESULTS REQUESTED: [ ] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050001-001 | R101 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | 5/8/24 1114 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | 5/8/24 1244 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5/8 1505 | Whitney Clem | 5/8/24 1505 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

DS 5/8

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24050001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☐ No
Are these samples known to be hazardous? ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☐ No

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2-G3

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
| 24050001-012 | DUPLICATE | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-8 / 1505 | Whitney Quinn | 5-8-24 1505 |
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*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 12.1 °C
Preserved in: [ ] LAB [ ] FIELD FOR LAB USE ONLY LTG #5
LAB NOTES: pH√ 96651/89460 ØHS
PS 5/10

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

**Client Comments:**
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2-G3

**SAMPLE COLLECTOR'S NAME**
T Carroll

**RESULTS REQUESTED**
[ ] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050001 001 | R101 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | 5/9/24 1232 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | 1348 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | 1028 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | 1119 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | 1153 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | 5-9-24 1212 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-9/1635 | Mark Reed | 5/9/24 1635 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24050001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 12.1 °C LTGTHS
Preserved in: [ ] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

**Client Comments:**
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2-G3

**SAMPLE COLLECTOR'S NAME**
T Carroll

**RESULTS REQUESTED**
[ ] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050001-012 | DUPLICATE | 5/9/24 1212 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Crump | 5-9 1635 | Nick Reed | 5/9/24 1635 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

LT63

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.7 °C
Preserved in: ☒ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: PHV 96651/89660 5110 WO NO HS

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☐ No
Are these samples known to be hazardous? ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☐ No

**Client Comments:**
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2-G3

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050001 001 | R101 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | 5-10-24 / 1037 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 5-10-24 / 1330 | [signature] | 5/10/24 1330 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24050001

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☐ No
Are these samples known to be hazardous? ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☐ No

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.1 °C LTG 7
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH 9665/1896160 LH 5/13 ~~HS present~~ TE PS 5/13 HS OK PS 5/13

**Client Comments:**
Quarter 2 (even number years)
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2-G3

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide O&G OOH | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | VOC Pest-PCB | SVOC-PSIMS | Herbicides | Endothall EDB-DBCP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050001-001 | R101 | 5-13-24 / 1220 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | 5-13-24 / 1052 | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 9 | 2 | 1 | 5 | 3 | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Daniel Colp | 5-13-24 / 1610 | Whitney Quinn | 5/13/24 1610 |
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**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- LF- 2Q 2024**

| | | | Weather | | | | Well Condition | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WO Sample** | **Well ID** | **Program/ Sample Type** | **Temp (°F)** | **Precipitation** | **Wind Direction** | **Sky** | **Well Pad** | **Casing** | **Protective Cover** | **Reference Mark/ ID** | **Well Locked** |
| 001 | R101 | Groundwater Sample | 72.0 | None | S | Cloudy | Good | Good | Good | Yes | No |
| 002 | G110 | Groundwater Sample | 75.0 | Light | S | Cloudy | Good | Good | Good | Yes | No |
| 003 | R111 | Groundwater Sample | 75.0 | Light | S | Cloudy | Good | Good | Good | Yes | No |
| 004 | G112 | Groundwater Sample | 71.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 005 | G113 | Groundwater Sample | 72.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 006 | G120 | Groundwater Sample | 68.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 007 | G121 | Groundwater Sample | 69.0 | None | W | Partly cloudy | Good | Good | Good | Yes | No |
| 008 | G122 | Groundwater Sample | 71.0 | None | W | Cloudy | Good | Good | Good | Yes | No |
| 009 | AW-1 | Groundwater Sample | 59.0 | None | NW | Partly cloudy | Good | Good | Good | Yes | No |
| 010 | AW-2 | Groundwater Sample | 71.0 | None | S | Cloudy | Good | Good | Good | Yes | No |
| 011 | RW-3 | Groundwater Sample | 73.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |
| 012 | Duplicate | QA/QC Sample | 73.0 | None | S | Partly cloudy | Good | Good | Good | Yes | No |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- LF- 2Q 2024**

| | | GW Level Measurement | | | | Purge Activities | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WO Sample | Well ID | Sampler Initials | Date/Time | DTW (ft) | DTB (ft) | Sampler Initials | Purge Date | Purge Start Time | Purge End Time | Purging/Sampling Device | Well Diameter (in) | Actual Volume Purged (L) | Purge Rate (mL/min) |
| 001 | R101 | JC | 5/13/24 11:56 | 5.95 | 35.27 | JC | 5/13/2024 | 11:58 | 12:20 | Submersible Pump | 2" | 7.0 | 318.2 |
| 002 | G110 | DC | 5/8/24 10:22 | 23.19 | 57.15 | DC | 5/8/2024 | 10:27 | 11:14 | Peristaltic Pump | 2" | 6.0 | 127.7 |
| 003 | R111 | DC | 5/8/24 12:04 | 24.22 | 55.75 | DC | 5/8/2024 | 12:09 | 12:44 | Peristaltic Pump | 2" | 7.0 | 200.0 |
| 004 | G112 | JC | 5/9/24 12:06 | 26.99 | 58.81 | JC | 5/9/2024 | 12:19 | 12:32 | Submersible Pump | 2" | 5.0 | 384.6 |
| 005 | G113 | JC | 5/9/24 13:31 | 3.85 | 12.85 | JC | 5/9/2024 | 13:34 | 13:48 | Submersible Pump | 2" | 3.0 | 214.3 |
| 006 | G120 | JC | 5/9/24 9:58 | 14.79 | 50.37 | JC | 5/9/2024 | 10:00 | 10:28 | Submersible Pump | 2" | 11.0 | 392.9 |
| 007 | G121 | JC | 5/9/24 11:03 | 26.76 | 58.56 | JC | 5/9/2024 | 11:03 | 11:19 | Submersible Pump | 2" | 6.0 | 375.0 |
| 008 | G122 | JC | 5/9/24 11:29 | 27.67 | 49.29 | JC | 5/9/2024 | 11:39 | 11:53 | Submersible Pump | 2" | 6.0 | **428.6** |
| 009 | AW-1 | JC | 5/10/24 9:39 | 12.63 | 54.81 | JC | 5/10/2024 | 09:44 | 10:37 | Submersible Pump | 2" | 17.0 | 320.8 |
| 010 | AW-2 | JC | 5/13/24 10:11 | 3.29 | 32.64 | JC | 5/13/2024 | 10:12 | 10:52 | Submersible Pump | 2" | 14.0 | 350.0 |
| 011 | RW-3 | TAC | 5/9/24 11:19 | 7.87 | 44.01 | TAC | 5/9/2024 | 11:23 | 12:12 | Bladder Pump | 2" | 9.0 | 183.7 |
| 012 | Duplicate | TAC | 5/9/24 11:19 | 7.87 | 44.01 | TAC | 5/9/2024 | 11:23 | 12:12 | Bladder Pump | 2" | 9.0 | 183.7 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- LF- 2Q 2024**

| WO Sample | Well ID | Sampling Activities and Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sampler Initials | Date | Time | Sampling Method | Field Filtered | Appearance | Odor | Color | Post-Sample DTW (ft) | Drawdown (ft) |
| 001 | R101 | JC | 05/13/24 | 12:20 | Low Flow | Yes | Clear | None | none | 6.23 | 0.28 |
| 002 | G110 | TAC | 05/08/24 | 11:14 | Low Flow | Yes | Clear | None | None | 23.38 | 0.19 |
| 003 | R111 | TAC | 05/08/24 | 12:44 | Low Flow | Yes | Clear | None | None | 24.33 | 0.11 |
| 004 | G112 | JC | 05/09/24 | 12:32 | Low Flow | Yes | Clear | None | none | 27.09 | 0.10 |
| 005 | G113 | JC | 05/09/24 | 13:48 | Low Flow | Yes | Clear | Strong | none | 3.97 | 0.12 |
| 006 | G120 | JC | 05/09/24 | 10:28 | Low Flow | Yes | Clear | Slight | none | 15.36 | **0.57** |
| 007 | G121 | JC | 05/09/24 | 11:19 | Low Flow | Yes | Clear | None | none | 27.15 | 0.39 |
| 008 | G122 | JC | 05/09/24 | 11:53 | Low Flow | Yes | Clear | None | none | 27.97 | 0.30 |
| 009 | AW-1 | JC | 05/10/24 | 10:37 | Low Flow | Yes | Clear | None | none | 12.98 | 0.35 |
| 010 | AW-2 | JC | 05/13/24 | 10:52 | Low Flow | Yes | Slightly cloudy | Slight | lt brown | 4.67 | **1.38** |
| 011 | RW-3 | TAC | 05/09/24 | 12:12 | Low Flow | Yes | Clear | None | None | 14.87 | **7.00** |
| 012 | Duplicate | TAC | 05/09/24 | 12:12 | Low Flow | Yes | Clear | None | None | 14.87 | **7.00** |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Summary**
**CWLP- LF- 2Q 2024**

| WO Sample | Well ID | COMMENTS |
|---|---|---|
| 001 | R101 | |
| 002 | G110 | |
| 003 | R111 | |
| 004 | G112 | |
| 005 | G113 | |
| 006 | G120 | Flush Mount well |
| 007 | G121 | |
| 008 | G122 | |
| 009 | AW-1 | |
| 010 | AW-2 | |
| 011 | RW-3 | |
| 012 | Duplicate | |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Stabilized Field Parameters Summary**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) | DTW (ft) | LIMS ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 5/13/2024 | 12:20 | 13.8 | 56.9 | 6.92 | 804.8 | 2.63 | 16.14 | 77.6 | 5.95 | 24050001-001A |
| G110 | 5/8/2024 | 11:14 | 15.5 | 60.0 | 6.54 | 783.4 | 1.42 | 4.97 | -62.3 | 23.19 | 24050001-002A |
| R111 | 5/8/2024 | 12:44 | 14.5 | 58.0 | 6.01 | 120.4 | 3.91 | 2.71 | 66.5 | 24.22 | 24050001-003A |
| G112 | 5/9/2024 | 12:32 | 14.6 | 58.3 | 6.97 | 1,066.2 | 0.17 | 4.06 | -136.2 | 26.99 | 24050001-004A |
| G113 | 5/9/2024 | 13:48 | 15.5 | 59.8 | 6.27 | 1,357.4 | 0.17 | 5.05 | -273.2 | 3.85 | 24050001-005A |
| G120 | 5/9/2024 | 10:28 | 17.5 | 63.4 | 6.65 | 1,294.2 | 0.11 | 7.19 | -147.1 | 14.79 | 24050001-006A |
| G121 | 5/9/2024 | 11:19 | 15.0 | 59.0 | 6.76 | 1,041.5 | 0.15 | 8.16 | -144.6 | 26.76 | 24050001-007A |
| G122 | 5/9/2024 | 11:53 | 14.6 | 58.2 | 6.64 | 1,225.7 | 0.28 | 2.93 | -119.2 | 27.67 | 24050001-008A |
| AW-1 | 5/10/2024 | 10:37 | 14.5 | 58.1 | 6.58 | 1,063.8 | 0.14 | 25.85 | -122.3 | 12.63 | 24050001-009A |
| AW-2 | 5/13/2024 | 10:52 | 15.0 | 59.0 | 6.83 | 783.6 | 0.07 | 8.08 | -160.7 | 3.29 | 24050001-010A |
| RW-3 | 5/9/2024 | 12:12 | 15.1 | 59.1 | 6.70 | 644.4 | 0.82 | 23.4 | -105.9 | 7.87 | 24050001-011A |
| Duplicate | 5/9/2024 | 12:12 | 15.1 | 59.1 | 6.70 | 644.4 | 0.82 | 23.4 | -105.9 | 7.87 | 24050001-012A |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| R101 | 5/13/2024 | 12:11 | 5.95 | 12.9 | 55.3 | 6.89 | 804.9 | 2.67 | 20.15 | 78.8 |
| R101 | 5/13/2024 | 12:14 | 5.95 | 13.5 | 56.3 | 6.92 | 804.6 | 2.65 | 18.08 | 78.3 |
| R101 | 5/13/2024 | 12:17 | 5.95 | 13.4 | 56.2 | 6.92 | 805.4 | 2.65 | 16.91 | 79.0 |
| R101 | 5/13/2024 | 12:20 | 5.95 | 13.8 | 56.9 | 6.92 | 804.8 | 2.63 | 16.14 | 77.6 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G110 | 5/8/2024 | 10:50 | 23.19 | 15.6 | 60.0 | 6.91 | 779.1 | 2.22 | 40.97 | -30.7 |
| G110 | 5/8/2024 | 10:53 | 23.19 | 15.5 | 59.8 | 6.86 | 778.3 | 2.09 | 34.58 | -33.5 |
| G110 | 5/8/2024 | 10:56 | 23.19 | 15.4 | 59.8 | 6.82 | 776.5 | 1.99 | 41.42 | -36.6 |
| G110 | 5/8/2024 | 10:59 | 23.19 | 15.4 | 59.8 | 6.78 | 776.9 | 1.93 | 14.75 | -41.4 |
| G110 | 5/8/2024 | 11:02 | 23.19 | 15.4 | 59.7 | 6.75 | 776.2 | 1.84 | 13.25 | -45.4 |
| G110 | 5/8/2024 | 11:05 | 23.19 | 15.4 | 59.7 | 6.70 | 778.3 | 1.70 | 31.78 | -49.4 |
| G110 | 5/8/2024 | 11:08 | 23.19 | 15.6 | 60.0 | 6.64 | 778.7 | 1.56 | 7.23 | -54.2 |
| G110 | 5/8/2024 | 11:11 | 23.19 | 15.6 | 60.0 | 6.58 | 781.5 | 1.51 | 5.37 | -58.9 |
| G110 | 5/8/2024 | 11:14 | 23.19 | 15.5 | 60.0 | 6.54 | 783.4 | 1.42 | 4.97 | -62.3 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G112 | 5/9/2024 | 12:23 | 26.99 | 14.5 | 58.0 | 6.96 | 1,077.3 | 0.62 | 7.45 | -126.9 |
| G112 | 5/9/2024 | 12:26 | 26.99 | 14.5 | 58.1 | 6.96 | 1,076.6 | 0.31 | 5.25 | -131.2 |
| G112 | 5/9/2024 | 12:29 | 26.99 | 14.6 | 58.3 | 6.97 | 1,075.7 | 0.23 | 4.54 | -134.7 |
| G112 | 5/9/2024 | 12:32 | 26.99 | 14.6 | 58.3 | 6.97 | 1,066.2 | 0.17 | 4.06 | -136.2 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G113 | 5/9/2024 | 13:36 | 3.85 | 15.0 | 58.9 | 6.28 | 1,363.3 | 1.10 | 18.25 | -149.6 |
| G113 | 5/9/2024 | 13:39 | 3.85 | 15.3 | 59.5 | 6.29 | 1,364.3 | 0.45 | 16.44 | -208.0 |
| G113 | 5/9/2024 | 13:42 | 3.85 | 15.3 | 59.5 | 6.29 | 1,356.4 | 0.27 | 12.41 | -248.5 |
| G113 | 5/9/2024 | 13:45 | 3.85 | 15.6 | 60.0 | 6.28 | 1,354.6 | 0.23 | 7.26 | -259.5 |
| G113 | 5/9/2024 | 13:48 | 3.85 | 15.5 | 59.8 | 6.27 | 1,357.4 | 0.17 | 5.05 | -273.2 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G121 | 5/9/2024 | 11:07 | 26.76 | 14.9 | 58.9 | 6.79 | 952.5 | 0.35 | 32.06 | -91.7 |
| G121 | 5/9/2024 | 11:10 | 26.76 | 14.8 | 58.7 | 6.78 | 1,009.7 | 0.23 | 19.47 | -129.7 |
| G121 | 5/9/2024 | 11:13 | 26.76 | 15.0 | 58.9 | 6.76 | 1,037.3 | 0.18 | 15.54 | -139.8 |
| G121 | 5/9/2024 | 11:16 | 26.76 | 15.1 | 59.1 | 6.76 | 1,040.6 | 0.16 | 10.83 | -143.1 |
| G121 | 5/9/2024 | 11:19 | 26.76 | 15.0 | 59.0 | 6.76 | 1,041.5 | 0.15 | 8.16 | -144.6 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| G122 | 5/9/2024 | 11:44 | 27.67 | 14.6 | 58.2 | 6.66 | 1,183.5 | 0.62 | 10.83 | -101.8 |
| G122 | 5/9/2024 | 11:47 | 27.67 | 14.1 | 57.4 | 6.66 | 1,190.2 | 0.38 | 6.05 | -114.3 |
| G122 | 5/9/2024 | 11:50 | 27.67 | 14.5 | 58.2 | 6.64 | 1,213.2 | 0.30 | 4.39 | -117.9 |
| G122 | 5/9/2024 | 11:53 | 27.67 | 14.6 | 58.2 | 6.64 | 1,225.7 | 0.28 | 2.93 | -119.2 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Groundwater Sampling Field Forms- Groundwater Quality Parameters**
**CWLP- LF- 2Q 2024**

| Well ID | Date | Time | DTW | Temp (°C) | Temp (°F) | pH (SU) | Sp Cond (µmhos/cm @25C) | ODO (mg/L) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| AW-2 | 5/13/2024 | 10:25 | 3.29 | 15.0 | 59.0 | 6.83 | 679.4 | 0.22 | 49.10 | -101.0 |
| AW-2 | 5/13/2024 | 10:28 | 3.29 | 15.1 | 59.2 | 6.78 | 759.9 | 0.18 | 42.57 | -136.3 |
| AW-2 | 5/13/2024 | 10:31 | 3.29 | 15.2 | 59.4 | 6.83 | 778.0 | 0.15 | 24.94 | -152.7 |
| AW-2 | 5/13/2024 | 10:34 | 3.29 | 15.1 | 59.2 | 6.83 | 779.2 | 0.13 | 22.03 | -156.3 |
| AW-2 | 5/13/2024 | 10:37 | 3.29 | 15.2 | 59.4 | 6.83 | 781.1 | 0.12 | 27.98 | -157.7 |
| AW-2 | 5/13/2024 | 10:40 | 3.29 | 15.1 | 59.3 | 6.83 | 781.7 | 0.10 | 19.55 | -158.7 |
| AW-2 | 5/13/2024 | 10:43 | 3.29 | 15.0 | 59.1 | 6.83 | 782.5 | 0.09 | 15.90 | -159.2 |
| AW-2 | 5/13/2024 | 10:46 | 3.29 | 15.0 | 59.0 | 6.83 | 783.4 | 0.08 | 11.59 | -160.0 |
| AW-2 | 5/13/2024 | 10:49 | 3.29 | 15.0 | 59.0 | 6.83 | 784.4 | 0.07 | 10.85 | -160.5 |
| AW-2 | 5/13/2024 | 10:52 | 3.29 | 15.0 | 59.0 | 6.83 | 783.6 | 0.07 | 8.08 | -160.7 |

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/9/24 9:25 |
| 7.0 Buffer | WC240307F | 7.00 | 5/9/24 9:37 |
| 10.0 Buffer | WC231027D | 10.01 | 5/9/24 9:40 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/9/24 9:42 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.5 | 5/9/24 9:51 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/9/24 18:30 | 18.96 | 7.00 | 1,412 | 1.5 | | |
| CCV-1 | CCV | 5/9/24 18:29 | 20.62 | 7.02 | 1,413 | 1.5 | | |

**Comments:**

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.01 | 5/10/24 8:54 |
| 7.0 Buffer | WC240307F | 7.02 | 5/10/24 16:36 |
| 10.0 Buffer | WC231027D | 10.00 | 5/10/24 16:36 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1413 | 5/10/24 16:38 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.5 | 5/10/24 16:38 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/10/24 16:38 | 18.65 | 7.01 | 1,413 | 1.5 | | |
| CCV-2 | CCV | 5/10/24 16:39 | 20.64 | 7.02 | 1,415 | 1.4 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 26599 Technician(s): B. Gillihan Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/13/24 9:29 |
| 7.0 Buffer | WC240307F | 7.03 | 5/13/24 9:36 |
| 10.0 Buffer | WC231027D | 10.01 | 5/13/24 9:42 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1415 | 5/13/24 9:51 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.6 | 5/13/24 9:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/13/24 10:05 | 19.72 | 7.02 | 1,415 | 1.6 | | |
| CCV-3 | CCV | 5/13/24 11:05 | 20.01 | 7.01 | 1,415 | 1.5 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Daniel Crump/Tracy Carroll Date: 5/8/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/8/24 10:09 |
| 7.0 Buffer | WC240307F | 7.01 | 5/8/24 10:07 |
| 10.0 Buffer | WC230619B | 10.00 | 5/8/24 10:11 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/8/24 10:14 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/8/24 10:16 | 22.9 | 7.09 | 1,413 | | | |
| CCV-1 | CCV | 5/8/24 13:21 | 21 | 7.02 | 1,439 | | | |

**Comments:**

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/9/24 11:02 |
| 7.0 Buffer | WC240307F | 7.02 | 5/9/24 11:01 |
| 10.0 Buffer | WC230619B | 10.00 | 5/9/24 11:03 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/9/24 11:11 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/9/24 11:16 | 24.2 | 7.06 | 1,413 | | | |
| CCV-2 | CCV | 5/9/24 15:03 | 25.2 | 7.08 | 1,488 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/10/24 9:28 |
| 7.0 Buffer | WC240307F | 7.04 | 5/10/24 9:25 |
| 10.0 Buffer | WC230619B | 10.00 | 5/10/24 9:31 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/10/24 9:32 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/10/24 9:36 | 14.5 | 7.05 | 1,414 | 1.95 | | |
| CCV-3 | CCV | 5/10/24 10:55 | 15.2 | 7.04 | 1,488 | | | |

**Comments:**

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll/Payton Yoch Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/13/24 10:00 |
| 7.0 Buffer | WC240307F | 7.01 | 5/13/24 9:57 |
| 10.0 Buffer | WC230619B | 10.00 | 5/13/24 10:04 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/13/24 10:09 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4 | LCS | 5/13/24 10:14 | 23.7 | 6.99 | 1,411 | | | |
| CCV-4 | CCV | 5/13/24 14:33 | 28 | 6.90 | 1,435 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45986 Technician(s): Tracy Carroll/Payton Yoch Date: 5/14/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230830B | 4.00 | 5/14/24 10:22 |
| 7.0 Buffer | WC240307F | 7.01 | 5/14/24 10:22 |
| 10.0 Buffer | WC230619B | 10.00 | 5/14/24 10:23 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/14/24 10:23 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-5 | LCS | 5/14/24 10:25 | 23.7 | 6.99 | 1,412 | | | |
| CCV-5 | CCV | 5/14/24 13:30 | 22.9 | 7.02 | 1,455 | | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/9/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 3.99 | 5/9/24 9:29 |
| 7.0 Buffer | wc240307f | 7.01 | 5/9/24 9:23 |
| 10.0 Buffer | wc231027d | 10.00 | 5/9/24 9:37 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1409 | 5/9/24 9:41 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.93 | 5/9/24 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1 | LCS | 5/9/24 9:44 | 20.5 | 7.01 | 1,409 | 0.93 | | |
| CCV-M-1 | CCV | 5/9/24 12:11 | 21.7 | 7.03 | 1,421 | 0.96 | | |
| CCV-1 | CCV | 5/9/24 14:35 | 22.8 | 7.03 | 1,424 | 1.04 | | |

**Comments:**

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/10/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 4.00 | 5/10/24 9:32 |
| 7.0 Buffer | wc240307f | 7.02 | 5/10/24 9:30 |
| 10.0 Buffer | wc231027d | 9.98 | 5/10/24 9:35 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1410 | 5/10/24 9:40 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.87 | 5/10/24 9:40 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2 | LCS | 5/10/24 9:43 | 18.8 | 7.02 | 1,410 | 0.87 | | |
| CCV-2 | CCV | 5/10/24 10:58 | 19.7 | 7.02 | 1,416 | 0.89 | | |

**Comments:**

**Site Samping Event:** CWLP- 2Q24
**LIMS Workorder:** 24050001
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP-LF- 2Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 4.01 | 5/13/24 9:49 |
| 7.0 Buffer | wc240307f | 7.01 | 5/13/24 9:43 |
| 10.0 Buffer | wc231027d | 9.98 | 5/13/24 9:58 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1412 | 5/13/24 9:58 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.86 | 5/13/24 9:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3 | LCS | 5/13/24 10:00 | 21.7 | 7.01 | 1,412 | 0.86 | | |
| CCV-3 | CCV | 5/13/24 14:28 | 22.1 | 7.03 | 1,420 | 0.92 | | |

**Comments:**

Field Meter ID: Pine 218083 Technician(s): justin colp Date: 5/14/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230830b | 3.98 | 5/14/24 9:25 |
| 7.0 Buffer | wc240307f | 7.00 | 5/14/24 9:21 |
| 10.0 Buffer | wc231027d | 9.99 | 5/14/24 9:28 |
| LCS/CCV (7.0 Buffer) | | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 95009 | 1410 | 5/14/24 9:35 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.96 | 5/14/24 9:35 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4 | LCS | 5/14/24 9:37 | 20.2 | 7.00 | 1,410 | 0.96 | | |
| CCV-4 | CCV | 5/14/24 12:17 | 21 | 7.01 | 1,418 | 0.99 | | |

**Comments:**

Third Quarter 2024

September 18, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 24080242

Dear Eric Staley:

TEKLAB, INC received 20 samples on 8/13/2024 2:27:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24080242
**Report Date:** 18-Sep-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 36 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24080242

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 18-Sep-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24080242
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Sep-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24080242
**Report Date:** 18-Sep-24

**Cooler Receipt Temp:** 12.1 °C

An employee of Teklab, Inc. collected the sample(s).

AP-3 well is damaged, will be collected at a later date.

Radium-226 & -228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24080242

**Report Date:** 18-Sep-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 12/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24080242

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 18-Sep-24

**Lab ID:** 24080242-001 **Client Sample ID:** RW-3

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 10:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 08/12/2024 10:18 | R352005 |
| Depth to water | * | -5.00 | | **8.61** | ft | 1 | 08/12/2024 10:18 | R352005 |
| Depth to water from measuring point | * | 0 | | **11.31** | ft | 1 | 08/12/2024 10:18 | R352005 |
| Elevation of groundwater surface | * | 0 | | **528.19** | ft | 1 | 08/12/2024 10:18 | R352005 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 08/12/2024 10:18 | R352005 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 08/12/2024 10:18 | R352005 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **39** | NTU | 1 | 08/12/2024 10:18 | R352005 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.3** | °F | 1 | 08/12/2024 10:18 | R352005 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.23** | | 1 | 08/12/2024 10:18 | R352005 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **698** | umhos/cm @25C | 1 | 08/12/2024 10:18 | R352005 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **344** | mg/L | 1 | 08/16/2024 9:41 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | S | **14** | mg/L | 1 | 08/20/2024 11:28 | R352032 |
| *Matrix spike did not recover within control limits. Results verify by dilution.* | | | | | | | | |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.43** | mg/L | 1 | 08/19/2024 9:31 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **29** | mg/L | 1 | 08/20/2024 11:27 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.146** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Boron | NELAP | 0.0200 | | **0.122** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Calcium | NELAP | 0.100 | | **63.2** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 9:54 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.107** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| Lithium | * | 0.0030 | | **0.0038** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 12:31 | 227054 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/10/2024 0:00 | R353360 |

**Client:** City Water, Light & Power
**Work Order:** 24080242
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Sep-24
**Lab ID:** 24080242-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2024 10:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/10/2024 0:00 | R353360 |

**Client:** City Water, Light & Power **Work Order:** 24080242

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 18-Sep-24

**Lab ID:** 24080242-003 **Client Sample ID:** AP-2

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 13:04

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 08/12/2024 13:04 | R352005 |
| Depth to water | * | -5.00 | | **5.99** | ft | 1 | 08/12/2024 13:04 | R352005 |
| Depth to water from measuring point | * | 0 | | **8.49** | ft | 1 | 08/12/2024 13:04 | R352005 |
| Elevation of groundwater surface | * | 0 | | **527.61** | ft | 1 | 08/12/2024 13:04 | R352005 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 08/12/2024 13:04 | R352005 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 08/12/2024 13:04 | R352005 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **32** | NTU | 1 | 08/12/2024 13:04 | R352005 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.3** | °F | 1 | 08/12/2024 13:04 | R352005 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 08/12/2024 13:04 | R352005 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1510** | umhos/cm @25C | 1 | 08/12/2024 13:04 | R352005 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1110** | mg/L | 1 | 08/16/2024 9:44 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **417** | mg/L | 20 | 08/20/2024 12:18 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.25** | mg/L | 1 | 08/19/2024 9:35 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **39** | mg/L | 1 | 08/20/2024 12:13 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0751** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Boron | NELAP | 0.0200 | | **3.10** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Calcium | NELAP | 0.100 | | **206** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Cobalt | NELAP | 0.0050 | | **0.0073** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:16 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 10:05 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.0031** | mg/L | 5 | 08/14/2024 23:06 | 227065 |
| Lithium | * | 0.0030 | | **0.0081** | mg/L | 5 | 08/14/2024 23:06 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2024 23:06 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2024 23:06 | 227065 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 12:36 | 227054 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/10/2024 0:00 | R353360 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/10/2024 0:00 | R353360 |

**Client:** City Water, Light & Power
**Work Order:** 24080242
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Sep-24
**Lab ID:** 24080242-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2024 13:52

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 08/12/2024 13:52 | R352005 |
| Depth to water | * | -5.00 | | **9.36** | ft | 1 | 08/12/2024 13:52 | R352005 |
| Depth to water from measuring point | * | 0 | | **12.02** | ft | 1 | 08/12/2024 13:52 | R352005 |
| Elevation of groundwater surface | * | 0 | | **527.00** | ft | 1 | 08/12/2024 13:52 | R352005 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 08/12/2024 13:52 | R352005 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 08/12/2024 13:52 | R352005 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **19** | NTU | 1 | 08/12/2024 13:52 | R352005 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.0** | °F | 1 | 08/12/2024 13:52 | R352005 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.20** | | 1 | 08/12/2024 13:52 | R352005 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **733** | umhos/cm @25C | 1 | 08/12/2024 13:52 | R352005 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **386** | mg/L | 1 | 08/16/2024 9:57 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **14** | mg/L | 1 | 08/20/2024 13:17 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.46** | mg/L | 1 | 08/19/2024 9:47 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **50** | mg/L | 1 | 08/20/2024 13:17 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.108** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Boron | NELAP | 0.0200 | | **0.244** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Calcium | NELAP | 0.100 | | **59.5** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:26 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 08/15/2024 11:01 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.0438** | mg/L | 5 | 08/14/2024 23:59 | 227065 |
| Lithium | * | 0.0030 | | **0.0063** | mg/L | 5 | 08/15/2024 11:01 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2024 23:59 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2024 23:59 | 227065 |
| *CCV recovered outside the upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 12:45 | 227054 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/16/2024 0:00 | R353360 |

**Client:** City Water, Light & Power
**Work Order:** 24080242
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Sep-24
**Lab ID:** 24080242-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2024 13:52

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/16/2024 0:00 | R353360 |

**Client:** City Water, Light & Power
**Work Order:** 24080242
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 18-Sep-24
**Lab ID:** 24080242-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2024 11:06

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 08/13/2024 11:06 | R352005 |
| Depth to water | * | -5.00 | | **4.07** | ft | 1 | 08/13/2024 11:06 | R352005 |
| Depth to water from measuring point | * | 0 | | **6.97** | ft | 1 | 08/13/2024 11:06 | R352005 |
| Elevation of groundwater surface | * | 0 | | **530.23** | ft | 1 | 08/13/2024 11:06 | R352005 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 08/13/2024 11:06 | R352005 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 08/13/2024 11:06 | R352005 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **34** | NTU | 1 | 08/13/2024 11:06 | R352005 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.7** | °F | 1 | 08/13/2024 11:06 | R352005 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.03** | | 1 | 08/13/2024 11:06 | R352005 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1000** | umhos/cm @25C | 1 | 08/13/2024 11:06 | R352005 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **526** | mg/L | 1 | 08/16/2024 9:57 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **11** | mg/L | 1 | 08/20/2024 13:25 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.33** | mg/L | 1 | 08/19/2024 9:49 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **35** | mg/L | 1 | 08/20/2024 13:25 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.407** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Boron | NELAP | 0.0200 | | **0.0855** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Calcium | NELAP | 0.100 | | **89.5** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 15:55 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:01 | 227124 |
| Arsenic | NELAP | 0.0010 | | **0.0414** | mg/L | 5 | 08/15/2024 14:01 | 227124 |
| Lithium | * | 0.0030 | | **0.0075** | mg/L | 5 | 08/15/2024 14:01 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:01 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 14:01 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:13 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/16/2024 0:00 | R353360 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/16/2024 0:00 | R353360 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24080242
**Report Date:** 18-Sep-24

**Carrier:** Justin Colp

**Received By:** PRS

**Completed by:** Amber Dilallo
**On:** 13-Aug-24

**Reviewed by:** Shelly A. Hennessy
**On:** 27-Aug-24

**Pages to follow:** Chain of custody 4 Extra pages included 60

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 12.1 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 8/12/24 at 1635 on ice [12.1C - LTG#9]. pH strip #96651. - amberdilallo - 8/13/2024 8:19:55 AM

Samples were received on 8/13/24 at 1427 on ice [3.7C - LTG#5]. pH strip #96651. - amberdilallo - 8/13/2024 3:24:03 PM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24080242

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 12.1 °C LIG-9
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: pH ✓ 96651
PS8713

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring
*Damaged - to be collected @ later date SAH 8/14/24

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24080242-001 | RW-3 | 8.12.24 1018 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 8.12.24 1119 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 8.12.24 1304 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 * | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 8.12.24 1235 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 8.12.24 1159 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 8.12.24 1050 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | 8.12.24 1352 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | 8.12.24 1421 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 8.12.24 1635 | [signature] | 8/12/24 1635 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24080242

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Joshn Colp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24080245 | AP-11 | 8-12-24 1207 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 013 | AP-12 | 1302 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 014 | AP-13 | 1328 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 016 | T-1 | 1418 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 017 | T-2 | 1232 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J Colp | 8.12.24 1635 | Paul Getty | 8/12/24 1635 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24080242

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.7 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: pH/alkal PS 8/13

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24080242-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 8.13.24 1106 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | 8-13-24 1043 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-13-24 1427 | | 8/13/24 1427 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24080242

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE ____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24080245 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 8-13-24 1119 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | 8.13.24 1220 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | 8.13.24 1132 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | 8.13.24 1044 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-13-24 1427 | | 8/13/24 1427 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

**Project Name:** CWLP- Ash Pond Monitoring Wells
**Monitoring Point:** RW-3
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080242
**Date (s):** 8/12/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 74 °F — Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy — Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 10:01
Static Water Level: 11.31 feet below TOC
Total Depth: 44.01 feet below TOC
Water Column: 32.70 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/12/2024
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 32.7 ft. x 44.01 = 0.97 L x 3 Vol. = 2.91 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 3.1
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:03 | 0.0 | 200 | purge start time | | | | | | |
| 10:06 | 0.6 | ↓ | 7.20 | 764 | 60.2 | 2.13 | -61.3 | 7.69 | |
| 10:09 | 1.3 | | 7.22 | 745 | 60.0 | 1.17 | -110.3 | 14.43 | |
| 10:12 | 1.9 | | 7.23 | 707 | 59.0 | 0.99 | -122.2 | 27.14 | |
| 10:15 | 2.5 | | 7.22 | 699 | 59.8 | 0.96 | -124.7 | 35.75 | |
| 10:18 | 3.1 | | 7.23 | 698 | 60.3 | 0.95 | -125.9 | 38.75 | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/12/2024 10:18
Sample Method: Low-Flow — Sample Equipment: Bladder Pump
Sample Parameters: 7.23 pH — 698 Spec. Cond. — 60.3 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 11.46 feet below TOC — Drawdown: 0.15 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp — **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- Ash Pond Monitoring Wells
**Monitoring Point:** AP-2
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080242
**Date (s):** 8/12/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 77 °F — Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy — Sky: (Cloudy) Sunny Partly

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Good |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 12:50
Static Water Level: 8.49 feet below TOC
Total Depth: 21.33 feet below TOC
Water Column: 12.84 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/12/2024
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 12.84 ft. x 21.33 = 0.47 L x 3 Vol. = 1.41 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 2.5
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:51 | 0.0 | 188 | purge start time | | | | | | |
| 12:55 | 0.8 | ↓ | 6.58 | 1,506 | 62.2 | 1.42 | 18.8 | 59.88 | |
| 12:58 | 1.4 | | 6.58 | 1,509 | 62.4 | 1.19 | 19.5 | 42.69 | |
| 13:01 | 1.9 | | 6.58 | 1,509 | 62.4 | 1.15 | 20.0 | 35.14 | |
| 13:04 | 2.5 | | 6.58 | 1,510 | 62.3 | 1.08 | 20.0 | 31.61 | |
| | | | | | | | | | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/12/2024 13:04
Sample Method: Low-Flow — Sample Equipment: Bladder Pump
Sample Parameters: 6.58 pH — 1,510 Spec. Cond. — 62.3 Temp
Field Filtered: No — Filter Type:
Water Level: 8.73 feet below TOC — Drawdown: 0.24 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp — **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- Ash Pond Monitoring Wells **Monitoring Point:** AP-3
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080242 **Date (s):** 8/12/2024

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: °F Wind Direction: N S E W (circle two if needed)
Precipitation: None Light Heavy Sky: Cloudy Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Damaged | | | |
| Casing | Damaged | Protective Casing | | |
| Protective Casing | Damaged | Well | | |
| Reference Mark/Identification | Damaged | | | |

**Groundwater Level Measurements**

Static Water Level: feet below TOC
Date/Time Measured: Total Depth: feet below TOC
Water Column: feet

**Purging Activities**

Purged By: Purge Date:
Purge Method: Well Diameter: 2"
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| | | | purge start time | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**Sampling Activities**

Sampled By: Sample Date/Time:
Sample Method: Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Well damaged by vehicle, notified by onsite personell of planned repair/redrill

**Form Completed By:** Justin Colp **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- Ash Pond Monitoring Wells
**Monitoring Point:** AP-7
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080242
**Date (s):** 8/12/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 77 °F — Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy — Sky: (Cloudy) Sunny Partly

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Good |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 13:36
Static Water Level: 12.02 feet below TOC
Total Depth: 42.52 feet below TOC
Water Column: 30.50 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/12/2024
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 30.5 ft. x 42.52 = 0.94 L x 3 Vol. = 2.82 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 3.0
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:37 | 0.0 | 200 | purge start time | | | | | | |
| 13:40 | 0.6 | ↓ | 7.29 | 742 | 59.3 | 1.59 | -37.2 | 16.71 | |
| 13:43 | 1.2 | | 7.25 | 750 | 58.4 | 1.11 | -89.9 | 37.06 | |
| 13:46 | 1.8 | | 7.23 | 738 | 58.2 | 0.98 | -95.0 | 35.04 | |
| 13:49 | 2.4 | | 7.21 | 732 | 58.1 | 0.92 | -95.6 | 27.20 | |
| 13:52 | 3.0 | | 7.20 | 733 | 58.0 | 0.88 | -95.5 | 19.12 | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/12/2024 13:52
Sample Method: Low-Flow — Sample Equipment: Bladder Pump
Sample Parameters: 7.20 pH — 733 Spec. Cond. — 58.0 Temp
Field Filtered: No — Filter Type:
Water Level: 12.23 feet below TOC — Drawdown: 0.21 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp — **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- Ash Pond Monitoring Wells
**Monitoring Point:** AP-8
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080242
**Date (s):** 8/13/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 73 °F — Wind Direction: N S E (W) (circle two if needed)
Precipitation: (None) Light Heavy — Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 10:51
Static Water Level: 6.97 feet below TOC
Total Depth: 39.60 feet below TOC
Water Column: 32.63 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/13/2024
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 32.63 ft. x 39.6 = 0.87 L x 3 Vol. = 2.61 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 3.2
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:52 | 0.0 | 214 | purge start time | | | | | | |
| 10:54 | 0.6 | ↓ | 7.07 | 1,008 | 60.8 | 1.60 | -83.4 | 18.46 | |
| 10:57 | 1.3 | | 7.06 | 1,005 | 60.7 | 1.06 | -97.5 | 19.65 | |
| 11:00 | 1.9 | | 7.05 | 1,003 | 59.0 | 0.86 | -104.6 | 32.94 | |
| 11:03 | 2.6 | | 7.04 | 1,002 | 58.9 | 0.79 | -107.9 | 30.61 | |
| 11:06 | 3.2 | | 7.03 | 1,003 | 60.7 | 0.76 | -109.9 | 33.73 | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/13/2024 11:06
Sample Method: Low-Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 7.03 pH — 1,003 Spec. Cond. — 60.7 Temp
Field Filtered: No — Filter Type:
Water Level: 8.19 feet below TOC — Drawdown: 1.22 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp — **Date:** 8/13/2024

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 24080242
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45985 Technician(s): Brett Gillihan Date: 8/12/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.01 | 8/12/24 9:59 |
| 7.0 Buffer | WC240307F | 6.99 | 8/12/24 9:54 |
| 10.0 Buffer | WC240625B | 9.99 | 8/12/24 10:02 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1410 | 8/12/24 10:09 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.4 | 8/12/24 10:15 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-BG | LCS | 8/12/24 10:19 | 22.4 | 7.01 | 1,410 | | | |
| CCV-1-BG | CCV | 8/12/24 15:30 | 23.6 | 7.04 | 1,416 | | | |

**Comments:**

Field Meter ID: Pine 45985 Technician(s): Brett Gillihan Date: 8/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.02 | 8/13/24 8:58 |
| 7.0 Buffer | WC240307F | 7.00 | 8/13/24 8:54 |
| 10.0 Buffer | WC240625B | 10.01 | 8/13/24 9:01 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1412 | 8/13/24 9:05 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.9 | 8/13/24 9:15 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-BG | LCS | 8/13/24 9:20 | 23.5 | 7.01 | 1,411 | | | |
| CCV-2-BG | CCV | 8/13/24 12:19 | 24.5 | 7.02 | 1,420 | | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 24080242
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 223344 Technician(s): Tracy Carroll Date: 8/12/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.01 | 8/12/24 10:31 |
| 7.0 Buffer | WC240307F | 7.01 | 8/12/24 10:23 |
| 10.0 Buffer | WC240625B | 10.00 | 8/12/24 10:39 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1412 | 8/12/24 10:39 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-TC | LCS | 8/12/24 10:44 | 24.6 | 7.03 | 1,410 | | | |
| CCV-1-TC | CCV | 8/12/24 14:28 | 25.2 | 7.08 | 1,453 | | | |

**Comments:**

Field Meter ID: Pine 223344 Technician(s): Tracy Carroll Date: 8/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.00 | 8/13/24 9:38 |
| 7.0 Buffer | WC240307F | 7.01 | 8/13/24 9:35 |
| 10.0 Buffer | WC240625B | 10.00 | 8/13/24 9:41 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1412 | 8/13/24 9:37 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-TC | LCS | 8/13/24 9:42 | 21 | 7.02 | 1,413 | | | |
| CCV-2-TC | CCV | 8/13/24 14:18 | 22.5 | 7.06 | 1,422 | | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 24080242
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218074 Technician(s): justin colp Date: 8/12/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc240612a | 4.00 | 8/12/24 9:33 |
| 7.0 Buffer | wc240307f | 6.99 | 8/12/24 9:30 |
| 10.0 Buffer | wc240625b | 9.99 | 8/12/24 9:36 |
| LCS/CCV (7.0 Buffer) | wc231207a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1413 | 8/12/24 9:39 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.41 | 8/12/24 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 8/12/24 9:45 | 23.2 | 6.99 | 1,413 | 0.41 | | |
| CCV-1-JC | CCV | 8/12/24 14:44 | 24.49 | 7.01 | 1,427 | 0.47 | | |

**Comments:**

Field Meter ID: Pine 218074 Technician(s): justin colp Date: 8/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc240612a | 3.99 | 8/13/24 8:55 |
| 7.0 Buffer | wc240307f | 7.00 | 8/13/24 8:57 |
| 10.0 Buffer | wc240625b | 10.00 | 8/13/24 8:59 |
| LCS/CCV (7.0 Buffer) | wc231207a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1410 | 8/13/24 9:04 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.43 | 8/13/24 9:07 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-JC | LCS | 8/13/24 9:10 | 23.1 | 7.00 | 1,410 | 0.43 | | |
| CCV-2-JC | CCV | 8/13/24 11:36 | 24.8 | 7.02 | 1,416 | 0.47 | | |

**Comments:**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

September 18, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24080242

Dear Shelly Hennessy:

Order No.: 24081370

Summit Environmental Technologies, Inc. received 19 sample(s) on 8/19/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Summit Environmental Technologies, Inc.
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# Case Narrative

WO#: **24081370**
Date: **9/18/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24080242

WorkOrder Narrative:
24081370: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-448*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24081370**
Date: **9/18/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24081370**

***18-Sep-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24080242

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24081370-001 | 24080242-001 | | 8/12/2024 10:18:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-002 | 24080242-002 | | 8/12/2024 11:19:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-003 | 24080242-003 | | 8/12/2024 1:04:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-004 | 24080242-005 | | 8/12/2024 12:35:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-005 | 24080242-006 | | 8/12/2024 11:59:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-006 | 24080242-007 | | 8/12/2024 10:50:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-007 | 24080242-008 | | 8/12/2024 1:52:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-008 | 24080242-009 | | 8/13/2024 11:06:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-009 | 24080242-010 | | 8/12/2024 2:21:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-010 | 24080242-011 | | 8/13/2024 10:43:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-011 | 24080242-012 | | 8/12/2024 12:07:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-012 | 24080242-013 | | 8/12/2024 1:02:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-013 | 24080242-014 | | 8/12/2024 1:28:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-014 | 24080242-015 | | 8/13/2024 11:19:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-015 | 24080242-016 | | 8/12/2024 2:18:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-016 | 24080242-017 | | 8/12/2024 12:32:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-017 | 24080242-018 | | 8/13/2024 12:20:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-018 | 24080242-019 | | 8/13/2024 11:32:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081370-019 | 24080242-020 | | 8/13/2024 10:44:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |

Summit Environmental Technologies, Inc.
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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# DATES REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24080242

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24081370-001A | 24080242-001 | 8/12/2024 10:18:00 AM | Non-Potable Water | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/5/2024 10:37:44 AM | 9/11/2024 1:22:47 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/5/2024 10:37:44 AM | 9/10/2024 1:54:42 PM |
| 24081370-002A | 24080242-002 | 8/12/2024 11:19:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/5/2024 10:37:44 AM | 9/11/2024 1:22:47 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/5/2024 10:37:44 AM | 9/10/2024 1:54:42 PM |
| 24081370-003A | 24080242-003 | 8/12/2024 1:04:00 PM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/5/2024 10:37:44 AM | 9/11/2024 1:22:47 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/5/2024 10:37:44 AM | 9/10/2024 1:54:42 PM |
| 24081370-004A | 24080242-005 | 8/12/2024 12:35:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-005A | 24080242-006 | 8/12/2024 11:59:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-006A | 24080242-007 | 8/12/2024 10:50:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-007A | 24080242-008 | 8/12/2024 1:52:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-008A | 24080242-009 | 8/13/2024 11:06:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC. Analytical Laboratories

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*Website: http://www.settek.com*

# DATES REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24080242

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24081370-008A | 24080242-009 | 8/13/2024 11:06:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-009A | 24080242-010 | 8/12/2024 2:21:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-010A | 24080242-011 | 8/13/2024 10:43:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-011A | 24080242-012 | 8/12/2024 12:07:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-012A | 24080242-013 | 8/12/2024 1:02:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-013A | 24080242-014 | 8/12/2024 1:28:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-014A | 24080242-015 | 8/13/2024 11:19:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-015A | 24080242-016 | 8/12/2024 2:18:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-016A | 24080242-017 | 8/12/2024 12:32:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |

Original

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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# DATES REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24080242

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24081370-016A | 24080242-017 | 8/12/2024 12:32:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-017A | 24080242-018 | 8/13/2024 12:20:00 PM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-018A | 24080242-019 | 8/13/2024 11:32:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |
| 24081370-019A | 24080242-020 | 8/13/2024 10:44:00 AM | | Combined Radium (EPA903+904) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/9/2024 11:10:00 AM | 9/17/2024 10:44:46 PM |
| | | | | Radium-228 (EPA 904.0) | | 9/9/2024 11:10:00 AM | 9/16/2024 2:26:20 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC. Analytical Laboratories

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24081370**

Date Reported: **9/18/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/12/2024 10:18:00 AM

**Project:** 24080242

**Lab ID:** 24081370-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24080242-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.380 | 1 | 9/17/2024 12:00:15 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 9/11/2024 1:22:47 PM |
| Yield | 1.00 | | | | | 1 | 9/11/2024 1:22:47 PM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.310 | 1 | 9/10/2024 1:54:42 PM |
| Yield | 1.00 | | | | | 1 | 9/10/2024 1:54:42 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24081370**

Date Reported: **9/18/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/12/2024 1:04:00 PM

**Project:** 24080242

**Lab ID:** 24081370-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24080242-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.320 | 1 | 9/17/2024 12:00:15 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 9/11/2024 1:22:47 PM |
| Yield | 1.00 | | | | | 1 | 9/11/2024 1:22:47 PM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.250 | 1 | 9/10/2024 1:54:42 PM |
| Yield | 1.00 | | | | | 1 | 9/10/2024 1:54:42 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24081370**

Date Reported: **9/18/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/12/2024 10:50:00 AM

**Project:** 24080242

**Lab ID:** 24081370-006

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24080242-007

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | **E903-904** | Analyst: **SMZ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | ND | 4.00 | | pCi/L | ± 0.840 | 1 | 9/17/2024 10:44:46 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | ND | 2.00 | | pCi/L | ± 0.0500 | 1 | 9/17/2024 10:44:46 PM |
| Yield | 1.00 | | | | | 1 | 9/17/2024 10:44:46 PM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/L | ± 0.790 | 1 | 9/16/2024 2:26:20 PM |
| Yield | 1.00 | | | | | 1 | 9/16/2024 2:26:20 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24081370**

Date Reported: **9/18/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/12/2024 1:52:00 PM

**Project:** 24080242

**Lab ID:** 24081370-007

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24080242-008

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | **E903-904** | Analyst: **SMZ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | ND | 4.00 | | pCi/L | ± 0.890 | 1 | 9/17/2024 10:44:46 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | ND | 2.00 | | pCi/L | ± 0.120 | 1 | 9/17/2024 10:44:46 PM |
| Yield | 1.00 | | | | | 1 | 9/17/2024 10:44:46 PM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/L | ± 0.770 | 1 | 9/16/2024 2:26:20 PM |
| Yield | 1.00 | | | | | 1 | 9/16/2024 2:26:20 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78364**

| Sample ID: **MB-78364** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192975** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **78364** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/10/2024** | SeqNo: **5224910** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-78364** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192975** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **78364** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/10/2024** | SeqNo: **5224911** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.73 | 1.00 | 5.000 | 0 | 74.6 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-78364** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192975** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **78364** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/10/2024** | SeqNo: **5224912** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.48 | 1.00 | 5.000 | 0 | 69.6 | 50 | 130 | 3.730 | 6.93 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24080242 **BatchID:** **78364**

Sample ID: **24081279-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/5/2024** RunNo: **192975**

Client ID: **BatchQC** Batch ID: **78364** TestNo: **E904.0** **E903-904** Analysis Date: **9/10/2024** SeqNo: **5224919**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78364**

| Sample ID: **MB-78364** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192981** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **78364** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/11/2024** | SeqNo: **5224968** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-78364** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192981** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **78364** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/11/2024** | SeqNo: **5224969** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.96 | 1.00 | 5.000 | 0 | 99.2 | 70 | 130 | | | | |

| Sample ID: **LCSD-78364** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192981** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **78364** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/11/2024** | SeqNo: **5224970** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.78 | 1.00 | 5.000 | 0 | 95.6 | 70 | 130 | 4.960 | 3.70 | 20 | |

| Sample ID: **24081277-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/5/2024** | RunNo: **192981** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **78364** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/11/2024** | SeqNo: **5224975** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78364**

Sample ID: **24081277-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/5/2024** RunNo: **192981**
Client ID: **BatchQC** Batch ID: **78364** TestNo: **E903.0** **E903-904** Analysis Date: **9/11/2024** SeqNo: **5224975**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78453**

| Sample ID: **MB-78453** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/9/2024** | RunNo: **193345** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **78453** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5233515** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-78453** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/9/2024** | RunNo: **193345** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **78453** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5233516** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.33 | 1.00 | 5.000 | 0 | 66.6 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-78453** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/9/2024** | RunNo: **193345** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **78453** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5233517** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.07 | 1.00 | 5.000 | 0 | 61.4 | 50 | 130 | 3.330 | 8.13 | 20 | |
| Yield | 0.960 | | | 0 | 0 | | | 1.000 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78453**

Sample ID: **24081834-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/9/2024** RunNo: **193345**
Client ID: **BatchQC** Batch ID: **78453** TestNo: **E904.0** **E903-904** Analysis Date: **9/16/2024** SeqNo: **5233540**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.09 | 1.00 | | 0 | 0 | | | 0.7400 | 38.3 | 20 | R |
| Yield | 0.980 | | | 0 | 0 | | | 1.000 | 2.02 | | |

Sample ID: **24081834-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/9/2024** RunNo: **193345**
Client ID: **BatchQC** Batch ID: **78453** TestNo: **E904.0** **E903-904** Analysis Date: **9/16/2024** SeqNo: **5233542**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78453**

| Sample ID: **MB-78453** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/9/2024** | RunNo: **193353** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **78453** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/17/2024** | SeqNo: **5233739** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-78453** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/9/2024** | RunNo: **193353** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **78453** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/17/2024** | SeqNo: **5233740** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.33 | 1.00 | 5.000 | 0 | 86.6 | 70 | 130 | | | | QLR |

| Sample ID: **LCSD-78453** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/9/2024** | RunNo: **193353** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **78453** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/17/2024** | SeqNo: **5233741** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.36 | 1.00 | 5.000 | 0 | 107 | 70 | 130 | 4.330 | 21.3 | 20 | R |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24081370**

***18-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080242 **BatchID:** **78453**

Sample ID: **24081834-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/9/2024** RunNo: **193353**
Client ID: **BatchQC** Batch ID: **78453** TestNo: **E903.0** **E903-904** Analysis Date: **9/17/2024** SeqNo: **5233764**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24081834-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/9/2024** RunNo: **193353**
Client ID: **BatchQC** Batch ID: **78453** TestNo: **E903.0** **E903-904** Analysis Date: **9/17/2024** SeqNo: **5233766**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005 24081370

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Cooler Temp: Sampler: Teklab, Inc. QC Level: 2

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Comments: Please Issue reports and invoices via email only
Please analyze for Ra226, Ra228 and Combinded Radium per your usual methods.
Changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24080242

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 36831 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | Radium 226 | Radium 228 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24080242-001 | 8/12/24 1018 | HNO3 | Groundwater | ✓ | ✓ | ✓ | pH | 1 | Cpm=57 | | | | | | |
| | 24080242-002 | 8/12/24 1119 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 10 | | | | | | |
| | 24080242-003 | 8/12/24 1304 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 30 | | | | | | |
| | 24080242-005 | 8/12/24 1235 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 18 | | | | | | |
| | 24080242-006 | 8/12/24 1159 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 41 | | | | | | |
| | 24080242-007 | 8/12/24 1050 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 37 | | | | | | |
| | 24080242-008 | 8/12/24 1352 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 11 | | | | | | |
| | 24080242-009 | 8/13/24 1106 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 41 | | | | | | |
| | 24080242-010 | 8/12/24 1421 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 33 | | | | | | |
| | 24080242-011 | 8/13/24 1043 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | 17 | | | | | | |
| | 24080242-012 | 8/12/24 1207 | HNO3 | Groundwater | ✓ | ✓ | ✓ | ✓ | 1 | 33 | | | | | | |

21.6 - 0.1 = 21.5, Fedex Cooler

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 8/14/24 1700 | [signature] AUG 19 2024 | 1230 |
| | | | |
| | | | |
| | | | |
| | | | |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)



SubCocRevA
3/2/2016

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Ra226, Ra228 and Combinded Radium per your usual methods.
Changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24080242

Contact: Shelly Hennessy | Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT | Billing/PO: 36831 | Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | Radium 226 | Radium 228 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24080242-013 | 8/12/24 1302 | HNO3 | Groundwater | ✓ | ✓ | ✓ | pH | 1 | | Com=33 | | | | | | |
| | 24080242-014 | 8/12/24 1328 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | | 45 | | | | | | |
| | 24080242-015 | 8/13/24 1119 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | | 33 | | | | | | |
| | 24080242-016 | 8/12/24 1418 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | | 17 | | | | | | |
| | 24080242-017 | 8/12/24 1232 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | | 34 | | | | | | |
| | 24080242-018 | 8/13/24 1220 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | | 56 | | | | | | |
| | 24080242-019 | 8/13/24 1132 | HNO3 | Groundwater | ✓ | ✓ | ✓ | | 1 | | 52 | | | | | | |
| | 24080242-020 | 8/13/24 1044 | HNO3 | Groundwater | ✓ | ✓ | ✓ | ✓ | 1 | | 24 | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |

21.6 - 0.1 = 21.5, Fedex Code

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [illegible] | 8/14/24 1700 | [illegible] AUG 19 2024 | 1230 |
| | | | |
| | | | |
| | | | |



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Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24081370 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Anthony W. Britton | 8/19/2024 12:30:00 PM | Anthony Britton |
| Completed By: | Christina N. Gemma | 8/20/2024 9:28:43 AM | C. Gemma |
| Reviewed By: | Jennifer Woolf | 8/20/2024 1:59:11 PM | Jennifer Woolf |

## *Chain of Custody*

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes | ☑ | No ☐ | Not Present | ☐ |
| 2. | How was the sample delivered? | FedEx | | | | |

## *Log In*

| | | | | | | |
|---|---|---|---|---|---|---|
| 3. | Coolers are present? | Yes | ☑ | No ☐ | NA | ☐ |
| 4. | Shipping container/cooler in good condition? | Yes | ☑ | No ☐ | | |
| | Custody seals intact on shipping container/cooler? | Yes | ☐ | No ☐ | Not Present | ☑ |
| | No. Seal Date: Signed By: | | | | | |
| 5. | Was an attempt made to cool the samples? | Yes | ☐ | No ☑ | NA | ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes | ☐ | No ☑ | NA | ☐ |
| | | Not required | | | | |
| 7. | Sample(s) in proper container(s)? | Yes | ☑ | No ☐ | | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes | ☑ | No ☐ | | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes | ☑ | No ☐ | | |
| 10. | Was preservative added to bottles? | Yes | ☐ | No ☑ | NA | ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes | ☐ | No ☐ | No VOA Vials | ☑ |
| 12. | Were any sample containers received broken? | Yes | ☐ | No ☑ | | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes | ☑ | No ☐ | | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes | ☑ | No ☐ | | |
| 15. | Is it clear what analyses were requested? | Yes | ☑ | No ☐ | | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes | ☑ | No ☐ | | |

## *Special Handling (if applicable)*

| | | | | | | |
|---|---|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes | ☐ | No ☐ | NA | ☑ |

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 21.5 | Good | Not Present | | | |

September 24, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 24082414

Dear Eric Staley:

TEKLAB, INC received 1 sample on 8/29/2024 11:54:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24082414
**Report Date:** 24-Sep-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 8 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24082414

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 24-Sep-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24082414
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-Sep-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24082414
**Report Date:** 24-Sep-24

**Cooler Receipt Temp:** 16.9 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24082414

**Report Date:** 24-Sep-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 12/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24082414
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 24-Sep-24
**Lab ID:** 24082414-001
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 08/29/2024 10:01

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.63** | ft | 1 | 08/29/2024 10:01 | R352520 |
| Depth to water | * | -5.00 | | **7.40** | ft | 1 | 08/29/2024 10:01 | R352520 |
| Depth to water from measuring point | * | 0 | | **9.95** | ft | 1 | 08/29/2024 10:01 | R352520 |
| Elevation of groundwater surface | * | 0 | | **525.30** | ft | 1 | 08/29/2024 10:01 | R352520 |
| Measuring Point Elevation | * | 0 | | **535.25** | ft | 1 | 08/29/2024 10:01 | R352520 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.55** | ft | 1 | 08/29/2024 10:01 | R352520 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 08/29/2024 10:01 | R352520 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **66.1** | °F | 1 | 08/29/2024 10:01 | R352520 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.20** | | 1 | 08/29/2024 10:01 | R352520 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1210** | umhos/cm @25C | 1 | 08/29/2024 10:01 | R352520 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1170** | mg/L | 1 | 08/30/2024 9:24 | R352631 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | * | 0.50 | | **ND** | mg/L | 10 | 08/29/2024 18:42 | R352440 |
| Chloride | * | 5.00 | | **55.9** | mg/L | 10 | 08/29/2024 18:42 | R352440 |
| Sulfate | * | 10.0 | | **554** | mg/L | 10 | 08/29/2024 18:42 | R352440 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.102** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Boron | NELAP | 0.0200 | | **14.6** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Calcium | NELAP | 0.100 | | **175** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Cobalt | NELAP | 0.0050 | | **0.0071** | mg/L | 1 | 09/05/2024 15:52 | 227844 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 09/03/2024 16:40 | 227844 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/04/2024 2:12 | 227844 |
| Arsenic | NELAP | 0.0010 | | **0.0080** | mg/L | 5 | 09/04/2024 2:12 | 227844 |
| Lithium | * | 0.0030 | | **0.0064** | mg/L | 5 | 09/04/2024 2:12 | 227844 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 09/04/2024 2:12 | 227844 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 09/04/2024 2:12 | 227844 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/30/2024 14:05 | 227834 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/20/2024 0:00 | R353640 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/20/2024 0:00 | R353640 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24082414
**Report Date:** 24-Sep-24

**Carrier:** Tracy Carroll

**Received By:** PRS

**Completed by:** Amber Dilallo
**On:** 29-Aug-24

**Reviewed by:** Ellie Hopkins
**On:** 29-Aug-24

**Pages to follow:** Chain of custody 1 Extra pages included 12

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 16.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #96651. - amberdilallo - 8/29/2024 1:06:16 PM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24082414

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 16.9 °C
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 96651 na 8/29

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Tracy Carroll

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 24082414-001 | AP-3 | 8/29/24 1001 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carroll | 8/29/24 1154 | | 8/29/24 1154 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

September 24, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24082414

Dear Shelly Hennessy:

Order No.: 24090112

Summit Environmental Technologies, Inc. received 1 sample(s) on 9/3/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24090112**
Date: **9/24/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24082414

WorkOrder Narrative:
24090112: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-78638 Radium-228_DW(904.0): LCS/LCSD exhibited a high RPD, individually each LCS/LCSD meets the required criteria.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24090112**
Date: **9/24/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24090112**
***24-Sep-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24082414

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24090112-001 | 24082414-001 | | 8/29/2024 10:01:00 AM | 9/3/2024 5:00:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **24090112**

***24-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24082414

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24090112-001A | 24082414-001 | 8/29/2024 10:01:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 9/17/2024 1:43:08 PM | 9/23/2024 10:10:02 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/17/2024 1:43:08 PM | 9/20/2024 2:09:34 PM |

Original

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Analytical Laboratories

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# Analytical Report

(consolidated)

WO#: **24090112**

Date Reported: **9/24/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/29/2024 10:01:00 AM

**Project:** 24082414

**Lab ID:** 24090112-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24082414-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0500 | 1 | 9/23/2024 10:10:02 AM |
| Yield | 1.00 | | | | | 1 | 9/23/2024 10:10:02 AM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.430 | 1 | 9/20/2024 2:09:34 PM |
| Yield | 0.960 | | | | | 1 | 9/20/2024 2:09:34 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24090112**

***24-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24082414 **BatchID:** **78638**

Sample ID: **MB-78638** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193694**
Client ID: **PBW** Batch ID: **78638** TestNo: **E904.0** **E903-904** Analysis Date: **9/20/2024** SeqNo: **5243171**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 0.940 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-78638** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193694**
Client ID: **LCSW** Batch ID: **78638** TestNo: **E904.0** **E903-904** Analysis Date: **9/20/2024** SeqNo: **5243172**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.52 | 1.00 | 5.000 | 0 | 50.4 | 50 | 130 | | | | QLR |
| Yield | 0.910 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-78638** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193694**
Client ID: **LCSS02** Batch ID: **78638** TestNo: **E904.0** **E903-904** Analysis Date: **9/20/2024** SeqNo: **5243173**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.45 | 1.00 | 5.000 | 0 | 69.0 | 50 | 130 | 2.520 | 31.2 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 0.9100 | 9.42 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24090112**

***24-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24082414 **BatchID:** **78638**

Sample ID: **24082205-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193694**
Client ID: **BatchQC** Batch ID: **78638** TestNo: **E904.0** **E903-904** Analysis Date: **9/20/2024** SeqNo: **5243178**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24082207-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193694**
Client ID: **BatchQC** Batch ID: **78638** TestNo: **E904.0** **E903-904** Analysis Date: **9/20/2024** SeqNo: **5243180**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24090112**

***24-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24082414 **BatchID:** **78638**

Sample ID: **MB-78638** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193700**
Client ID: **PBW** Batch ID: **78638** TestNo: **E903.0** **E903-904** Analysis Date: **9/23/2024** SeqNo: **5243274**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-78638** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193700**
Client ID: **LCSW** Batch ID: **78638** TestNo: **E903.0** **E903-904** Analysis Date: **9/23/2024** SeqNo: **5243275**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.26 | 1.00 | 5.000 | 0 | 85.2 | 70 | 130 | | | | |

Sample ID: **LCSD-78638** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193700**
Client ID: **LCSS02** Batch ID: **78638** TestNo: **E903.0** **E903-904** Analysis Date: **9/23/2024** SeqNo: **5243276**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.63 | 1.00 | 5.000 | 0 | 92.6 | 70 | 130 | 4.260 | 8.32 | 20 | |

Sample ID: **24082205-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193700**
Client ID: **BatchQC** Batch ID: **78638** TestNo: **E903.0** **E903-904** Analysis Date: **9/23/2024** SeqNo: **5243281**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24090112**

***24-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24082414 **BatchID:** **78638**

Sample ID: **24082205-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193700**
Client ID: **BatchQC** Batch ID: **78638** TestNo: **E903.0** **E903-904** Analysis Date: **9/23/2024** SeqNo: **5243281**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24082207-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/17/2024** RunNo: **193700**
Client ID: **BatchQC** Batch ID: **78638** TestNo: **E903.0** **E903-904** Analysis Date: **9/23/2024** SeqNo: **5243283**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

24090112

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Client | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24082414

Contact: Shelly Hennessy | Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT | Billing/PO: 36929 | Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 |
|---|---|---|---|---|---|
| | 24082414-001 | 8/29/24 1001 | HNO3 | Groundwater | ✔ cpm=37 pH=1 |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Chris Dale | 8/29/24 1700 | C. Ge | 9/3/24 1700 |

17.3-0.1=17.2
Fedex coder
4608
8/29/24



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

September 18, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 24080243

Dear Eric Staley:

TEKLAB, INC received 12 samples on 8/13/2024 2:27:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24080243
**Client Project:** FGDS Landfill
**Report Date:** 18-Sep-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 20 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24080243
**Client Project:** FGDS Landfill
**Report Date:** 18-Sep-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24080243
**Report Date:** 18-Sep-24

**Cooler Receipt Temp:** 12.1 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 24080243
**Client Project:** FGDS Landfill
**Report Date:** 18-Sep-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 12/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 11:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 08/12/2024 11:32 | R352006 |
| Depth to water | * | -5.00 | | **4.76** | ft | 1 | 08/12/2024 11:32 | R352006 |
| Depth to water from measuring point | * | 0 | | **7.56** | ft | 1 | 08/12/2024 11:32 | R352006 |
| Elevation of groundwater surface | * | 0 | | **539.24** | ft | 1 | 08/12/2024 11:32 | R352006 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 08/12/2024 11:32 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 08/12/2024 11:32 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 08/12/2024 11:32 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.9** | °F | 1 | 08/12/2024 11:32 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 08/12/2024 11:32 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1220** | umhos/cm @25C | 1 | 08/12/2024 11:32 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **834** | mg/L | 1 | 08/16/2024 11:59 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **268** | mg/L | 10 | 08/20/2024 15:54 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 08/19/2024 10:27 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **109** | mg/L | 5 | 08/20/2024 15:43 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0350** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Boron | NELAP | 0.0200 | | **0.121** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Calcium | NELAP | 0.100 | S | **162** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:45 | 227065 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 11:39 | 227065 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 0:35 | 227065 |
| Lithium | * | 0.0030 | | **0.0188** | mg/L | 5 | 08/15/2024 11:39 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 0:35 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 0:35 | 227065 |
| *CCV recovered outside the upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 13:19 | 227055 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-002 **Client Sample ID:** G110

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2024 12:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.05** | ft | 1 | 08/13/2024 12:15 | R352006 |
| Depth to water | * | -5.00 | | **23.11** | ft | 1 | 08/13/2024 12:15 | R352006 |
| Depth to water from measuring point | * | 0 | | **25.72** | ft | 1 | 08/13/2024 12:15 | R352006 |
| Elevation of groundwater surface | * | 0 | | **531.48** | ft | 1 | 08/13/2024 12:15 | R352006 |
| Measuring Point Elevation | * | 0 | | **557.20** | ft | 1 | 08/13/2024 12:15 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.61** | ft | 1 | 08/13/2024 12:15 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.5** | NTU | 1 | 08/13/2024 12:15 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **69.1** | °F | 1 | 08/13/2024 12:15 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.68** | | 1 | 08/13/2024 12:15 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **814** | umhos/cm @25C | 1 | 08/13/2024 12:15 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **436** | mg/L | 1 | 08/16/2024 12:00 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **10** | mg/L | 1 | 08/20/2024 16:04 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 08/19/2024 10:30 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **7** | mg/L | 1 | 08/20/2024 16:05 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.183** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Boron | NELAP | 0.0200 | | **0.0996** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Calcium | NELAP | 0.100 | | **100** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:34 | 227124 |
| Arsenic | NELAP | 0.0010 | | **0.0046** | mg/L | 5 | 08/15/2024 14:34 | 227124 |
| Lithium | * | 0.0030 | | **< 0.0030** | mg/L | 5 | 08/15/2024 14:34 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:34 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 14:34 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:26 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-003 **Client Sample ID:** R111

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 13:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.25** | ft | 1 | 08/12/2024 13:15 | R352006 |
| Depth to water | * | -5.00 | | **26.29** | ft | 1 | 08/12/2024 13:15 | R352006 |
| Depth to water from measuring point | * | 0 | | **26.29** | ft | 1 | 08/12/2024 13:15 | R352006 |
| Elevation of groundwater surface | * | 0 | | **527.71** | ft | 1 | 08/12/2024 13:15 | R352006 |
| Measuring Point Elevation | * | 0 | | **554.00** | ft | 1 | 08/12/2024 13:15 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 08/12/2024 13:15 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.0** | NTU | 1 | 08/12/2024 13:15 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.3** | °F | 1 | 08/12/2024 13:15 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.84** | | 1 | 08/12/2024 13:15 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **799** | umhos/cm @25C | 1 | 08/12/2024 13:15 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **832** | mg/L | 1 | 08/16/2024 12:00 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **32** | mg/L | 1 | 08/20/2024 16:13 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 08/19/2024 10:31 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **185** | mg/L | 5 | 08/22/2024 9:24 | R352158 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.639** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Boron | NELAP | 0.0200 | | **3.50** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Calcium | NELAP | 0.100 | | **163** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:57 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 08/15/2024 12:54 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.0166** | mg/L | 5 | 08/15/2024 1:28 | 227065 |
| Lithium | * | 0.0030 | | **0.0070** | mg/L | 5 | 08/15/2024 12:54 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 1:28 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 1:28 | 227065 |
| *CCV recovered outside the upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 13:21 | 227055 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-004 **Client Sample ID:** G112

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2024 9:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.99** | ft | 1 | 08/13/2024 9:33 | R352006 |
| Depth to water | * | -5.00 | | **26.79** | ft | 1 | 08/13/2024 9:33 | R352006 |
| Depth to water from measuring point | * | 0 | | **28.97** | ft | 1 | 08/13/2024 9:33 | R352006 |
| Elevation of groundwater surface | * | 0 | | **525.83** | ft | 1 | 08/13/2024 9:33 | R352006 |
| Measuring Point Elevation | * | 0 | | **554.80** | ft | 1 | 08/13/2024 9:33 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.18** | ft | 1 | 08/13/2024 9:33 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **47** | NTU | 1 | 08/13/2024 9:33 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.2** | °F | 1 | 08/13/2024 9:33 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.19** | | 1 | 08/13/2024 9:33 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1620** | umhos/cm @25C | 1 | 08/13/2024 9:33 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1040** | mg/L | 1 | 08/16/2024 12:01 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **227** | mg/L | 10 | 08/20/2024 16:47 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 08/19/2024 10:33 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 40 | | **176** | mg/L | 10 | 08/20/2024 16:47 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.539** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Boron | NELAP | 0.0200 | | **0.445** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Calcium | NELAP | 0.100 | | **217** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 16:03 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:40 | 227124 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/16/2024 11:29 | 227124 |
| Lithium | * | 0.0030 | | **0.0264** | mg/L | 5 | 08/15/2024 14:40 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:40 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 14:40 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:33 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-005 **Client Sample ID:** G113

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 10:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **524.85** | ft | 1 | 08/12/2024 10:35 | R352006 |
| Depth to water | * | -5.00 | | **4.39** | ft | 1 | 08/12/2024 10:35 | R352006 |
| Depth to water from measuring point | * | 0 | | **6.89** | ft | 1 | 08/12/2024 10:35 | R352006 |
| Elevation of groundwater surface | * | 0 | | **530.81** | ft | 1 | 08/12/2024 10:35 | R352006 |
| Measuring Point Elevation | * | 0 | | **537.70** | ft | 1 | 08/12/2024 10:35 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 08/12/2024 10:35 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.3** | NTU | 1 | 08/12/2024 10:35 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.6** | °F | 1 | 08/12/2024 10:35 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.23** | | 1 | 08/12/2024 10:35 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1430** | umhos/cm @25C | 1 | 08/12/2024 10:35 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1020** | mg/L | 1 | 08/16/2024 12:03 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **131** | mg/L | 5 | 08/20/2024 17:03 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.32** | mg/L | 1 | 08/19/2024 10:35 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 20 | | **56** | mg/L | 5 | 08/20/2024 17:03 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.263** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Boron | NELAP | 0.0200 | | **1.94** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Calcium | NELAP | 0.100 | | **251** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:59 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 12:59 | 227065 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 1:33 | 227065 |
| Lithium | * | 0.0030 | | **0.0040** | mg/L | 5 | 08/15/2024 12:59 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 1:33 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 1:33 | 227065 |
| *CCV recovered outside the upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 13:23 | 227055 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-006 **Client Sample ID:** G120

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2024 11:34

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.73** | ft | 1 | 08/13/2024 11:34 | R352006 |
| Depth to water | * | -5.00 | | **17.65** | ft | 1 | 08/13/2024 11:34 | R352006 |
| Depth to water from measuring point | * | 0 | | **17.65** | ft | 1 | 08/13/2024 11:34 | R352006 |
| Elevation of groundwater surface | * | 0 | | **535.45** | ft | 1 | 08/13/2024 11:34 | R352006 |
| Measuring Point Elevation | * | 0 | | **553.10** | ft | 1 | 08/13/2024 11:34 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 08/13/2024 11:34 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.6** | NTU | 1 | 08/13/2024 11:34 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **65.3** | °F | 1 | 08/13/2024 11:34 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.81** | | 1 | 08/13/2024 11:34 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1880** | umhos/cm @25C | 1 | 08/13/2024 11:34 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1450** | mg/L | 1 | 08/16/2024 12:18 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **534** | mg/L | 20 | 08/20/2024 17:24 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.16** | mg/L | 1 | 08/19/2024 10:36 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **41** | mg/L | 1 | 08/20/2024 17:06 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.614** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Boron | NELAP | 0.0200 | | **7.71** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Calcium | NELAP | 0.100 | | **240** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 16:04 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:45 | 227124 |
| Arsenic | NELAP | 0.0010 | | **0.0104** | mg/L | 5 | 08/15/2024 14:45 | 227124 |
| Lithium | * | 0.0030 | | **0.0081** | mg/L | 5 | 08/15/2024 14:45 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 14:45 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 14:45 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:35 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-007 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2024 10:41

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 08/13/2024 10:41 | R352006 |
| Depth to water | * | -5.00 | | **27.47** | ft | 1 | 08/13/2024 10:41 | R352006 |
| Depth to water from measuring point | * | 0 | | **29.34** | ft | 1 | 08/13/2024 10:41 | R352006 |
| Elevation of groundwater surface | * | 0 | | **526.26** | ft | 1 | 08/13/2024 10:41 | R352006 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 08/13/2024 10:41 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 08/13/2024 10:41 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **22** | NTU | 1 | 08/13/2024 10:41 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.0** | °F | 1 | 08/13/2024 10:41 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.90** | | 1 | 08/13/2024 10:41 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1530** | umhos/cm @25C | 1 | 08/13/2024 10:41 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **936** | mg/L | 1 | 08/16/2024 12:18 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **260** | mg/L | 10 | 08/20/2024 17:32 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.17** | mg/L | 1 | 08/19/2024 10:38 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **30** | mg/L | 1 | 08/20/2024 17:27 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.500** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Boron | NELAP | 0.0200 | | **3.04** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Calcium | NELAP | 0.100 | | **164** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 16:05 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0087** | mg/L | 5 | 08/15/2024 15:36 | 227124 |
| Arsenic | NELAP | 0.0010 | | **0.0084** | mg/L | 5 | 08/15/2024 15:36 | 227124 |
| Lithium | * | 0.0030 | | **0.0083** | mg/L | 5 | 08/15/2024 15:36 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 15:36 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 15:36 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:37 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-008 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2024 10:14

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 08/13/2024 10:14 | R352006 |
| Depth to water | * | -5.00 | | **29.47** | ft | 1 | 08/13/2024 10:14 | R352006 |
| Depth to water from measuring point | * | 0 | | **31.21** | ft | 1 | 08/13/2024 10:14 | R352006 |
| Elevation of groundwater surface | * | 0 | | **523.19** | ft | 1 | 08/13/2024 10:14 | R352006 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 08/13/2024 10:14 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 08/13/2024 10:14 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **17** | NTU | 1 | 08/13/2024 10:14 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.5** | °F | 1 | 08/13/2024 10:14 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.80** | | 1 | 08/13/2024 10:14 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1790** | umhos/cm @25C | 1 | 08/13/2024 10:14 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1380** | mg/L | 1 | 08/16/2024 12:18 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **523** | mg/L | 20 | 08/20/2024 17:40 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.14** | mg/L | 1 | 08/19/2024 10:41 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **39** | mg/L | 1 | 08/20/2024 17:35 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.497** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Boron | NELAP | 0.0200 | | **10.8** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Calcium | NELAP | 0.100 | | **225** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0029** | mg/L | 5 | 08/15/2024 15:42 | 227124 |
| Arsenic | NELAP | 0.0010 | | **0.0019** | mg/L | 5 | 08/15/2024 15:42 | 227124 |
| Lithium | * | 0.0030 | | **0.0082** | mg/L | 5 | 08/15/2024 15:42 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 15:42 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 15:42 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:40 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2024 9:51

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 08/13/2024 9:51 | R352006 |
| Depth to water | * | -5.00 | | **12.82** | ft | 1 | 08/13/2024 9:51 | R352006 |
| Depth to water from measuring point | * | 0 | | **15.57** | ft | 1 | 08/13/2024 9:51 | R352006 |
| Elevation of groundwater surface | * | 0 | | **540.03** | ft | 1 | 08/13/2024 9:51 | R352006 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 08/13/2024 9:51 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 08/13/2024 9:51 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **51** | NTU | 1 | 08/13/2024 9:51 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.5** | °F | 1 | 08/13/2024 9:51 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 08/13/2024 9:51 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1420** | umhos/cm @25C | 1 | 08/13/2024 9:51 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1190** | mg/L | 1 | 08/16/2024 12:19 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 200 | | **406** | mg/L | 20 | 08/20/2024 17:48 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **< 0.10** | mg/L | 1 | 08/19/2024 10:51 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **41** | mg/L | 1 | 08/20/2024 17:43 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.602** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Boron | NELAP | 0.0200 | | **9.19** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Calcium | NELAP | 0.100 | | **186** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/15/2024 16:06 | 227124 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 08/15/2024 15:47 | 227124 |
| Arsenic | NELAP | 0.0010 | | **0.129** | mg/L | 5 | 08/15/2024 15:47 | 227124 |
| Lithium | * | 0.0030 | | **0.0145** | mg/L | 5 | 08/15/2024 15:47 | 227124 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 15:47 | 227124 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 15:47 | 227124 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/15/2024 16:42 | 227118 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-010 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 11:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 08/12/2024 11:23 | R352006 |
| Depth to water | * | -5.00 | | **2.99** | ft | 1 | 08/12/2024 11:23 | R352006 |
| Depth to water from measuring point | * | 0 | | **6.29** | ft | 1 | 08/12/2024 11:23 | R352006 |
| Elevation of groundwater surface | * | 0 | | **523.69** | ft | 1 | 08/12/2024 11:23 | R352006 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 08/12/2024 11:23 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 08/12/2024 11:23 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.8** | NTU | 1 | 08/12/2024 11:23 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.2** | °F | 1 | 08/12/2024 11:23 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.65** | | 1 | 08/12/2024 11:23 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **963** | umhos/cm @25C | 1 | 08/12/2024 11:23 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **774** | mg/L | 1 | 08/16/2024 12:19 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 50 | | **153** | mg/L | 5 | 08/20/2024 17:56 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.12** | mg/L | 1 | 08/19/2024 10:53 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **34** | mg/L | 1 | 08/20/2024 17:51 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.644** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Boron | NELAP | 0.0200 | | **2.99** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Calcium | NELAP | 0.100 | | **152** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 18:00 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 13:05 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.0180** | mg/L | 5 | 08/15/2024 1:39 | 227065 |
| Lithium | * | 0.0030 | | **0.0071** | mg/L | 5 | 08/15/2024 13:05 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 1:39 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 1:39 | 227065 |
| *CCV recovered outside the upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 13:26 | 227055 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-011 **Client Sample ID:** RW-3

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 10:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 08/12/2024 10:18 | R352006 |
| Depth to water | * | -5.00 | | **8.61** | ft | 1 | 08/12/2024 10:18 | R352006 |
| Depth to water from measuring point | * | 0 | | **11.31** | ft | 1 | 08/12/2024 10:18 | R352006 |
| Elevation of groundwater surface | * | 0 | | **528.19** | ft | 1 | 08/12/2024 10:18 | R352006 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 08/12/2024 10:18 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 08/12/2024 10:18 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **39** | NTU | 1 | 08/12/2024 10:18 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.3** | °F | 1 | 08/12/2024 10:18 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.23** | | 1 | 08/12/2024 10:18 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **698** | umhos/cm @25C | 1 | 08/12/2024 10:18 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **344** | mg/L | 1 | 08/16/2024 9:41 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 10 | | **14** | mg/L | 1 | 08/20/2024 0:00 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.43** | mg/L | 1 | 08/19/2024 9:31 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **29** | mg/L | 1 | 08/20/2024 0:00 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.146** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Boron | NELAP | 0.0200 | | **0.122** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Calcium | NELAP | 0.100 | | **63.2** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 17:13 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 9:54 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.107** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| Lithium | * | 0.0030 | | **0.0038** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2024 22:56 | 227065 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 0:00 | 227055 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

**Client:** City Water, Light & Power **Work Order:** 24080243

**Client Project:** FGDS Landfill **Report Date:** 18-Sep-24

**Lab ID:** 24080243-012 **Client Sample ID:** P07D

**Matrix:** GROUNDWATER **Collection Date:** 08/12/2024 12:21

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.89** | ft | 1 | 08/12/2024 12:21 | R352006 |
| Depth to water | * | -5.00 | | **3.42** | ft | 1 | 08/12/2024 12:21 | R352006 |
| Depth to water from measuring point | * | 0 | | **5.43** | ft | 1 | 08/12/2024 12:21 | R352006 |
| Elevation of groundwater surface | * | 0 | | **522.00** | ft | 1 | 08/12/2024 12:21 | R352006 |
| Measuring Point Elevation | * | 0 | | **527.43** | ft | 1 | 08/12/2024 12:21 | R352006 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.01** | ft | 1 | 08/12/2024 12:21 | R352006 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **170** | NTU | 1 | 08/12/2024 12:21 | R352006 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.8** | °F | 1 | 08/12/2024 12:21 | R352006 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.70** | | 1 | 08/12/2024 12:21 | R352006 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1170** | umhos/cm @25C | 1 | 08/12/2024 12:21 | R352006 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1090** | mg/L | 1 | 08/16/2024 12:27 | R351892 |
| **SW-846 9036 (TOTAL)** | | | | | | | | |
| Sulfate | NELAP | 100 | | **332** | mg/L | 10 | 08/20/2024 18:18 | R352032 |
| **SW-846 9214 (TOTAL)** | | | | | | | | |
| Fluoride | NELAP | 0.10 | | **0.10** | mg/L | 1 | 08/19/2024 10:56 | R351930 |
| **SW-846 9251 (TOTAL)** | | | | | | | | |
| Chloride | NELAP | 4 | | **37** | mg/L | 1 | 08/20/2024 17:59 | R352062 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **1.00** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Boron | NELAP | 0.0200 | | **5.95** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Calcium | NELAP | 0.100 | | **205** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2024 18:02 | 227065 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 13:11 | 227065 |
| Arsenic | NELAP | 0.0010 | | **0.0394** | mg/L | 5 | 08/15/2024 1:44 | 227065 |
| Lithium | * | 0.0030 | | **0.0085** | mg/L | 5 | 08/15/2024 13:11 | 227065 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2024 1:44 | 227065 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2024 1:44 | 227065 |
| *CCV recovered outside the upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2024 13:33 | 227055 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 09/13/2024 0:00 | R353302 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24080243
**Report Date:** 18-Sep-24

**Carrier:** Justin Colp

**Received By:** PRS

**Completed by:** Amber Dilallo
**On:** 13-Aug-24

**Reviewed by:** Ellie Hopkins
**On:** 13-Aug-24

**Pages to follow:** Chain of custody 4 Extra pages included 40

| | | | | | |
|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 12.1 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 8/12/24 at 1635 on ice [12.1C - LTG#9]. pH strip #96651. - amberdilallo - 8/13/2024 8:26:48 AM

Samples were received on 8/13/24 at 1427 on ice [3.7C - LTG#5]. pH strip #96651. - amberdilallo - 8/13/2024 3:27:12 PM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24080243

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 12.1 °C LTG 9
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: pH ✓ 9665 PS 8/13

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24080242-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24080243-001 | R101 | 8-12-24 1132 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 8.12.24 1315 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | 8-12-24 1035 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | 8.12.24 1123 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | 8.12.24 1018 | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 8.12.24 1635 | [signature] | 8/12/24 1635 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24080243

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

*new well 3Q2024 KH 8/5/24

**Client Comments:**

*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| FGDS Landfill | J. Colp |

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24080243-12 | P07D * | 8.12.24 1221 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
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| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 8.12.24 1635 | Paul Zettler | 8/12/24 1635 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24080243

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.7 °C
Preserved in: [ ] LAB [X] FIELD
LAB NOTES: PWS96057

FOR LAB USE ONLY
LH 8/13/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24080242-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | | |
| 24080243-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 002 | G110 | 8-13-24 1215 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 004 | G112 | 8.13.24 0933 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 006 | G120 | 8.13.24 1134 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 007 | G121 | 8.13.24 1041 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 008 | G122 | 8.13.24 1014 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 009 | AW-1 | 8-13-24 951 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-13-24 1427 | | 8/13/24 1427 |
| | | | |
| | | | |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24080243

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

*new well 3Q2024 KTH 8/5/24

**Client Comments:**

*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025

**PROJECT NAME/NUMBER**

FGDS Landfill

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 24080243-12 | P07D * | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-13-24 14:27 | | 8/13/24 14:27 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill **Monitoring Point:** R101

**Project Location:** Springfield, IL

**W.O. Number (s):** 24080243 **Date (s):** 8/12/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 76 °F Wind Direction: N S E (W) (circle two if needed)

Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 11:04

Static Water Level: 7.56 feet below TOC

Total Depth: 35.27 feet below TOC

Water Column: 27.71 feet

**Purging Activities**

Purged By: Brett Gillihan Purge Date: 8/12/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 27.71 ft. x 35.27 = 0.78 L x 3 Vol. = 2.34 L **Based on 3 water volumes in 3/8" tubing.*

Actual Purge Volume (L): 6.1

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:04 | 0.0 | 214 | purge start time | | | | | | |
| 11:20 | 3.5 | ↓ | 6.60 | 1,226 | 58.8 | 1.55 | -33.3 | 20.34 | |
| 11:23 | 4.2 | | 6.57 | 1,227 | 59.0 | 1.46 | -28.4 | 16.84 | |
| 11:26 | 4.8 | | 6.56 | 1,226 | 58.9 | 1.38 | -24.5 | 15.51 | |
| 11:29 | 5.5 | | 6.55 | 1,227 | 58.8 | 1.31 | -20.1 | 13.84 | |
| 11:32 | 6.1 | | 6.54 | 1,223 | 58.9 | 1.27 | -18 | 12.87 | |

**Sampling Activities**

Sampled By: Brett Gillihan Sample Date/Time: 8/12/2024 11:32

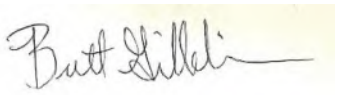
Sample Method: Low-Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.54 pH 1,223 Spec. Cond. 58.9 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 9.19 feet below TOC Drawdown: 1.63 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)



**Form Completed By:** **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** G110
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/13/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: 75 °F Wind Direction: N S E (W) (circle two if needed)
Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 11:38
Static Water Level: 25.72 feet below TOC
Total Depth: 57.15 feet below TOC
Water Column: 31.43 feet

**Purging Activities**

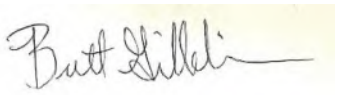
Purged By: Brett Gillihan Purge Date: 8/13/2024
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 31.43 ft. x 57.15 = 1.26 L x 3 Vol. = 3.78 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 4.6
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:38 | 0.0 | 122 | purge start time | | | | | | |
| 12:03 | 3.1 | ↓ | 6.92 | 808 | 72.7 | 4.40 | -93.5 | 16.52 | |
| 12:06 | 3.5 | | 6.80 | 813 | 71.0 | 4.31 | -89.0 | 9.55 | |
| 12:09 | 3.9 | | 6.73 | 817 | 69.3 | 4.13 | -87.7 | 6.07 | |
| 12:12 | 4.2 | | 6.69 | 813 | 69.3 | 4.13 | -86.4 | 4.95 | |
| 12:15 | 4.6 | | 6.68 | 814 | 69.1 | 4.06 | -86.2 | 4.50 | |

**Sampling Activities**

Sampled By: Brett Gillihan Sample Date/Time: 8/13/2024 12:15
Sample Method: Low-Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.68 pH 814 Spec. Cond. 69.1 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 26.54 feet below TOC Drawdown: 0.82 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)



**Form Completed By:** **Date:** 8/13/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** R111
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/12/2024

**Field Team Members**

Name: Tracy Carroll — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 73 °F — Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy — Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 12:48
Static Water Level: 26.29 feet below TOC
Total Depth: 55.75 feet below TOC
Water Column: 29.46 feet

**Purging Activities**

Purged By: Tracy Carroll — Purge Date: 8/12/2024
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 29.46 ft. x 55.75 = 1.23 L x 3 Vol. = 3.69 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 4.0
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:53 | 0.0 | 182 | purge start time | | | | | | |
| 13:03 | 1.8 | ↓ | 6.84 | 796 | 63.9 | 1.52 | -116.4 | 7.55 | |
| 13:06 | 2.4 | | 6.84 | 798 | 63.6 | 1.40 | -116.7 | 6.13 | |
| 13:09 | 2.9 | | 6.84 | 799 | 63.3 | 1.31 | -117.9 | 5.19 | |
| 13:12 | 3.5 | | 6.84 | 798 | 63.3 | 1.27 | -118.8 | 5.24 | |
| 13:15 | 4.0 | | 6.84 | 799 | 63.3 | 1.24 | -118.7 | 4.04 | |

**Sampling Activities**

Sampled By: Tracy Carroll — Sample Date/Time: 8/12/2024 13:15
Sample Method: Low-Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.84 pH — 799 Spec. Cond. — 63.3 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 26.40 feet below TOC — Drawdown: 0.11 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Tracy Carroll — **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** G112
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/13/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 67 °F — Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy — Sky: Cloudy Sunny (Partly)

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 9:13
Static Water Level: 28.97 feet below TOC
Total Depth: 58.81 feet below TOC
Water Column: 29.84 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/13/2024
Purge Method: Submersible Pump — Well Diameter: 2"
Purge Volume Calculation (L): 29.84 ft. x 58.81 = 1.29 L x 3 Vol. = 3.87 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 4.0
Physical appearance of purge water: Slightly Cloudy — Odor: None — Color: Light yellow

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:14 | 0.0 | 211 | purge start time | | | | | | |
| 9:21 | 1.5 | ↓ | 7.19 | 1,624 | 60.8 | 1.43 | 91.9 | 72.50 | |
| 9:24 | 2.1 | | 7.19 | 1,623 | 61.6 | 1.32 | 33.5 | 60.17 | |
| 9:27 | 2.7 | | 7.20 | 1,628 | 62.1 | 1.87 | 2.8 | 46.78 | |
| 9:30 | 3.4 | | 7.19 | 1,626 | 61.6 | 1.18 | -14 | 48.63 | |
| 9:33 | 4.0 | | 7.19 | 1,625 | 62.2 | 1.06 | -24.1 | 47.06 | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/13/2024 9:33
Sample Method: Low-Flow — Sample Equipment: Submersible Pump
Sample Parameters: 7.19 pH — 1,625 Spec. Cond. — 62.2 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 30.08 feet below TOC — Drawdown: 1.11 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp — **Date:** 8/13/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** G113
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/12/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: 75 °F Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 10:20
Static Water Level: 6.89 feet below TOC
Total Depth: 12.85 feet below TOC
Water Column: 5.96 feet

**Purging Activities**

Purged By: Brett Gillihan Purge Date: 8/12/2024
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 5.96 ft. x 12.85 = 0.28 L x 3 Vol. = 0.84 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 4.1
Physical appearance of purge water: Clear Odor: Strong Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 0.0 | 267 | purge start time | | | | | | |
| 10:23 | 0.9 | ↓ | 6.13 | 1,401 | 63.5 | 1.85 | -160.7 | 6.45 | |
| 10:26 | 1.7 | | 6.15 | 1,410 | 63.5 | 1.52 | -181.4 | 4.60 | |
| 10:29 | 2.5 | | 6.18 | 1,417 | 63.5 | 1.24 | -198.6 | 3.97 | |
| 10:32 | 3.3 | | 6.21 | 1,424 | 63.4 | 1.10 | -212.5 | 3.98 | |
| 10:35 | 4.1 | | 6.23 | 1,431 | 62.6 | 0.93 | -222.6 | 6.26 | |

**Sampling Activities**

Sampled By: Brett Gillihan Sample Date/Time: 8/12/2024 10:35
Sample Method: Low-Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.23 pH 1,431 Spec. Cond. 62.6 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 7.42 feet below TOC Drawdown: 0.53 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Brett Gillihan **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill **Monitoring Point:** G120

**Project Location:** Springfield, IL

**W.O. Number (s):** 24080243 **Date (s):** 8/13/2024

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 74 °F Wind Direction: N S E (W) (circle two if needed)

Precipitation: (None) Light Heavy Sky: Cloudy Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 11:14

Static Water Level: 17.65 feet below TOC

Total Depth: 50.37 feet below TOC

Water Column: 32.72 feet

**Purging Activities**

Purged By: Justin Colp Purge Date: 8/13/2024

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 32.72 ft. x 50.37 = 1.11 L x 3 Vol. = 3.33 L **Based on 3 water volumes in 3/8" tubing.*

Actual Purge Volume (L): 3.5

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:15 | 0.0 | 184 | purge start time | | | | | | |
| 11:22 | 1.3 | ↓ | 6.85 | 1,881 | 63.8 | 2.42 | -96.2 | 8.06 | |
| 11:25 | 1.9 | | 6.81 | 1,881 | 62.5 | 0.93 | -99.6 | 6.55 | |
| 11:28 | 2.4 | | 6.81 | 1,881 | 63.4 | 0.79 | -104.9 | 6.21 | |
| 11:31 | 3.0 | | 6.81 | 1,885 | 64.0 | 0.75 | -109.0 | 6.76 | |
| 11:34 | 3.5 | | 6.81 | 1,883 | 65.3 | 0.73 | -112.1 | 7.61 | |

**Sampling Activities**

Sampled By: Justin Colp Sample Date/Time: 8/13/2024 11:34

Sample Method: Low-Flow Sample Equipment: Submersible Pump

Sample Parameters: 6.81 pH 1,883 Spec. Cond. 65.3 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 18.79 feet below TOC Drawdown: 1.14 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp **Date:** 8/13/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** G121
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/13/2024

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: 72 °F Wind Direction: N S E (W) (circle two if needed)
Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 10:21
Static Water Level: 29.34 feet below TOC
Total Depth: 58.56 feet below TOC
Water Column: 29.22 feet

**Purging Activities**

Purged By: Justin Colp Purge Date: 8/13/2024
Purge Method: Submersible Pump Well Diameter: 2"
Purge Volume Calculation (L): 29.22 ft. x 58.56 = 1.29 L x 3 Vol. = 3.87 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 4.0
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:22 | 0.0 | 211 | purge start time | | | | | | |
| 10:29 | 1.5 | ↓ | 7.00 | 1,433 | 63.0 | 1.41 | -98.4 | 28.89 | |
| 10:32 | 2.1 | | 6.96 | 1,442 | 66.0 | 1.22 | -104.4 | 26.61 | |
| 10:35 | 2.8 | | 6.94 | 1,472 | 64.5 | 1.05 | -110.1 | 27.56 | |
| 10:38 | 3.4 | | 6.90 | 1,527 | 63.2 | 0.93 | -113.6 | 23.40 | |
| 10:41 | 4.0 | | 6.90 | 1,530 | 63.0 | 0.85 | -117.8 | 22.37 | |

**Sampling Activities**

Sampled By: Justin Colp Sample Date/Time: 8/13/2024 10:41
Sample Method: Low-Flow Sample Equipment: Submersible Pump
Sample Parameters: 6.90 pH 1,530 Spec. Cond. 63.0 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 30.00 feet below TOC Drawdown: 0.66 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp **Date:** 8/13/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** G122
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/13/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 70 °F — Wind Direction: N S E (W) (circle two if needed)
Precipitation: (None) Light Heavy — Sky: Cloudy Sunny (Partly)

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 9:48
Static Water Level: 31.21 feet below TOC
Total Depth: 49.29 feet below TOC
Water Column: 18.08 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/13/2024
Purge Method: Submersible Pump — Well Diameter: 2"
Purge Volume Calculation (L): 18.08 ft. x 49.29 = 1.08 L x 3 Vol. = 3.24 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 5.0
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:49 | 0.0 | 200 | purge start time | | | | | | |
| 10:02 | 2.6 | ↓ | 6.86 | 1,724 | 63.1 | 2.00 | -86.7 | 20.54 | |
| 10:05 | 3.2 | | 6.84 | 1,734 | 62.5 | 1.66 | -91.5 | 20.95 | |
| 10:08 | 3.8 | | 6.82 | 1,765 | 60.9 | 1.32 | -94.3 | 17.97 | |
| 10:11 | 4.4 | | 6.81 | 1,781 | 59.8 | 1.12 | -97.5 | 17.85 | |
| 10:14 | 5.0 | | 6.80 | 1,793 | 62.5 | 1.01 | -100.6 | 17.43 | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/13/2024 10:14
Sample Method: Low-Flow — Sample Equipment: Submersible Pump
Sample Parameters: 6.80 pH — 1,793 Spec. Cond. — 62.5 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 33.07 feet below TOC — Drawdown: 1.86 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Justin Colp — **Date:** 8/13/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill **Monitoring Point:** AW-1

**Project Location:** Springfield, IL

**W.O. Number (s):** 24080243 **Date (s):** 8/13/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 70 °F Wind Direction: N S E (W) (circle two if needed)

Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/2024 9:21

Static Water Level: 15.57 feet below TOC

Total Depth: 54.81 feet below TOC

Water Column: 39.24 feet

**Purging Activities**

Purged By: Brett Gillihan Purge Date: 8/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 39.24 ft. x 54.81 = 1.21 L x 3 Vol. = 3.63 L **Based on 3 water volumes in 3/8" tubing.*

Actual Purge Volume (L): 4.6

Physical appearance of purge water: Cloudy Odor: None Color: Light brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:21 | 0.0 | 150 | purge start time | | | | | | |
| 9:39 | 2.8 | ↓ | 6.71 | 1,390 | 63.0 | 3.14 | -24.8 | 57.38 | |
| 9:42 | 3.3 | | 6.68 | 1,394 | 62.5 | 2.60 | -50.0 | 57.42 | |
| 9:45 | 3.7 | | 6.68 | 1,390 | 62.3 | 2.46 | -49.4 | 57.79 | |
| 9:48 | 4.2 | | 6.66 | 1,396 | 62.6 | 2.45 | -56.3 | 51.84 | |
| 9:51 | 4.6 | | 6.58 | 1,417 | 62.5 | 2.36 | -69.5 | 51.12 | |

**Sampling Activities**

Sampled By: Brett Gillihan Sample Date/Time: 8/13/2024 9:51

Sample Method: Low-Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.58 pH 1,417 Spec. Cond. 62.5 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 17.34 feet below TOC Drawdown: 1.77 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Brett Gillihan **Date:** 8/13/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill **Monitoring Point:** AW-2

**Project Location:** Springfield, IL

**W.O. Number (s):** 24080243 **Date (s):** 8/12/2024

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 72 °F Wind Direction: N S E (W) (circle two if needed)

Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 10:50

Static Water Level: 6.29 feet below TOC

Total Depth: 32.64 feet below TOC

Water Column: 26.35 feet

**Purging Activities**

Purged By: Tracy Carroll Purge Date: 8/12/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 26.35 ft. x 32.64 = 0.72 L x 3 Vol. = 2.16 L **Based on 3 water volumes in 3/8" tubing.*

Actual Purge Volume (L): 6.6

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:57 | 0.0 | 250 | purge start time | | | | | | |
| 11:11 | 3.6 | ↓ | 6.63 | 951 | 65.5 | 3.21 | -106.8 | 9.84 | |
| 11:14 | 4.3 | | 6.64 | 957 | 65.1 | 3.05 | -105.3 | 5.87 | |
| 11:17 | 5.1 | | 6.64 | 962 | 64.6 | 2.94 | -121.1 | 3.39 | |
| 11:20 | 5.8 | | 6.65 | 962 | 64.4 | 2.87 | -111.4 | 3.44 | |
| 11:23 | 6.6 | | 6.65 | 963 | 64.2 | 2.85 | -106.1 | 2.85 | |

**Sampling Activities**

Sampled By: Tracy Carroll Sample Date/Time: 8/12/2024 11:23

Sample Method: Low-Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.65 pH 963 Spec. Cond. 64.2 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 6.36 feet below TOC Drawdown: 0.07 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Tracy Carroll **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill
**Monitoring Point:** RW-3
**Project Location:** Springfield, IL
**W.O. Number (s):** 24080243
**Date (s):** 8/12/2024

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

**Weather Conditions**

Temp: 74 °F — Wind Direction: (N) S E W (circle two if needed)
Precipitation: (None) Light Heavy — Sky: (Cloudy) Sunny Partly

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Good | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 10:01
Static Water Level: 11.31 feet below TOC
Total Depth: 44.01 feet below TOC
Water Column: 32.70 feet

**Purging Activities**

Purged By: Justin Colp — Purge Date: 8/12/2024
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 32.7 ft. x 44.01 = 0.97 L x 3 Vol. = 2.91 L **Based on 3 water volumes in 3/8" tubing.*
Actual Purge Volume (L): 3.1
Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:03 | 0.0 | 200 | purge start time | | | | | | |
| 10:06 | 0.6 | ↓ | 7.20 | 764 | 60.2 | 2.13 | -61.3 | 7.69 | |
| 10:09 | 1.3 | | 7.22 | 745 | 60.0 | 1.17 | -110.3 | 14.43 | |
| 10:12 | 1.9 | | 7.23 | 707 | 59.0 | 0.99 | -122.2 | 27.14 | |
| 10:15 | 2.5 | | 7.22 | 699 | 59.8 | 0.96 | -124.7 | 35.75 | |
| 10:18 | 3.1 | | 7.23 | 698 | 60.3 | 0.95 | -125.9 | 38.75 | |

**Sampling Activities**

Sampled By: Justin Colp — Sample Date/Time: 8/12/2024 10:18
Sample Method: Low-Flow — Sample Equipment: Bladder Pump
Sample Parameters: 7.23 pH — 698 Spec. Cond. — 60.3 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 11.46 feet below TOC — Drawdown: 0.15 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Duplicate Collected

**Form Completed By:** Justin Colp — **Date:** 8/12/2024

# Field Data Sheet

**Project Name:** CWLP- FGDS Landfill **Monitoring Point:** P07D

**Project Location:** Springfield, IL

**W.O. Number (s):** 24080243 **Date (s):** 8/12/2024

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 73 °F Wind Direction: (N) S E W (circle two if needed)

Precipitation: (None) Light Heavy Sky: (Cloudy) Sunny Partly

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Good |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/2024 11:46

Static Water Level: 5.43 feet below TOC

Total Depth: 32.54 feet below TOC

Water Column: 27.11 feet

**Purging Activities**

Purged By: Tracy Carroll Purge Date: 8/12/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 27.11 ft. x 32.54 = 0.72 L x 3 Vol. = 2.16 L **Based on 3 water volumes in 3/8" tubing.*

Actual Purge Volume (L): 7.5

Physical appearance of purge water: Clear Odor: None Color: Light orange

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µmhos/cm) | Temp (°F) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:53 | 0.0 | 268 | purge start time | | | | | | |
| 12:09 | 4.3 | ↓ | 6.69 | 1,173 | 60.4 | 0.83 | -119.1 | 217.46 | |
| 12:12 | 5.1 | | 6.69 | 1,173 | 60.4 | 0.78 | -120.1 | 161.59 | |
| 12:15 | 5.9 | | 6.70 | 1,173 | 60.4 | 0.74 | -120.5 | 104.52 | |
| 12:18 | 6.7 | | 6.70 | 1,172 | 60.2 | 0.72 | -121.0 | 134.96 | |
| 12:21 | 7.5 | | 6.70 | 1,172 | 59.8 | 0.70 | -120.1 | 172.06 | |

**Sampling Activities**

Sampled By: Tracy Carroll Sample Date/Time: 8/12/2024 12:21

Sample Method: Low-Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.70 pH 1,172 Spec. Cond. 59.8 Temp

Field Filtered: No Filter Type:

Water Level: 5.63 feet below TOC Drawdown: 0.20 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

**Form Completed By:** Tracy Carroll **Date:** 8/12/2024

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 24080243
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45985 Technician(s): Brett Gillihan Date: 8/12/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.01 | 8/12/24 9:59 |
| 7.0 Buffer | WC240307F | 6.99 | 8/12/24 9:54 |
| 10.0 Buffer | WC240625B | 9.99 | 8/12/24 10:02 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1410 | 8/12/24 10:09 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.4 | 8/12/24 10:15 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-BG | LCS | 8/12/24 10:19 | 22.4 | 7.01 | 1,410 | | | |
| CCV-1-BG | CCV | 8/12/24 15:30 | 23.6 | 7.04 | 1,416 | | | |

**Comments:**

Field Meter ID: Pine 45985 Technician(s): Brett Gillihan Date: 8/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.02 | 8/13/24 8:58 |
| 7.0 Buffer | WC240307F | 7.00 | 8/13/24 8:54 |
| 10.0 Buffer | WC240625B | 10.01 | 8/13/24 9:01 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1412 | 8/13/24 9:05 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.9 | 8/13/24 9:15 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-BG | LCS | 8/13/24 9:20 | 23.5 | 7.01 | 1,411 | | | |
| CCV-2-BG | CCV | 8/13/24 12:19 | 24.5 | 7.02 | 1,420 | | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 24080243
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 223344 Technician(s): Tracy Carroll Date: 8/12/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.01 | 8/12/24 10:31 |
| 7.0 Buffer | WC240307F | 7.01 | 8/12/24 10:23 |
| 10.0 Buffer | WC240625B | 10.00 | 8/12/24 10:39 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1412 | 8/12/24 10:39 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-TC | LCS | 8/12/24 10:44 | 24.6 | 7.03 | 1,410 | | | |
| CCV-1-TC | CCV | 8/12/24 14:28 | 25.2 | 7.08 | 1,453 | | | |

**Comments:**

Field Meter ID: Pine 223344 Technician(s): Tracy Carroll Date: 8/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC240612A | 4.00 | 8/13/24 9:38 |
| 7.0 Buffer | WC240307F | 7.01 | 8/13/24 9:35 |
| 10.0 Buffer | WC240625B | 10.00 | 8/13/24 9:41 |
| LCS/CCV (7.0 Buffer) | WC231207A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1412 | 8/13/24 9:37 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-TC | LCS | 8/13/24 9:42 | 21 | 7.02 | 1,413 | | | |
| CCV-2-TC | CCV | 8/13/24 14:18 | 22.5 | 7.06 | 1,422 | | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 24080243
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2024**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218074 Technician(s): justin colp Date: 8/12/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc240612a | 4.00 | 8/12/24 9:33 |
| 7.0 Buffer | wc240307f | 6.99 | 8/12/24 9:30 |
| 10.0 Buffer | wc240625b | 9.99 | 8/12/24 9:36 |
| LCS/CCV (7.0 Buffer) | wc231207a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1413 | 8/12/24 9:39 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.41 | 8/12/24 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 8/12/24 9:45 | 23.2 | 6.99 | 1,413 | 0.41 | | |
| CCV-1-JC | CCV | 8/12/24 14:44 | 24.49 | 7.01 | 1,427 | 0.47 | | |

**Comments:**

Field Meter ID: Pine 218074 Technician(s): justin colp Date: 8/13/2024

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc240612a | 3.99 | 8/13/24 8:55 |
| 7.0 Buffer | wc240307f | 7.00 | 8/13/24 8:57 |
| 10.0 Buffer | wc240625b | 10.00 | 8/13/24 8:59 |
| LCS/CCV (7.0 Buffer) | wc231207a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 98627 | 1410 | 8/13/24 9:04 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.43 | 8/13/24 9:07 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

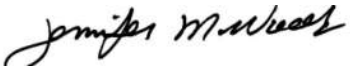
| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-JC | LCS | 8/13/24 9:10 | 23.1 | 7.00 | 1,410 | 0.43 | | |
| CCV-2-JC | CCV | 8/13/24 11:36 | 24.8 | 7.02 | 1,416 | 0.47 | | |

**Comments:**

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24090112 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Anthony W. Britton | 9/3/2024 5:00:00 PM | |
| Completed By: | Anthony W. Britton | 9/4/2024 2:28:52 PM | |
| Reviewed By: | Jennifer Woolf | 9/6/2024 3:01:49 PM |  |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐
   No. 4608 Seal Date: 8/29/2024 Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 17.2 | Good | Yes | 4608 | 8/29/2024 | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

September 17, 2024

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24080243

Dear Elizabeth Hurley:

Order No.: 24081420

Summit Environmental Technologies, Inc. received 12 sample(s) on 8/19/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*3310 Win St.*
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*Website: http://www.settek.com*

# Case Narrative

WO#: **24081420**
Date: **9/17/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24080243

WorkOrder Narrative:
24081420: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24081420**
Date: **9/17/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24081420**

***17-Sep-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24080243

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24081420-001 | 24080243-001 | | 8/12/2024 11:32:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-002 | 24080243-002 | | 8/13/2024 12:15:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-003 | 24080243-003 | | 8/12/2024 1:15:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-004 | 24080243-004 | | 8/13/2024 9:33:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-005 | 24080243-005 | | 8/12/2024 10:35:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-006 | 24080243-006 | | 8/13/2024 11:34:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-007 | 24080243-007 | | 8/13/2024 10:41:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-008 | 24080243-008 | | 8/13/2024 10:14:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-009 | 24080243-009 | | 8/13/2024 9:51:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-010 | 24080243-010 | | 8/12/2024 11:23:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-011 | 24080243-011 | | 8/12/2024 10:18:00 AM | 8/19/2024 12:30:00 PM | Non-Potable Water |
| 24081420-012 | 24080243-012 | | 8/12/2024 12:21:00 PM | 8/19/2024 12:30:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **24081420**

***17-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24080243

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24081420-001A | 24080243-001 | 8/12/2024 11:32:00 AM | Non-Potable Water | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-002A | 24080243-002 | 8/13/2024 12:15:00 PM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-003A | 24080243-003 | 8/12/2024 1:15:00 PM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-004A | 24080243-004 | 8/13/2024 9:33:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-005A | 24080243-005 | 8/12/2024 10:35:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-006A | 24080243-006 | 8/13/2024 11:34:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-007A | 24080243-007 | 8/13/2024 10:41:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-008A | 24080243-008 | 8/13/2024 10:14:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# DATES REPORT

WO#: **24081420**

***17-Sep-24***

**Client:** TEKLAB Inc,

**Project:** 24080243

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24081420-008A | 24080243-008 | 8/13/2024 10:14:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-009A | 24080243-009 | 8/13/2024 9:51:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-010A | 24080243-010 | 8/12/2024 11:23:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-011A | 24080243-011 | 8/12/2024 10:18:00 AM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |
| 24081420-012A | 24080243-012 | 8/12/2024 12:21:00 PM | | Combined Radium (EPA903+904) | | | 9/17/2024 12:00:15 PM |
| | | | | Radium-226 (EPA 903.0) | | 9/10/2024 2:19:00 PM | 9/16/2024 11:23:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 9/10/2024 2:19:00 PM | 9/13/2024 2:18:00 PM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24081420**

Date Reported: **9/17/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 8/13/2024 9:51:00 AM

**Project:** 24080243

**Lab ID:** 24081420-009

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24080243-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **CALCULATION** | | Analyst: **HDJ** |
| **COMBINED RADIUM (EPA903+904)** | | | | | | | |
| Radium-226/Radium-228 | ND | 2.00 | | pCi/L | ± 0.493 | 1 | 9/17/2024 12:00:15 PM |
| **RAD226/228** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-226 (EPA 903.0)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.110 | 1 | 9/16/2024 11:23:00 AM |
| Yield | 1.00 | | | | | 1 | 9/16/2024 11:23:00 AM |
| **RAD226/228** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| **RADIUM-228 (EPA 904.0)** | | | | | | | |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.383 | 1 | 9/13/2024 2:18:00 PM |
| Yield | 1.00 | | | | | 1 | 9/13/2024 2:18:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24081420**

***17-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080243 **BatchID:** **78532**

| Sample ID: **MB-78532** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193266** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **78532** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/13/2024** | SeqNo: **5230723** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-78532** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193266** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **78532** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/13/2024** | SeqNo: **5230724** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.26 | 1.00 | 5.000 | 0 | 65.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-78532** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193266** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **78532** | TestNo: **E904.0** | **E903-904** | Analysis Date: **9/13/2024** | SeqNo: **5230725** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.71 | 1.00 | 5.000 | 0 | 74.2 | 50 | 130 | 3.259 | 12.9 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24081420**

***17-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080243 **BatchID:** **78532**

Sample ID: **24081891-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **9/10/2024** RunNo: **193266**
Client ID: **BatchQC** Batch ID: **78532** TestNo: **E904.0** **E903-904** Analysis Date: **9/13/2024** SeqNo: **5230761**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24081420**

***17-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080243 **BatchID:** **78532**

| Sample ID: **MB-78532** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193273** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **78532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5230910** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-78532** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193273** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **78532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5230911** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.33 | 1.00 | 5.000 | 0 | 86.7 | 70 | 130 | | | | |

| Sample ID: **LCSD-78532** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193273** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **78532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5230912** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.53 | 1.00 | 5.000 | 0 | 90.7 | 70 | 130 | 4.334 | 4.53 | 20 | |

| Sample ID: **24081891-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **9/10/2024** | RunNo: **193273** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **78532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **9/16/2024** | SeqNo: **5230934** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24081420**

***17-Sep-24***

**Client:** TEKLAB Inc,
**Project:** 24080243 **BatchID:** **78532**

Sample ID: **24081891-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/10/2024** RunNo: **193273**
Client ID: **BatchQC** Batch ID: **78532** TestNo: **E903.0** **E903-904** Analysis Date: **9/16/2024** SeqNo: **5230934**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24081894-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **9/10/2024** RunNo: **193273**
Client ID: **BatchQC** Batch ID: **78532** TestNo: **E903.0** **E903-904** Analysis Date: **9/16/2024** SeqNo: **5230936**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

24081420

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: Teklab, Inc. QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Ra226, Ra228 and Combinded Radium per your usual methods.
Changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site. Report 24080243-011 from 24080242-001. *

no containers shipped for 24080243-011 SAH 8/14/24

Project# 24080243

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 36828 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | Radium 226 | Radium 228 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24080243-001 | 8/12/24 1132 | HNO3 | Groundwater | ✔ | ✔ | ✔ | pH | 1 | 10pm | 14 | | | | | |
| | 24080243-002 | 8/13/24 1215 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 19 | | | | | |
| | 24080243-003 | 8/12/24 1315 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 56 | | | | | |
| | 24080243-004 | 8/13/24 0933 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 37 | | | | | |
| | 24080243-005 | 8/12/24 1035 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 26 | | | | | |
| | 24080243-006 | 8/13/24 1134 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 18 | | | | | |
| | 24080243-007 | 8/13/24 1041 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 30 | | | | | |
| | 24080243-008 | 8/13/24 1014 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 6 | | | | | |
| | 24080243-009 | 8/13/24 0951 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 24 | | | | | |
| | 24080243-010 | 8/12/24 1123 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | 1 | | 32 | | | | | |
| | 24080243-011 * | 8/12/24 1018 | HNO3 | Groundwater | ✔ | ✔ | ✔ | | | | 1 | | | | | |

21.6 - 0.1 = 21.5, Fedex Cooler

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 8/13/24 1700 | [signature] AUG 19 2024 | 1230 |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: Teklab, Inc. QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Ra226, Ra228 and Combinded Radium per your usual methods.
Changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site. Report 24080243-011 from 24080242-001.

Project# 24080243

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 36828 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | Radium 226 | Radium 228 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24080243-012 | 8/12/24 1221 | HNO3 | Groundwater | ✔ | ✔ | ✔ | pH | 1 | 12=cpm | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |

21.6 - 0.1 = 21.5, Fedex Cooler

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 8/13/24 1700 | [signature] AUG 19 2024 | 1230 |
| | | | |
| | | | |
| | | | |



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SubCocRevA
3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24081420 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Anthony W. Britton | 8/19/2024 12:30:00 PM | Anthony Britton |
| Completed By: | Anthony W. Britton | 8/20/2024 1:40:48 PM | Anthony Britton |
| Reviewed By: | Jennifer Woolf | 8/20/2024 7:57:52 PM | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| | No. Seal Date: Signed By: | | | |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 21.5 | Good | Not Present | | | |

Fourth Quarter 2024

December 06, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 24110120

Dear Eric Staley:

TEKLAB, INC received 20 samples on 11/13/2024 3:45:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24110120
**Report Date:** 06-Dec-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 27 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24110120
**Report Date:** 06-Dec-24

**Cooler Receipt Temp:** 10.9 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24110120

**Report Date:** 06-Dec-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 12/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 11/11/2024 11:03

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 11/11/2024 11:03 | R356375 |
| Depth to water | * | -5.00 | | **8.75** | ft | 1 | 11/11/2024 11:03 | R356375 |
| Depth to water from measuring point | * | 0 | | **11.45** | ft | 1 | 11/11/2024 11:03 | R356375 |
| Elevation of groundwater surface | * | 0 | | **528.05** | ft | 1 | 11/11/2024 11:03 | R356375 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 11/11/2024 11:03 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 11/11/2024 11:03 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **48** | NTU | 1 | 11/11/2024 11:03 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.8** | °F | 1 | 11/11/2024 11:03 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.13** | | 1 | 11/11/2024 11:03 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **531** | µmhos/cm @25C | 1 | 11/11/2024 11:03 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **470** | mg/L | 2.5 | 11/14/2024 12:11 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 17:09 | R355975 |
| Chloride | NELAP | 5.00 | | **25.1** | mg/L | 10 | 11/13/2024 17:09 | R355975 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/13/2024 17:09 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.180** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Boron | NELAP | 0.0200 | | **0.137** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Calcium | NELAP | 0.100 | | **67.2** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 22:11 | 231044 |
| Arsenic | NELAP | 0.0010 | | **0.214** | mg/L | 5 | 11/14/2024 0:51 | 231044 |
| Lithium | * | 0.0030 | | **0.0047** | mg/L | 5 | 11/14/2024 17:29 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 0:51 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:29 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:09 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-002
**Client Sample ID:** AP-1
**Matrix:** GROUNDWATER
**Collection Date:** 11/11/2024 11:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **504.29** | ft | 1 | 11/11/2024 11:44 | R356375 |
| Depth to water | * | -5.00 | | **8.12** | ft | 1 | 11/11/2024 11:44 | R356375 |
| Depth to water from measuring point | * | 0 | | **10.39** | ft | 1 | 11/11/2024 11:44 | R356375 |
| Elevation of groundwater surface | * | 0 | | **524.98** | ft | 1 | 11/11/2024 11:44 | R356375 |
| Measuring Point Elevation | * | 0 | | **535.37** | ft | 1 | 11/11/2024 11:44 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.27** | ft | 1 | 11/11/2024 11:44 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 11/11/2024 11:44 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.2** | °F | 1 | 11/11/2024 11:44 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 11/11/2024 11:44 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1380** | µmhos/cm @25C | 1 | 11/11/2024 11:44 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1640** | mg/L | 2.5 | 11/14/2024 12:17 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 17:20 | R355975 |
| Chloride | NELAP | 5.00 | | **52.1** | mg/L | 10 | 11/13/2024 17:20 | R355975 |
| Sulfate | NELAP | 10.0 | | **849** | mg/L | 10 | 11/13/2024 17:20 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.269** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Boron | NELAP | 0.200 | | **23.6** | mg/L | 10 | 11/14/2024 9:56 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Calcium | NELAP | 0.100 | | **237** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 11:05 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 22:45 | 231044 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 0:56 | 231044 |
| Lithium | * | 0.0030 | | **0.0094** | mg/L | 5 | 11/14/2024 17:35 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 0:56 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:35 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:22 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

**Lab ID:** 24110120-003 **Client Sample ID:** AP-2

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 12:21

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 11/11/2024 12:21 | R356375 |
| Depth to water | * | -5.00 | | **4.04** | ft | 1 | 11/11/2024 12:21 | R356375 |
| Depth to water from measuring point | * | 0 | | **6.54** | ft | 1 | 11/11/2024 12:21 | R356375 |
| Elevation of groundwater surface | * | 0 | | **529.56** | ft | 1 | 11/11/2024 12:21 | R356375 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 11/11/2024 12:21 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 11/11/2024 12:21 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.0** | NTU | 1 | 11/11/2024 12:21 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.3** | °F | 1 | 11/11/2024 12:21 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.41** | | 1 | 11/11/2024 12:21 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1140** | µmhos/cm @25C | 1 | 11/11/2024 12:21 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1160** | mg/L | 2.5 | 11/14/2024 12:18 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 17:32 | R355975 |
| Chloride | NELAP | 5.00 | | **35.1** | mg/L | 10 | 11/13/2024 17:32 | R355975 |
| Sulfate | NELAP | 10.0 | | **440** | mg/L | 10 | 11/13/2024 17:32 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0727** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Boron | NELAP | 0.0200 | | **3.52** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Calcium | NELAP | 0.100 | | **222** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Cobalt | NELAP | 0.0050 | | **0.0085** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 11:06 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 22:49 | 231044 |
| Arsenic | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 11/14/2024 1:58 | 231044 |
| Lithium | * | 0.0030 | | **0.0068** | mg/L | 5 | 11/14/2024 17:40 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 1:58 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:40 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:24 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

**Lab ID:** 24110120-004 **Client Sample ID:** AP-3

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 12:55

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 11/11/2024 12:55 | R356375 |
| Depth to water | * | -5.00 | | **7.00** | ft | 1 | 11/11/2024 12:55 | R356375 |
| Depth to water from measuring point | * | 0 | | **9.55** | ft | 1 | 11/11/2024 12:55 | R356375 |
| Elevation of groundwater surface | * | 0 | | **525.70** | ft | 1 | 11/11/2024 12:55 | R356375 |
| Measuring Point Elevation | * | 0 | | **535.25** | ft | 1 | 11/11/2024 12:55 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.55** | ft | 1 | 11/11/2024 12:55 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.7** | NTU | 1 | 11/11/2024 12:55 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.7** | °F | 1 | 11/11/2024 12:55 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.48** | | 1 | 11/11/2024 12:55 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1070** | µmhos/cm @25C | 1 | 11/11/2024 12:55 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1160** | mg/L | 2.5 | 11/14/2024 12:18 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 17:44 | R355975 |
| Chloride | NELAP | 5.00 | | **59.5** | mg/L | 10 | 11/13/2024 17:44 | R355975 |
| Sulfate | NELAP | 10.0 | | **558** | mg/L | 10 | 11/13/2024 17:44 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.132** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Boron | NELAP | 0.0200 | | **14.9** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Calcium | NELAP | 0.100 | | **185** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 11:08 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 22:53 | 231044 |
| Arsenic | NELAP | 0.0010 | | **0.0182** | mg/L | 5 | 11/14/2024 2:04 | 231044 |
| Lithium | * | 0.0030 | | **0.0062** | mg/L | 5 | 11/14/2024 17:46 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 2:04 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:46 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:27 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

**Lab ID:** 24110120-005 **Client Sample ID:** AP-4

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 13:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.19** | ft | 1 | 11/11/2024 13:38 | R356375 |
| Depth to water | * | -5.00 | | **7.77** | ft | 1 | 11/11/2024 13:38 | R356375 |
| Depth to water from measuring point | * | 0 | | **10.91** | ft | 1 | 11/11/2024 13:38 | R356375 |
| Elevation of groundwater surface | * | 0 | | **544.69** | ft | 1 | 11/11/2024 13:38 | R356375 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 11/11/2024 13:38 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.14** | ft | 1 | 11/11/2024 13:38 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 11/11/2024 13:38 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.6** | °F | 1 | 11/11/2024 13:38 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.82** | | 1 | 11/11/2024 13:38 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **688** | µmhos/cm @25C | 1 | 11/11/2024 13:38 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **565** | mg/L | 2.5 | 11/14/2024 12:18 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 17:55 | R355975 |
| Chloride | NELAP | 5.00 | | **12.3** | mg/L | 10 | 11/13/2024 17:55 | R355975 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/13/2024 17:55 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.390** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Boron | NELAP | 0.0200 | | **0.0820** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Calcium | NELAP | 0.100 | | **< 0.100** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 12:39 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 22:57 | 231044 |
| Arsenic | NELAP | 0.0010 | | **0.0246** | mg/L | 5 | 11/14/2024 2:09 | 231044 |
| Lithium | * | 0.0030 | | **0.0077** | mg/L | 5 | 11/14/2024 17:51 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 2:09 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:51 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:30 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-006
**Client Sample ID:** AP-5
**Matrix:** GROUNDWATER
**Collection Date:** 11/11/2024 14:28

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **552.63** | ft | 1 | 11/11/2024 14:28 | R356375 |
| Depth to water | * | -5.00 | | **13.98** | ft | 1 | 11/11/2024 14:28 | R356375 |
| Depth to water from measuring point | * | 0 | | **16.28** | ft | 1 | 11/11/2024 14:28 | R356375 |
| Elevation of groundwater surface | * | 0 | | **567.62** | ft | 1 | 11/11/2024 14:28 | R356375 |
| Measuring Point Elevation | * | 0 | | **583.90** | ft | 1 | 11/11/2024 14:28 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.30** | ft | 1 | 11/11/2024 14:28 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.0** | NTU | 1 | 11/11/2024 14:28 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.5** | °F | 1 | 11/11/2024 14:28 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.90** | | 1 | 11/11/2024 14:28 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **569** | µmhos/cm @25C | 1 | 11/11/2024 14:28 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **470** | mg/L | 2.5 | 11/14/2024 12:18 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 18:07 | R355975 |
| Chloride | NELAP | 5.00 | | **7.59** | mg/L | 10 | 11/13/2024 18:07 | R355975 |
| Sulfate | NELAP | 10.0 | | **59.2** | mg/L | 10 | 11/13/2024 18:07 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0525** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Boron | NELAP | 0.0200 | | **0.0326** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Calcium | NELAP | 0.100 | | **92.6** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 12:41 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 23:01 | 231044 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 2:15 | 231044 |
| Lithium | * | 0.0030 | | **0.0043** | mg/L | 5 | 11/14/2024 17:57 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 2:15 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:57 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:38 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-007
**Client Sample ID:** AP-6
**Matrix:** GROUNDWATER
**Collection Date:** 11/11/2024 10:27

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.20** | ft | 1 | 11/11/2024 10:27 | R356375 |
| Depth to water | * | -5.00 | | **7.39** | ft | 1 | 11/11/2024 10:27 | R356375 |
| Depth to water from measuring point | * | 0 | | **9.81** | ft | 1 | 11/11/2024 10:27 | R356375 |
| Elevation of groundwater surface | * | 0 | | **528.01** | ft | 1 | 11/11/2024 10:27 | R356375 |
| Measuring Point Elevation | * | 0 | | **537.82** | ft | 1 | 11/11/2024 10:27 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.42** | ft | 1 | 11/11/2024 10:27 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **46** | NTU | 1 | 11/11/2024 10:27 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.2** | °F | 1 | 11/11/2024 10:27 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.00** | | 1 | 11/11/2024 10:27 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **557** | µmhos/cm @25C | 1 | 11/11/2024 10:27 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **445** | mg/L | 2.5 | 11/14/2024 12:18 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 18:19 | R355975 |
| Chloride | NELAP | 5.00 | | **34.5** | mg/L | 10 | 11/13/2024 18:19 | R355975 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/13/2024 18:19 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.154** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Boron | NELAP | 0.0200 | | **0.248** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Calcium | NELAP | 0.100 | | **66.0** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:30 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0021** | mg/L | 5 | 11/20/2024 8:55 | 231056 |
| Arsenic | NELAP | 0.0010 | | **0.0108** | mg/L | 5 | 11/15/2024 4:50 | 231056 |
| Lithium | * | 0.0030 | | **0.0104** | mg/L | 5 | 11/20/2024 8:55 | 231056 |
| Selenium | NELAP | 0.0010 | | **0.0022** | mg/L | 5 | 11/15/2024 4:50 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 4:50 | 231056 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 17:40 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 11/13/2024 11:07

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 11/13/2024 11:07 | R356375 |
| Depth to water | * | -5.00 | | **9.78** | ft | 1 | 11/13/2024 11:07 | R356375 |
| Depth to water from measuring point | * | 0 | | **12.44** | ft | 1 | 11/13/2024 11:07 | R356375 |
| Elevation of groundwater surface | * | 0 | | **526.58** | ft | 1 | 11/13/2024 11:07 | R356375 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 11/13/2024 11:07 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 11/13/2024 11:07 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **55** | NTU | 1 | 11/13/2024 11:07 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.7** | °F | 1 | 11/13/2024 11:07 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.17** | | 1 | 11/13/2024 11:07 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **774** | µmhos/cm @25C | 1 | 11/13/2024 11:07 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **470** | mg/L | 5 | 11/18/2024 15:00 | R356427 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 7:20 | R356148 |
| Chloride | NELAP | 5.00 | | **62.1** | mg/L | 10 | 11/15/2024 7:20 | R356148 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/15/2024 7:20 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.148** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Boron | NELAP | 0.0200 | | **0.332** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Calcium | NELAP | 0.100 | | **61.9** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 11:13 | 231260 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 2:41 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0947** | mg/L | 5 | 11/20/2024 2:41 | 231194 |
| Lithium | * | 0.0030 | | **0.0079** | mg/L | 5 | 11/20/2024 9:47 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 2:41 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 2:41 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 11:23 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 11/13/2024 13:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 11/13/2024 13:15 | R356375 |
| Depth to water | * | -5.00 | | **4.42** | ft | 1 | 11/13/2024 13:15 | R356375 |
| Depth to water from measuring point | * | 0 | | **7.32** | ft | 1 | 11/13/2024 13:15 | R356375 |
| Elevation of groundwater surface | * | 0 | | **529.88** | ft | 1 | 11/13/2024 13:15 | R356375 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 11/13/2024 13:15 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 11/13/2024 13:15 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 11/13/2024 13:15 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.3** | °F | 1 | 11/13/2024 13:15 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.78** | | 1 | 11/13/2024 13:15 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **733** | µmhos/cm @25C | 1 | 11/13/2024 13:15 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **530** | mg/L | 2.5 | 11/18/2024 15:00 | R356427 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 17:39 | R356222 |
| Chloride | NELAP | 5.00 | | **23.2** | mg/L | 10 | 11/15/2024 17:39 | R356222 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/15/2024 17:39 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.364** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Boron | NELAP | 0.0200 | | **0.0840** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Calcium | NELAP | 0.100 | | **98.4** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 11:14 | 231260 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 2:47 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0386** | mg/L | 5 | 11/20/2024 2:47 | 231194 |
| Lithium | * | 0.0030 | | **0.0069** | mg/L | 5 | 11/20/2024 9:53 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 2:47 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 2:47 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 11:52 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

**Lab ID:** 24110120-010 **Client Sample ID:** AP-9

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 12:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.70** | ft | 1 | 11/13/2024 12:30 | R356375 |
| Depth to water | * | -5.00 | | **10.13** | ft | 1 | 11/13/2024 12:30 | R356375 |
| Depth to water from measuring point | * | 0 | | **13.23** | ft | 1 | 11/13/2024 12:30 | R356375 |
| Elevation of groundwater surface | * | 0 | | **527.07** | ft | 1 | 11/13/2024 12:30 | R356375 |
| Measuring Point Elevation | * | 0 | | **540.30** | ft | 1 | 11/13/2024 12:30 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 11/13/2024 12:30 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.3** | NTU | 1 | 11/13/2024 12:30 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.7** | °F | 1 | 11/13/2024 12:30 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.80** | | 1 | 11/13/2024 12:30 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **968** | µmhos/cm @25C | 1 | 11/13/2024 12:30 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **740** | mg/L | 2.5 | 11/19/2024 15:09 | R356516 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 17:51 | R356222 |
| Chloride | NELAP | 5.00 | | **23.6** | mg/L | 10 | 11/15/2024 17:51 | R356222 |
| Sulfate | NELAP | 10.0 | | **17.7** | mg/L | 10 | 11/15/2024 17:51 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.434** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Boron | NELAP | 0.0200 | | **0.0995** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Calcium | NELAP | 0.100 | | **104** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:05 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 2:53 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0019** | mg/L | 5 | 11/20/2024 2:53 | 231194 |
| Lithium | * | 0.0030 | | **0.0066** | mg/L | 5 | 11/20/2024 9:58 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 2:53 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 2:53 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 11:55 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-011
**Client Sample ID:** AP-10
**Matrix:** GROUNDWATER
**Collection Date:** 11/12/2024 13:07

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **499.43** | ft | 1 | 11/12/2024 13:07 | R356375 |
| Depth to water | * | -5.00 | | **2.49** | ft | 1 | 11/12/2024 13:07 | R356375 |
| Depth to water from measuring point | * | 0 | | **5.59** | ft | 1 | 11/12/2024 13:07 | R356375 |
| Elevation of groundwater surface | * | 0 | | **531.91** | ft | 1 | 11/12/2024 13:07 | R356375 |
| Measuring Point Elevation | * | 0 | | **537.50** | ft | 1 | 11/12/2024 13:07 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 11/12/2024 13:07 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.2** | NTU | 1 | 11/12/2024 13:07 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.1** | °F | 1 | 11/12/2024 13:07 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.73** | | 1 | 11/12/2024 13:07 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1150** | µmhos/cm @25C | 1 | 11/12/2024 13:07 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **790** | mg/L | 2.5 | 11/15/2024 15:28 | R356333 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/14/2024 13:51 | R356148 |
| Chloride | NELAP | 5.00 | | **25.7** | mg/L | 10 | 11/14/2024 13:51 | R356148 |
| Sulfate | NELAP | 10.0 | | **89.4** | mg/L | 10 | 11/14/2024 13:51 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.628** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Boron | NELAP | 0.0200 | | **3.95** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Calcium | NELAP | 0.100 | | **140** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/15/2024 10:50 | 231140 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 10:56 | 231140 |
| Arsenic | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 11/16/2024 10:56 | 231140 |
| Lithium | * | 0.0030 | | **0.0101** | mg/L | 5 | 11/20/2024 10:21 | 231140 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 10:56 | 231140 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/16/2024 10:56 | 231140 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:15 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-012
**Client Sample ID:** AP-11
**Matrix:** GROUNDWATER
**Collection Date:** 11/12/2024 10:01

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.15** | ft | 1 | 11/12/2024 10:01 | R356375 |
| Depth to water | * | -5.00 | | **12.63** | ft | 1 | 11/12/2024 10:01 | R356375 |
| Depth to water from measuring point | * | 0 | | **15.43** | ft | 1 | 11/12/2024 10:01 | R356375 |
| Elevation of groundwater surface | * | 0 | | **522.67** | ft | 1 | 11/12/2024 10:01 | R356375 |
| Measuring Point Elevation | * | 0 | | **538.10** | ft | 1 | 11/12/2024 10:01 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 11/12/2024 10:01 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.1** | NTU | 1 | 11/12/2024 10:01 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.7** | °F | 1 | 11/12/2024 10:01 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.66** | | 1 | 11/12/2024 10:01 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **958** | µmhos/cm @25C | 1 | 11/12/2024 10:01 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **686** | mg/L | 1 | 11/15/2024 15:28 | R356333 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/14/2024 14:02 | R356148 |
| Chloride | NELAP | 5.00 | | **91.0** | mg/L | 10 | 11/14/2024 14:02 | R356148 |
| Sulfate | NELAP | 10.0 | | **63.4** | mg/L | 10 | 11/14/2024 14:02 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.122** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Boron | NELAP | 0.0200 | | **0.261** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Calcium | NELAP | 0.100 | | **124** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/15/2024 14:45 | 231140 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:01 | 231140 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:01 | 231140 |
| Lithium | * | 0.0030 | | **0.0050** | mg/L | 5 | 11/20/2024 10:26 | 231140 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:01 | 231140 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/16/2024 11:01 | 231140 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:17 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-013
**Client Sample ID:** AP-12
**Matrix:** GROUNDWATER
**Collection Date:** 11/12/2024 10:49

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **510.30** | ft | 1 | 11/12/2024 10:49 | R356375 |
| Depth to water | * | -5.00 | | **15.02** | ft | 1 | 11/12/2024 10:49 | R356375 |
| Depth to water from measuring point | * | 0 | | **17.92** | ft | 1 | 11/12/2024 10:49 | R356375 |
| Elevation of groundwater surface | * | 0 | | **522.78** | ft | 1 | 11/12/2024 10:49 | R356375 |
| Measuring Point Elevation | * | 0 | | **540.70** | ft | 1 | 11/12/2024 10:49 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 11/12/2024 10:49 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **26** | NTU | 1 | 11/12/2024 10:49 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.6** | °F | 1 | 11/12/2024 10:49 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.59** | | 1 | 11/12/2024 10:49 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1550** | µmhos/cm @25C | 1 | 11/12/2024 10:49 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1300** | mg/L | 2.5 | 11/15/2024 15:28 | R356333 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/14/2024 15:01 | R356148 |
| Chloride | NELAP | 5.00 | | **120** | mg/L | 10 | 11/14/2024 15:01 | R356148 |
| Sulfate | NELAP | 10.0 | | **457** | mg/L | 10 | 11/14/2024 15:01 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0458** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Boron | NELAP | 0.0200 | | **< 0.0200** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Calcium | NELAP | 0.100 | | **203** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/15/2024 14:46 | 231140 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:07 | 231140 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:07 | 231140 |
| Lithium | * | 0.0030 | | **0.0065** | mg/L | 5 | 11/20/2024 10:32 | 231140 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:07 | 231140 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/16/2024 11:07 | 231140 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:20 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-014
**Client Sample ID:** AP-13
**Matrix:** GROUNDWATER
**Collection Date:** 11/12/2024 11:25

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.00** | ft | 1 | 11/12/2024 11:25 | R356375 |
| Depth to water | * | -5.00 | | **16.00** | ft | 1 | 11/12/2024 11:25 | R356375 |
| Depth to water from measuring point | * | 0 | | **19.40** | ft | 1 | 11/12/2024 11:25 | R356375 |
| Elevation of groundwater surface | * | 0 | | **522.60** | ft | 1 | 11/12/2024 11:25 | R356375 |
| Measuring Point Elevation | * | 0 | | **542.00** | ft | 1 | 11/12/2024 11:25 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.40** | ft | 1 | 11/12/2024 11:25 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.3** | NTU | 1 | 11/12/2024 11:25 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.8** | °F | 1 | 11/12/2024 11:25 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.67** | | 1 | 11/12/2024 11:25 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **776** | µmhos/cm @25C | 1 | 11/12/2024 11:25 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **655** | mg/L | 2.5 | 11/15/2024 15:35 | R356333 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/14/2024 15:12 | R356148 |
| Chloride | NELAP | 5.00 | | **25.8** | mg/L | 10 | 11/14/2024 15:12 | R356148 |
| Sulfate | NELAP | 10.0 | | **121** | mg/L | 10 | 11/14/2024 15:12 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.120** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Boron | NELAP | 0.0200 | | **< 0.0200** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Calcium | NELAP | 0.100 | | **103** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:13 | 231140 |
| Arsenic | NELAP | 0.0010 | | **0.0038** | mg/L | 5 | 11/16/2024 11:13 | 231140 |
| Lithium | * | 0.0030 | | **0.0120** | mg/L | 5 | 11/20/2024 10:38 | 231140 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:13 | 231140 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/16/2024 11:13 | 231140 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:38 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-015
**Client Sample ID:** AP-14
**Matrix:** GROUNDWATER
**Collection Date:** 11/12/2024 13:43

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **508.40** | ft | 1 | 11/12/2024 13:43 | R356375 |
| Depth to water | * | -5.00 | | **1.84** | ft | 1 | 11/12/2024 13:43 | R356375 |
| Depth to water from measuring point | * | 0 | | **4.64** | ft | 1 | 11/12/2024 13:43 | R356375 |
| Elevation of groundwater surface | * | 0 | | **534.96** | ft | 1 | 11/12/2024 13:43 | R356375 |
| Measuring Point Elevation | * | 0 | | **539.60** | ft | 1 | 11/12/2024 13:43 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 11/12/2024 13:43 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.0** | NTU | 1 | 11/12/2024 13:43 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.2** | °F | 1 | 11/12/2024 13:43 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.93** | | 1 | 11/12/2024 13:43 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1740** | µmhos/cm @25C | 1 | 11/12/2024 13:43 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1840** | mg/L | 2.5 | 11/15/2024 15:35 | R356333 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/14/2024 15:24 | R356148 |
| Chloride | NELAP | 5.00 | | **94.0** | mg/L | 10 | 11/14/2024 15:24 | R356148 |
| Sulfate | NELAP | 10.0 | | **909** | mg/L | 10 | 11/14/2024 15:24 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0413** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Boron | NELAP | 0.200 | | **21.0** | mg/L | 10 | 11/18/2024 13:45 | 231140 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Calcium | NELAP | 0.100 | | **253** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/15/2024 14:47 | 231140 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:18 | 231140 |
| Arsenic | NELAP | 0.0010 | | **0.0022** | mg/L | 5 | 11/16/2024 11:18 | 231140 |
| Lithium | * | 0.0030 | | **0.0072** | mg/L | 5 | 11/20/2024 10:43 | 231140 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:18 | 231140 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/16/2024 11:18 | 231140 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:40 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-016
**Client Sample ID:** T-1
**Matrix:** GROUNDWATER
**Collection Date:** 11/12/2024 12:09

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **512.70** | ft | 1 | 11/12/2024 12:09 | R356375 |
| Depth to water | * | -5.00 | | **13.68** | ft | 1 | 11/12/2024 12:09 | R356375 |
| Depth to water from measuring point | * | 0 | | **14.01** | ft | 1 | 11/12/2024 12:09 | R356375 |
| Elevation of groundwater surface | * | 0 | | **521.64** | ft | 1 | 11/12/2024 12:09 | R356375 |
| Measuring Point Elevation | * | 0 | | **535.65** | ft | 1 | 11/12/2024 12:09 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **0.33** | ft | 1 | 11/12/2024 12:09 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **23** | NTU | 1 | 11/12/2024 12:09 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.1** | °F | 1 | 11/12/2024 12:09 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.57** | | 1 | 11/12/2024 12:09 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1470** | µmhos/cm @25C | 1 | 11/12/2024 12:09 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1060** | mg/L | 2.5 | 11/15/2024 15:35 | R356333 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/14/2024 15:59 | R356148 |
| Chloride | NELAP | 5.00 | | **233** | mg/L | 10 | 11/14/2024 15:59 | R356148 |
| Sulfate | NELAP | 10.0 | | **224** | mg/L | 10 | 11/14/2024 15:59 | R356148 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0707** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Boron | NELAP | 0.0200 | | **0.150** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Calcium | NELAP | 0.100 | | **172** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/15/2024 14:48 | 231140 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:53 | 231140 |
| Arsenic | NELAP | 0.0010 | | **0.0019** | mg/L | 5 | 11/16/2024 11:53 | 231140 |
| Lithium | * | 0.0030 | | **0.0199** | mg/L | 5 | 11/20/2024 10:49 | 231140 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 11:53 | 231140 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/16/2024 11:53 | 231140 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:43 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-017
**Client Sample ID:** T-2
**Matrix:** GROUNDWATER
**Collection Date:** 11/13/2024 13:40

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.18** | ft | 1 | 11/13/2024 13:40 | R356375 |
| Depth to water | * | -5.00 | | **12.83** | ft | 1 | 11/13/2024 13:40 | R356375 |
| Depth to water from measuring point | * | 0 | | **15.23** | ft | 1 | 11/13/2024 13:40 | R356375 |
| Elevation of groundwater surface | * | 0 | | **534.39** | ft | 1 | 11/13/2024 13:40 | R356375 |
| Measuring Point Elevation | * | 0 | | **549.62** | ft | 1 | 11/13/2024 13:40 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.40** | ft | 1 | 11/13/2024 13:40 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **18** | NTU | 1 | 11/13/2024 13:40 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.5** | °F | 1 | 11/13/2024 13:40 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 11/13/2024 13:40 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1870** | µmhos/cm @25C | 1 | 11/13/2024 13:40 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | H | **1580** | mg/L | 2.5 | 11/21/2024 17:12 | R356629 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 18:02 | R356222 |
| Chloride | NELAP | 5.00 | | **509** | mg/L | 10 | 11/15/2024 18:02 | R356222 |
| Sulfate | NELAP | 10.0 | | **142** | mg/L | 10 | 11/15/2024 18:02 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.225** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Boron | NELAP | 0.0200 | | **0.0507** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Calcium | NELAP | 0.100 | | **211** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:07 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 3:00 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0060** | mg/L | 5 | 11/20/2024 3:00 | 231194 |
| Lithium | * | 0.0030 | | **0.0345** | mg/L | 5 | 11/20/2024 10:43 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 3:00 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 3:00 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 11:58 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power
**Work Order:** 24110120
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 06-Dec-24
**Lab ID:** 24110120-018
**Client Sample ID:** T-4
**Matrix:** GROUNDWATER
**Collection Date:** 11/13/2024 12:07

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **521.52** | ft | 1 | 11/13/2024 12:07 | R356375 |
| Depth to water | * | -5.00 | | **17.24** | ft | 1 | 11/13/2024 12:07 | R356375 |
| Depth to water from measuring point | * | 0 | | **19.62** | ft | 1 | 11/13/2024 12:07 | R356375 |
| Elevation of groundwater surface | * | 0 | | **529.32** | ft | 1 | 11/13/2024 12:07 | R356375 |
| Measuring Point Elevation | * | 0 | | **548.94** | ft | 1 | 11/13/2024 12:07 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.38** | ft | 1 | 11/13/2024 12:07 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **32** | NTU | 1 | 11/13/2024 12:07 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.1** | °F | 1 | 11/13/2024 12:07 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.65** | | 1 | 11/13/2024 12:07 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **648** | µmhos/cm @25C | 1 | 11/13/2024 12:07 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | H | **695** | mg/L | 2.5 | 11/21/2024 17:12 | R356629 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 9:06 | R356222 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 11/15/2024 9:06 | R356222 |
| Sulfate | NELAP | 10.0 | | **104** | mg/L | 10 | 11/15/2024 9:06 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0578** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Boron | NELAP | 0.0200 | | **0.0565** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Calcium | NELAP | 0.100 | | **96.8** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:08 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 3:48 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0055** | mg/L | 5 | 11/20/2024 3:48 | 231194 |
| Lithium | * | 0.0030 | | **0.0161** | mg/L | 5 | 11/20/2024 10:49 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 3:48 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 3:48 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:00 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

**Lab ID:** 24110120-019 **Client Sample ID:** T-5

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 11:35

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **518.32** | ft | 1 | 11/13/2024 11:35 | R356375 |
| Depth to water | * | -5.00 | | **8.95** | ft | 1 | 11/13/2024 11:35 | R356375 |
| Depth to water from measuring point | * | 0 | | **11.46** | ft | 1 | 11/13/2024 11:35 | R356375 |
| Elevation of groundwater surface | * | 0 | | **529.20** | ft | 1 | 11/13/2024 11:35 | R356375 |
| Measuring Point Elevation | * | 0 | | **540.66** | ft | 1 | 11/13/2024 11:35 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.51** | ft | 1 | 11/13/2024 11:35 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **10** | NTU | 1 | 11/13/2024 11:35 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.9** | °F | 1 | 11/13/2024 11:35 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.82** | | 1 | 11/13/2024 11:35 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **549** | µmhos/cm @25C | 1 | 11/13/2024 11:35 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **382** | mg/L | 1 | 11/19/2024 14:17 | R356516 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 9:40 | R356222 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 11/15/2024 9:40 | R356222 |
| Sulfate | NELAP | 10.0 | | **40.4** | mg/L | 10 | 11/15/2024 9:40 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0564** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Boron | NELAP | 0.0200 | | **0.0791** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Calcium | NELAP | 0.100 | | **70.3** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:10 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 3:54 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 11/20/2024 3:54 | 231194 |
| Lithium | * | 0.0030 | | **0.0109** | mg/L | 5 | 11/20/2024 10:54 | 231194 |
| Selenium | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 11/20/2024 3:54 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 3:54 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:08 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

**Client:** City Water, Light & Power **Work Order:** 24110120

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 06-Dec-24

**Lab ID:** 24110120-020 **Client Sample ID:** T-6

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 10:37

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.70** | ft | 1 | 11/13/2024 10:37 | R356375 |
| Depth to water | * | -5.00 | | **8.66** | ft | 1 | 11/13/2024 10:37 | R356375 |
| Depth to water from measuring point | * | 0 | | **11.02** | ft | 1 | 11/13/2024 10:37 | R356375 |
| Elevation of groundwater surface | * | 0 | | **527.30** | ft | 1 | 11/13/2024 10:37 | R356375 |
| Measuring Point Elevation | * | 0 | | **538.32** | ft | 1 | 11/13/2024 10:37 | R356375 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.36** | ft | 1 | 11/13/2024 10:37 | R356375 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 11/13/2024 10:37 | R356375 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.1** | °F | 1 | 11/13/2024 10:37 | R356375 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.97** | | 1 | 11/13/2024 10:37 | R356375 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **869** | µmhos/cm @25C | 1 | 11/13/2024 10:37 | R356375 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **595** | mg/L | 2.5 | 11/19/2024 14:07 | R356516 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 10:16 | R356222 |
| Chloride | NELAP | 5.00 | | **19.4** | mg/L | 10 | 11/15/2024 10:16 | R356222 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/15/2024 10:16 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.306** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Boron | NELAP | 0.0200 | | **0.210** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Calcium | NELAP | 0.100 | | **91.4** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:12 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:00 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0158** | mg/L | 5 | 11/20/2024 4:00 | 231194 |
| Lithium | * | 0.0030 | | **0.0134** | mg/L | 5 | 11/20/2024 11:00 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:00 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 4:00 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:11 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/04/2024 0:00 | R357163 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 24110120
**Report Date:** 06-Dec-24

**Carrier:** Daniel Crump

**Received By:** JMD

**Completed by:** Amber Dilallo
**On:** 11-Nov-24

**Reviewed by:** Ellie Hopkins
**On:** 14-Nov-24

**Pages to follow:** Chain of custody 6 Extra pages included 62

| | | | | | | |
|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 10.9 | |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ | |
| Chain of custody present? | Yes ☑ | No ☐ | | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #96651. - JD/amberdilallo - 11/11/2024 4:39:54 PM

Samples were received on 11/12/24 at 15:30 on ice [9.1 - LTG5]. Additional nitric acid (100984) was needed in 1 of 2 containers for AP-10. - MDarling - 11/13/2024 8:38:32 AM

Samples were received on 11/13/24 at 15:45 on ice [10.1C - LTG#5]. pH strip # 96651 - lhenson - 11/14/2024 8:27:05 AM

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24110120

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 10.9 °C 5
Preserved in: [ ] LAB [X] FIELD
LAB NOTES: PO# 96657
FOR LAB USE ONLY
JD 11/11/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Gp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110120-001 | RW-3 | 11-4-24 1103 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 11-11-24 / 1144 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 1221 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | 1255 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 1338 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 1428 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 1027 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 11-11 / 1610 | [signature] Dawn | 11/11/24 16:10 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24110120

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**

*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**

Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 24110120-012 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 016 | T-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 11-11-1610 | Jackie Davis | 11/11/24 16:10 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24110120

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 9.1 °C 5
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Add HNO3 (100984) to AP10. pH 96651 MD II 11/13/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Brett Gillihan

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110120-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | 11-12-24 1307 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 11-12 / 1530 | Jackie Davis | 11/12/24 15:30 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

MD 11/13

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24110120

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE ____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:
*1343 TEStd 11/21/24

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Bret Gillihan

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110120-012 | AP-11 | 11-12-24 1001 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 1049 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 1125 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | *1343 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | 1209 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11-12/1530 | | 11/12/24 15:30 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24110120

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 10.1 °C 5
Preserved in: ☐ LAB ☑ FIELD FOR LAB USE ONLY
LAB NOTES: PHV 96651
Lt 11/14/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Brett Gillihan

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110120-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 11-13-24 1607 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | 11/13/24 1315 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 11-13-24 1230 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 11-13/1545 | [signature] | 11/13/24 1545 |
| | | | |
| | | | |
| | | | |
| | | | |

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24110120

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

**Client Comments:**

*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Bret Gillihan

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 24110120-012 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 016 | T-1 | ~~1209~~ | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 017 | T-2 | 11-13-24 1340 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 018 | T-4 | 1207 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 019 | T-5 | 1135 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| 020 | T-6 | 1037 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11-13-1545 | | 11/13/24 1545 |
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# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 56 °F — Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 10:36

Static Water Level: 11.45 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 32.56 feet

**Purging Activities**

Purged By: JC — Purge Date: 11/11/2024

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 32.56 ft. x 0.022 = 0.72 L x 3 Vol. = 2.16 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:37 | 0.0 | 173 | purge start time | | | | | | |
| 10:42 | 0.9 | ↓ | 7.12 | 525.70 | 14.52 | 4.56 | -168.70 | 6.48 | |
| 10:45 | 1.4 | | 7.13 | 532.90 | 14.51 | 3.40 | -178.00 | 46.77 | |
| 10:48 | 1.9 | | 7.13 | 535.30 | 14.50 | 2.78 | -180.60 | 90.25 | |
| 10:51 | 2.5 | | 7.13 | 535.60 | 14.50 | 2.41 | -181.80 | 122.85 | |
| 10:54 | 3.0 | | 7.13 | 535.60 | 14.47 | 2.17 | -182.50 | 72.57 | |
| 10:57 | 3.5 | | 7.13 | 535.40 | 14.45 | 1.99 | -182.90 | 112.49 | |
| 11:00 | 4.0 | | 7.13 | 534.70 | 14.47 | 1.87 | -183.00 | 50.61 | |
| 11:03 | 4.5 | | 7.13 | 531.10 | 14.90 | 1.77 | -182.40 | 47.61 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 11/11/2024 11:03

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 7.13 pH — 531.10 Spec. Cond. — 14.90 Temp

Field Filtered: Yes — Filter Type: Inline Disposable

Water Level: 15.89 feet below TOC — Drawdown: 4.44 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp — **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-1 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 002 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 11:19

Static Water Level: 10.39 feet below TOC

Total Depth: 31.08 feet below TOC

Water Column: 20.69 feet

**Purging Activities**

Purged By: JC Purge Date: 11/11/2024

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 20.69 ft. x 0.022 = 0.46 L x 3 Vol. = 1.38 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 3.50 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:19 | 0.0 | 140 | purge start time | | | | | | |
| 11:26 | 1.0 | ↓ | 6.54 | 1,269.10 | 15.84 | 3.49 | -82.60 | 34.54 | |
| 11:29 | 1.4 | | 6.54 | 1,307.80 | 15.87 | 2.83 | -98.40 | 26.67 | |
| 11:32 | 1.8 | | 6.54 | 1,328.20 | 15.98 | 2.43 | -105.40 | 21.37 | |
| 11:35 | 2.2 | | 6.54 | 1,343.50 | 16.07 | 2.16 | -108.70 | 16.20 | |
| 11:38 | 2.7 | | 6.54 | 1,356.50 | 16.17 | 1.97 | -111.20 | 13.42 | |
| 11:41 | 3.1 | | 6.54 | 1,368.10 | 16.23 | 1.83 | -112.70 | 12.88 | |
| 11:44 | 3.5 | | 6.54 | 1,377.10 | 16.24 | 1.72 | -113.90 | 13.14 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 11/11/2024 11:44

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.54 pH 1,377.10 Spec. Cond. 16.24 Temp

Field Filtered: No Filter Type:

Water Level: 10.51 feet below TOC Drawdown: 0.12 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 60 °F — Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 11:53

Static Water Level: 6.54 feet below TOC

Total Depth: 21.33 feet below TOC

Water Column: 14.79 feet

**Purging Activities**

Purged By: JC — Purge Date: 11/11/2024

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 14.79 ft. x 0.022 = 0.33 L x 3 Vol. = 0.99 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:53 | 0.0 | 214 | purge start time | | | | | | |
| 12:00 | 1.5 | ↓ | 6.42 | 1,127.80 | 16.43 | 3.88 | 1.10 | 31.79 | |
| 12:03 | 2.1 | | 6.41 | 1,131.40 | 16.38 | 3.04 | -1.30 | 24.05 | |
| 12:06 | 2.8 | | 6.41 | 1,134.90 | 16.33 | 2.54 | -3.40 | 16.72 | |
| 12:09 | 3.4 | | 6.41 | 1,137.30 | 16.31 | 2.23 | -4.90 | 13.76 | |
| 12:12 | 4.1 | | 6.41 | 1,138.80 | 16.27 | 2.01 | -6.20 | 10.23 | |
| 12:15 | 4.7 | | 6.41 | 1,140.60 | 16.25 | 1.86 | -7.10 | 7.14 | |
| 12:18 | 5.4 | | 6.41 | 1,142.00 | 16.24 | 1.74 | -8.10 | 5.54 | |
| 12:21 | 6.0 | | 6.41 | 1,143.30 | 16.26 | 1.65 | -8.80 | 6.05 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 11/11/2024 12:21

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.41 pH — 1,143.30 Spec. Cond. — 16.26 Temp

Field Filtered: No — Filter Type:

Water Level: 6.61 feet below TOC — Drawdown: 0.07 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp — **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 004 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F — Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 12:28

Static Water Level: 9.55 feet below TOC

Total Depth: 20.80 feet below TOC

Water Column: 11.25 feet

**Purging Activities**

Purged By: JC — Purge Date: 11/11/2024

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 11.25 ft. x 0.022 = 0.25 L x 3 Vol. = 0.75 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:28 | 0.0 | 167 | purge start time | | | | | | |
| 12:34 | 1.0 | ↓ | 6.50 | 1,066.10 | 17.84 | 4.02 | -61.30 | 48.34 | |
| 12:37 | 1.5 | | 6.48 | 1,069.40 | 18.11 | 3.05 | -59.80 | 33.02 | |
| 12:40 | 2.0 | | 6.48 | 1,071.90 | 18.13 | 2.53 | -63.60 | 25.25 | |
| 12:43 | 2.5 | | 6.48 | 1,070.90 | 18.15 | 2.22 | -64.90 | 18.80 | |
| 12:46 | 3.0 | | 6.48 | 1,071.00 | 18.21 | 2.01 | -66.80 | 13.00 | |
| 12:49 | 3.5 | | 6.48 | 1,071.60 | 18.13 | 1.86 | -68.90 | 9.95 | |
| 12:52 | 4.0 | | 6.48 | 1,070.80 | 18.09 | 1.75 | -70.90 | 7.60 | |
| 12:55 | 4.5 | | 6.48 | 1,070.20 | 18.19 | 1.66 | -72.60 | 5.70 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 11/11/2024 12:55

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.48 pH — 1,070.20 Spec. Cond. — 18.19 Temp

Field Filtered: No — Filter Type:

Water Level: 9.55 feet below TOC — Drawdown: 0.00 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp — **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 13:10

Static Water Level: 10.91 feet below TOC

Total Depth: 60.41 feet below TOC

Water Column: 49.50 feet

**Purging Activities**

Purged By: JC Purge Date: 11/11/2024

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 49.5 ft. x 0.022 = 1.09 L x 3 Vol. = 3.27 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:11 | 0.0 | 222 | purge start time | | | | | | |
| 13:20 | 2.0 | ↓ | 6.81 | 681.40 | 17.79 | 3.86 | -117.30 | 10.74 | |
| 13:23 | 2.7 | | 6.81 | 683.50 | 17.73 | 3.06 | -124.10 | 11.13 | |
| 13:26 | 3.3 | | 6.82 | 684.40 | 17.70 | 2.55 | -128.20 | 12.26 | |
| 13:29 | 4.0 | | 6.82 | 686.00 | 17.61 | 2.22 | -130.50 | 12.81 | |
| 13:32 | 4.7 | | 6.82 | 687.30 | 17.58 | 1.99 | -131.90 | 12.48 | |
| 13:35 | 5.3 | | 6.82 | 687.80 | 17.56 | 1.83 | -132.90 | 13.25 | |
| 13:38 | 6.0 | | 6.82 | 688.10 | 17.53 | 1.71 | -133.50 | 12.90 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 11/11/2024 13:38

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.82 pH 688.10 Spec. Cond. 17.53 Temp

Field Filtered: No Filter Type:

Water Level: 11.09 feet below TOC Drawdown: 0.18 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 006 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 62 °F — Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 13:52

Static Water Level: 16.28 feet below TOC

Total Depth: 31.27 feet below TOC

Water Column: 14.99 feet

**Purging Activities**

Purged By: JC — Purge Date: 11/11/2024

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 14.99 ft. x 0.022 = 0.33 L x 3 Vol. = 0.99 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:53 | 0.0 | 171 | purge start time | | | | | | |
| 14:01 | 1.4 | ↓ | 6.95 | 560.40 | 14.92 | 5.12 | 16.00 | 3.62 | |
| 14:04 | 1.9 | | 6.93 | 563.50 | 14.84 | 4.41 | 21.90 | 3.94 | |
| 14:07 | 2.4 | | 6.92 | 565.40 | 14.82 | 3.90 | 26.70 | 3.71 | |
| 14:10 | 3.0 | | 6.92 | 566.90 | 14.81 | 3.55 | 30.90 | 3.68 | |
| 14:13 | 3.5 | | 6.91 | 567.90 | 14.79 | 3.31 | 34.80 | 3.91 | |
| 14:16 | 4.0 | | 6.91 | 568.60 | 14.81 | 3.11 | 38.00 | 4.72 | |
| 14:19 | 4.5 | | 6.91 | 569.00 | 14.81 | 2.97 | 40.80 | 5.23 | |
| 14:22 | 5.0 | | 6.91 | 569.30 | 14.77 | 2.85 | 43.10 | 5.53 | |
| 14:25 | 5.5 | | 6.91 | 569.20 | 14.75 | 2.75 | 45.20 | 5.69 | |
| 14:28 | 6.0 | | 6.90 | 569.40 | 14.73 | 2.68 | 47.10 | 7.95 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 11/11/2024 14:28

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.90 pH — 569.40 Spec. Cond. — 14.73 Temp

Field Filtered: No — Filter Type:

Water Level: 17.51 feet below TOC — Drawdown: 1.23 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp — **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-6 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 007 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 54 °F — Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 9:53

Static Water Level: 9.81 feet below TOC

Total Depth: 39.62 feet below TOC

Water Column: 29.81 feet

**Purging Activities**

Purged By: JC — Purge Date: 11/11/2024

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 29.81 ft. x 0.022 = 0.66 L x 3 Vol. = 1.98 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:54 | 0.0 | 152 | purge start time | | | | | | |
| 10:00 | 1.0 | ↓ | 6.94 | 559.70 | 14.34 | 4.83 | -126.70 | 19.66 | |
| 10:03 | 1.4 | | 6.96 | 559.30 | 14.54 | 3.83 | -128.70 | 40.45 | |
| 10:06 | 1.9 | | 6.97 | 559.40 | 14.80 | 3.29 | -127.40 | 48.92 | |
| 10:09 | 2.3 | | 6.98 | 559.10 | 14.87 | 2.94 | -124.90 | 39.08 | |
| 10:12 | 2.8 | | 6.98 | 558.90 | 14.93 | 2.69 | -123.30 | 41.40 | |
| 10:15 | 3.2 | | 6.99 | 558.00 | 14.95 | 2.48 | -122.00 | 40.96 | |
| 10:18 | 3.7 | | 6.99 | 558.10 | 14.97 | 2.32 | -120.90 | 60.40 | |
| 10:21 | 4.1 | | 6.99 | 558.00 | 14.98 | 2.18 | -119.80 | 43.02 | |
| 10:24 | 4.6 | | 7.00 | 557.50 | 14.98 | 2.06 | -118.70 | 40.71 | |
| 10:27 | 5.0 | | 7.00 | 557.40 | 15.09 | 1.96 | -117.40 | 46.15 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 11/11/2024 10:27

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 7.00 pH — 557.40 Spec. Cond. — 15.09 Temp

Field Filtered: No — Filter Type:

Water Level: 15.35 feet below TOC — Drawdown: 5.54 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771

**Form Completed By:** Justin Colp — **Date:** 11/11/2024

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110120
**Monitoring Point:** AP-7
**Sample ID:** 008
**Date (s):** 11/13/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 53 °F
Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW
Precipitation: ☑ None ☐ Light ☐ Heavy
Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 10:47
Static Water Level: 12.44 feet below TOC
Total Depth: 42.52 feet below TOC
Water Column: 30.08 feet

**Purging Activities**

Purged By: BG
Purge Date: 11/13/2024
Purge Method: Bladder Pump
Well Diameter: 2"
Purge Volume Calculation (L): 30.08 ft. x 0.022 = 0.66 L x 3 Vol. = 1.98 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear
Odor: None
Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:47 | 0.0 | 300 | purge start time | | | | | | |
| 10:52 | 1.5 | ↓ | 7.31 | 711.40 | 13.46 | 1.34 | -87.00 | 12.06 | |
| 10:55 | 2.4 | | 7.22 | 748.70 | 13.77 | 0.95 | -105.20 | 152.78 | |
| 10:58 | 3.3 | | 7.19 | 765.90 | 13.83 | 0.87 | -117.50 | 16.64 | |
| 11:01 | 4.2 | | 7.18 | 771.50 | 13.87 | 0.77 | -125.10 | 18.78 | |
| 11:04 | 5.1 | | 7.17 | 775.00 | 13.73 | 0.69 | -130.40 | 47.72 | |
| 11:07 | 6.0 | | 7.17 | 774.30 | 13.70 | 0.64 | -134.40 | 55.07 | |

**Sampling Activities**

Sampled By: BG
Sample Date/Time: 11/13/2024 11:07
Sample Method: Low Flow
Sample Equipment: Bladder Pump
Sample Parameters: 7.17 pH 774.30 Spec. Cond. 13.70 Temp
Field Filtered: No Filter Type:
Water Level: 12.89 feet below TOC
Drawdown: 0.45 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan
**Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-8 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 009 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 49 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 12:55

Static Water Level: 7.32 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 32.28 feet

**Purging Activities**

Purged By: TC Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 32.28 ft. x 0.022 = 0.71 L x 3 Vol. = 2.13 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:55 | 0.0 | 300 | purge start time | | | | | | |
| 13:03 | 2.4 | ↓ | 6.79 | 733.30 | 14.12 | 1.20 | -155.50 | 3.49 | |
| 13:06 | 3.3 | | 6.79 | 733.60 | 14.08 | 0.94 | -159.80 | 3.00 | |
| 13:09 | 4.2 | | 6.78 | 733.40 | 14.09 | 0.81 | -161.10 | 5.05 | |
| 13:12 | 5.1 | | 6.78 | 733.30 | 14.10 | 0.74 | -161.90 | 8.64 | |
| 13:15 | 6.0 | | 6.78 | 733.20 | 14.07 | 0.69 | -162.70 | 11.93 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/13/2024 13:15

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.78 pH 733.20 Spec. Cond. 14.07 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 7.65 feet below TOC Drawdown: 0.33 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-9 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 12:17

Static Water Level: 13.23 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 26.37 feet

**Purging Activities**

Purged By: BG Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 26.37 ft. x 0.022 = 0.58 L x 3 Vol. = 1.74 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: Slight Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:17 | 0.0 | 346 | purge start time | | | | | | |
| 12:21 | 1.4 | ↓ | 6.80 | 969.80 | 14.66 | 2.46 | -31.70 | 10.41 | |
| 12:24 | 2.4 | | 6.80 | 964.80 | 14.77 | 2.34 | -52.80 | 5.50 | |
| 12:27 | 3.5 | | 6.80 | 968.30 | 14.83 | 2.18 | -61.60 | 4.90 | |
| 12:30 | 4.5 | | 6.80 | 968.20 | 14.86 | 1.77 | -67.20 | 8.30 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/13/2024 12:30

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.80 pH 968.20 Spec. Cond. 14.86 Temp

Field Filtered: No Filter Type:

Water Level: 13.62 feet below TOC Drawdown: 0.39 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/13/2024

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110120
**Monitoring Point:** AP-10
**Sample ID:** 011
**Date (s):** 11/12/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 53 °F
Wind Direction: ☐ N ☐ S ☑ W ☐ E ☐ SE ☐ SW ☐ NE ☐ NW
Precipitation: ☑ None ☐ Light ☐ Heavy
Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/12/2024 12:48
Static Water Level: 5.59 feet below TOC
Total Depth: 38.07 feet below TOC
Water Column: 32.48 feet

**Purging Activities**

Purged By: BG Purge Date: 11/12/2024
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 32.48 ft. x 0.022 = 0.71 L x 3 Vol. = 2.13 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear Odor: Slight Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:48 | 0.0 | 316 | purge start time | | | | | | |
| 12:52 | 1.3 | ↓ | 6.88 | 1,154.40 | 13.84 | 1.87 | -91.80 | 6.65 | |
| 12:55 | 2.2 | | 6.79 | 1,152.30 | 13.93 | 1.57 | -89.20 | 5.80 | |
| 12:58 | 3.2 | | 6.76 | 1,152.90 | 13.91 | 1.45 | -88.40 | 4.83 | |
| 13:01 | 4.1 | | 6.75 | 1,152.60 | 13.92 | 1.39 | -87.40 | 4.48 | |
| 13:04 | 5.1 | | 6.74 | 1,154.10 | 13.92 | 1.21 | -88.10 | 4.32 | |
| 13:07 | 6.0 | | 6.73 | 1,152.60 | 13.96 | 1.18 | -88.70 | 4.17 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/12/2024 13:07
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.73 pH 1,152.60 Spec. Cond. 13.96 Temp
Field Filtered: No Filter Type:
Water Level: 5.96 feet below TOC Drawdown: 0.37 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/12/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-11 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 012 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/12/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 46 °F Wind Direction: ☐ N ☐ S ☑ W ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/12/2024 9:42

Static Water Level: 15.43 feet below TOC

Total Depth: 22.95 feet below TOC

Water Column: 7.52 feet

**Purging Activities**

Purged By: BG Purge Date: 11/12/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 7.52 ft. x 0.022 = 0.17 L x 3 Vol. = 0.51 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: Moderate Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:42 | 0.0 | 263 | purge start time | | | | | | |
| 9:49 | 1.8 | ↓ | 6.98 | 960.80 | 13.91 | 2.87 | -75.70 | 9.56 | |
| 9:52 | 2.6 | | 6.83 | 959.50 | 14.03 | 2.38 | -69.00 | 6.33 | |
| 9:55 | 3.4 | | 6.74 | 959.00 | 14.16 | 2.08 | -61.90 | 5.02 | |
| 9:58 | 4.2 | | 6.69 | 958.40 | 14.20 | 1.91 | -56.20 | 4.41 | |
| 10:01 | 5.0 | | 6.66 | 958.40 | 14.28 | 1.75 | -52.10 | 4.11 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/12/2024 10:01

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.66 pH 958.40 Spec. Cond. 14.28 Temp

Field Filtered: No Filter Type:

Water Level: 15.78 feet below TOC Drawdown: 0.35 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/12/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-12 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 013 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/12/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 47 °F Wind Direction: ☐ N ☐ S ☑ W ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/12/2024 10:32

Static Water Level: 17.92 feet below TOC

Total Depth: 30.40 feet below TOC

Water Column: 12.48 feet

**Purging Activities**

Purged By: BG Purge Date: 11/12/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.48 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: Moderate Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:32 | 0.0 | 265 | purge start time | | | | | | |
| 10:37 | 1.4 | ↓ | 6.71 | 1,546.30 | 13.57 | 1.75 | -87.40 | 21.96 | |
| 10:40 | 2.2 | | 6.63 | 1,552.80 | 13.68 | 1.50 | -88.30 | 21.69 | |
| 10:43 | 3.0 | | 6.61 | 1,556.30 | 13.67 | 1.36 | -89.00 | 22.15 | |
| 10:46 | 3.8 | | 6.60 | 1,556.60 | 13.64 | 1.25 | -89.10 | 22.86 | |
| 10:49 | 4.5 | | 6.59 | 1,554.80 | 13.67 | 1.19 | -88.30 | 25.61 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/12/2024 10:49

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.59 pH 1,554.80 Spec. Cond. 13.67 Temp

Field Filtered: No Filter Type:

Water Level: 18.14 feet below TOC Drawdown: 0.22 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/12/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-13 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 014 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/12/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 51 °F Wind Direction: ☐ N ☐ S ☑ W ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/12/2024 11:01

Static Water Level: 19.40 feet below TOC

Total Depth: 31.00 feet below TOC

Water Column: 11.60 feet

**Purging Activities**

Purged By: BG Purge Date: 11/12/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 11.6 ft. x 0.022 = 0.26 L x 3 Vol. = 0.78 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: Strong Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:01 | 0.0 | 208 | purge start time | | | | | | |
| 11:13 | 2.6 | ↓ | 6.71 | 777.40 | 13.10 | 1.30 | -95.90 | 16.55 | |
| 11:16 | 3.2 | | 6.70 | 776.60 | 13.17 | 1.24 | -96.80 | 11.82 | |
| 11:19 | 3.8 | | 6.69 | 776.60 | 13.22 | 1.20 | -97.10 | 9.99 | |
| 11:22 | 4.5 | | 6.68 | 776.30 | 13.23 | 1.16 | -96.40 | 10.64 | |
| 11:25 | 5.1 | | 6.67 | 776.10 | 13.20 | 1.12 | -95.10 | 7.29 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/12/2024 11:25

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.67 pH 776.10 Spec. Cond. 13.20 Temp

Field Filtered: No Filter Type:

Water Level: 19.49 feet below TOC Drawdown: 0.09 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/12/2024

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110120
**Monitoring Point:** AP-14
**Sample ID:** 015
**Date (s):** 11/12/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 54 °F
Wind Direction: ☐ N ☐ S ☑ W ☐ E ☐ SE ☐ SW ☐ NE ☐ NW
Precipitation: ☑ None ☐ Light ☐ Heavy
Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/12/2024 13:23
Static Water Level: 4.64 feet below TOC
Total Depth: 31.20 feet below TOC
Water Column: 26.56 feet

**Purging Activities**

Purged By: 54
Purge Date: 11/12/2024
Purge Method: Peristaltic Pump
Well Diameter: 2"
Purge Volume Calculation (L): 26.56 ft. x 0.022 = 0.58 L x 3 Vol. = 1.74 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear
Odor: None
Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:23 | 0.0 | 75 | purge start time | | | | | | |
| 13:28 | 0.4 | ↓ | 6.99 | 1,752.50 | 13.64 | 2.88 | -45.90 | 15.14 | |
| 13:31 | 0.6 | | 6.97 | 1,747.60 | 13.56 | 2.40 | -41.10 | 39.05 | |
| 13:34 | 0.9 | | 6.95 | 1,744.50 | 13.55 | 2.13 | -39.00 | 143.38 | |
| 13:37 | 1.1 | | 6.94 | 1,745.20 | 13.55 | 1.95 | -38.10 | 11.17 | |
| 13:40 | 1.3 | | 6.94 | 1,746.10 | 13.48 | 1.86 | -37.60 | 9.13 | |
| 13:43 | 1.5 | | 6.93 | 1,744.20 | 13.45 | 1.73 | -37.40 | 8.02 | |

**Sampling Activities**

Sampled By: BG
Sample Date/Time: 11/12/2024 13:43
Sample Method: Low Flow
Sample Equipment: Peristaltic Pump
Sample Parameters: 6.93 pH 1,744.20 Spec. Cond. 13.45 Temp
Field Filtered: No Filter Type:
Water Level: 5.21 feet below TOC
Drawdown: 0.57 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan
**Date:** 11/12/2024

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110120
**Monitoring Point:** T-1
**Sample ID:** 016
**Date (s):** 11/12/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 51 °F
Wind Direction: ☐ N ☐ S ☑ W ☐ E ☐ SE ☐ SW ☐ NE ☐ NW
Precipitation: ☑ None ☐ Light ☐ Heavy
Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/12/2024 11:37
Static Water Level: 14.01 feet below TOC
Total Depth: 22.95 feet below TOC
Water Column: 8.94 feet

**Purging Activities**

Purged By: BG
Purge Date: 11/12/2024
Purge Method: Peristaltic Pump
Well Diameter: 2"
Purge Volume Calculation (L): 8.94 ft. x 0.022 = 0.2 L x 3 Vol. = 0.6 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear
Odor: Slight
Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:37 | 0.0 | 141 | purge start time | | | | | | |
| 11:54 | 2.4 | ↓ | 6.57 | 1,463.40 | 13.80 | 1.39 | -1.60 | 21.72 | |
| 11:57 | 2.8 | | 6.57 | 1,464.20 | 13.79 | 1.31 | -5.60 | 17.93 | |
| 12:00 | 3.2 | | 6.57 | 1,464.00 | 13.82 | 1.27 | -8.50 | 19.93 | |
| 12:03 | 3.7 | | 6.57 | 1,467.00 | 13.83 | 1.34 | -8.70 | 21.43 | |
| 12:06 | 4.1 | | 6.57 | 1,469.00 | 13.87 | 1.34 | -8.70 | 20.67 | |
| 12:09 | 4.5 | | 6.57 | 1,468.80 | 13.93 | 1.32 | -8.50 | 23.17 | |

**Sampling Activities**

Sampled By: BG
Sample Date/Time: 11/12/2024 12:09
Sample Method: Low Flow
Sample Equipment: Peristaltic Pump
Sample Parameters: 6.57 pH 1,468.80 Spec. Cond. 13.93 Temp
Field Filtered: No Filter Type:
Water Level: 14.37 feet below TOC
Drawdown: 0.36 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/12/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 017 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/113/24 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | **Locks** | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 13:17

Static Water Level: 15.23 feet below TOC

Total Depth: 34.44 feet below TOC

Water Column: 19.21 feet

**Purging Activities**

Purged By: BG Purge Date: 11/113/24

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 19.21 ft. x 0.022 = 0.42 L x 3 Vol. = 1.26 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 3.50 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:17 | 0.0 | 152 | purge start time | | | | | | |
| 13:28 | 1.7 | ↓ | 6.57 | 1,878.50 | 13.27 | 1.72 | -34.80 | 23.07 | |
| 13:31 | 2.1 | | 6.56 | 1,874.10 | 13.09 | 1.43 | -35.10 | 20.38 | |
| 13:34 | 2.6 | | 6.55 | 1,870.40 | 13.02 | 1.30 | -36.00 | 20.18 | |
| 13:37 | 3.0 | | 6.55 | 1,871.80 | 13.02 | 1.24 | -36.70 | 21.93 | |
| 13:40 | 3.5 | | 6.54 | 1,874.80 | 13.05 | 1.20 | -36.70 | 18.34 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/13/2024 13:40

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.54 pH 1,874.80 Spec. Cond. 13.05 Temp

Field Filtered: No Filter Type:

Water Level: 15.73 feet below TOC Drawdown: 0.50 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 018 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 56 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 11:43

Static Water Level: 19.62 feet below TOC

Total Depth: 27.42 feet below TOC

Water Column: 7.80 feet

**Purging Activities**

Purged By: BG Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 7.8 ft. x 0.022 = 0.17 L x 3 Vol. = 0.51 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:43 | 0.0 | 167 | purge start time | | | | | | |
| 11:55 | 2.0 | ↓ | 6.70 | 650.20 | 14.40 | 1.41 | -1.30 | 43.33 | |
| 11:58 | 2.5 | | 6.67 | 649.10 | 14.37 | 1.45 | 6.20 | 44.30 | |
| 12:01 | 3.0 | | 6.65 | 648.90 | 14.54 | 1.48 | 11.60 | 39.93 | |
| 12:04 | 3.5 | | 6.65 | 649.90 | 14.57 | 1.45 | 15.50 | 34.46 | |
| 12:07 | 4.0 | | 6.65 | 648.30 | 14.51 | 1.42 | 18.50 | 32.39 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/13/2024 12:07

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.65 pH 648.30 Spec. Cond. 14.51 Temp

Field Filtered: No Filter Type:

Water Level: 20.42 feet below TOC Drawdown: 0.80 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 019 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 56 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 11:13

Static Water Level: 11.46 feet below TOC

Total Depth: 22.34 feet below TOC

Water Column: 10.88 feet

**Purging Activities**

Purged By: BG Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 10.88 ft. x 0.022 = 0.24 L x 3 Vol. = 0.72 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:13 | 0.0 | 182 | purge start time | | | | | | |
| 11:23 | 1.9 | ↓ | 6.88 | 570.50 | 15.02 | 2.44 | -28.80 | 39.93 | |
| 11:26 | 2.4 | | 6.86 | 557.00 | 15.35 | 2.33 | -22.50 | 22.88 | |
| 11:29 | 2.9 | | 6.84 | 551.80 | 15.42 | 2.29 | -16.60 | 15.29 | |
| 11:32 | 3.5 | | 6.83 | 549.80 | 15.44 | 2.25 | -11.40 | 11.52 | |
| 11:35 | 4.0 | | 6.82 | 548.60 | 15.52 | 2.21 | -6.80 | 10.43 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/13/2024 11:35

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.82 pH 548.60 Spec. Cond. 15.52 Temp

Field Filtered: No Filter Type:

Water Level: 11.86 feet below TOC Drawdown: 0.40 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-6 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 020 |
| **W.O. Number (s):** | 24110120 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 52 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 10:16

Static Water Level: 11.02 feet below TOC

Total Depth: 52.00 feet below TOC

Water Column: 40.98 feet

**Purging Activities**

Purged By: BG Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 40.98 ft. x 0.022 = 0.9 L x 3 Vol. = 2.7 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:16 | 0.0 | 214 | purge start time | | | | | | |
| 10:25 | 1.9 | ↓ | 7.19 | 876.30 | 14.43 | 1.67 | -110.70 | 15.38 | |
| 10:28 | 2.6 | | 7.08 | 874.80 | 14.82 | 1.62 | -113.10 | 16.26 | |
| 10:31 | 3.2 | | 7.02 | 872.10 | 14.59 | 1.34 | -114.50 | 7.87 | |
| 10:34 | 3.9 | | 6.99 | 868.80 | 14.41 | 1.16 | -115.80 | 22.88 | |
| 10:37 | 4.5 | | 6.97 | 868.80 | 14.51 | 1.10 | -117.10 | 14.37 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/13/2024 10:37

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.97 pH 868.80 Spec. Cond. 14.51 Temp

Field Filtered: No Filter Type:

Water Level: 11.34 feet below TOC Drawdown: 0.32 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/13/2024

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

December 05, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24110120

Order No.: 24111575

Dear Shelly Hennessy:

Summit Environmental Technologies, Inc. received 20 sample(s) on 11/20/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **24111575**
Date: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120

WorkOrder Narrative:
24111575: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-448*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24111575**
Date: **12/5/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24111575**

***05-Dec-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24110120

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24111575-001 | 24110120-001 | | 11/11/2024 11:03:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-002 | 24110120-002 | | 11/11/2024 11:44:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-003 | 24110120-003 | | 11/11/2024 12:21:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-004 | 24110120-004 | | 11/11/2024 12:55:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-005 | 24110120-005 | | 11/11/2024 1:38:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-006 | 24110120-006 | | 11/11/2024 2:28:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-007 | 24110120-007 | | 11/11/2024 10:27:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-008 | 24110120-008 | | 11/13/2024 11:07:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-009 | 24110120-009 | | 11/13/2024 1:15:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-010 | 24110120-010 | | 11/13/2024 12:30:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-011 | 24110120-011 | | 11/12/2024 1:07:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-012 | 24110120-012 | | 11/12/2024 10:01:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-013 | 24110120-013 | | 11/12/2024 10:49:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-014 | 24110120-014 | | 11/12/2024 11:25:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-015 | 24110120-015 | | 11/12/2024 1:49:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-016 | 24110120-016 | | 11/12/2024 12:09:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-017 | 24110120-017 | | 11/13/2024 1:40:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-018 | 24110120-018 | | 11/13/2024 12:07:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-019 | 24110120-019 | | 11/13/2024 11:35:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111575-020 | 24110120-020 | | 11/13/2024 10:37:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

# DATES REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24111575-001A | 24110120-001 | 11/11/2024 11:03:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-002A | 24110120-002 | 11/11/2024 11:44:00 AM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-003A | 24110120-003 | 11/11/2024 12:21:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-004A | 24110120-004 | 11/11/2024 12:55:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-005A | 24110120-005 | 11/11/2024 1:38:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-006A | 24110120-006 | 11/11/2024 2:28:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-007A | 24110120-007 | 11/11/2024 10:27:00 AM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-008A | 24110120-008 | 11/13/2024 11:07:00 AM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-009A | 24110120-009 | 11/13/2024 1:15:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-010A | 24110120-010 | 11/13/2024 12:30:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-011A | 24110120-011 | 11/12/2024 1:07:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111575-012A | 24110120-012 | 11/12/2024 10:01:00 AM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*Website: http://www.settek.com*

# DATES REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24111575-012A | 24110120-012 | 11/12/2024 10:01:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-013A | 24110120-013 | 11/12/2024 10:49:00 AM | | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111575-014A | 24110120-014 | 11/12/2024 11:25:00 AM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-015A | 24110120-015 | 11/12/2024 1:49:00 PM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-016A | 24110120-016 | 11/12/2024 12:09:00 PM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-017A | 24110120-017 | 11/13/2024 1:40:00 PM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-018A | 24110120-018 | 11/13/2024 12:07:00 PM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-019A | 24110120-019 | 11/13/2024 11:35:00 AM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |
| 24111575-020A | 24110120-020 | 11/13/2024 10:37:00 AM | | Radium-226 (EPA 903.0) | | 11/26/2024 1:09:00 PM | 12/5/2024 9:34:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/26/2024 1:09:00 PM | 12/4/2024 2:33:00 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-001
**Client Sample ID:** 24110120-001

**Collection Date:** 11/11/2024 11:03:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.100 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 1.23 | 1.00 | | pCi/L | ± 0.650 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.980 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/11/2024 11:44:00 AM

**Project:** 24110120

**Lab ID:** 24111575-002

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.130 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.980 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.490 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.930 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-003
**Client Sample ID:** 24110120-003

**Collection Date:** 11/11/2024 12:21:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0600 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.450 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.990 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-004
**Client Sample ID:** 24110120-004

**Collection Date:** 11/11/2024 12:55:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.810 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.630 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.780 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-005
**Client Sample ID:** 24110120-005

**Collection Date:** 11/11/2024 1:38:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.120 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.990 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.710 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.860 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/11/2024 2:28:00 PM

**Project:** 24110120

**Lab ID:** 24111575-006

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-006

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.590 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.990 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-007
**Client Sample ID:** 24110120-007

**Collection Date:** 11/11/2024 10:27:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.980 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.520 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 1.00 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/13/2024 11:07:00 AM

**Project:** 24110120

**Lab ID:** 24111575-008

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-008

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.100 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.660 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.880 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-009
**Client Sample ID:** 24110120-009

**Collection Date:** 11/13/2024 1:15:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | 1.05 | 1.00 | | pCi/L | ± 0.200 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.970 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 1.52 | 1.00 | | pCi/L | ± 0.770 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.930 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 11/13/2024 12:30:00 PM
**Project:** 24110120
**Lab ID:** 24111575-010
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 24110120-010

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.130 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.980 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 1.01 | 1.00 | | pCi/L | ± 0.670 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.960 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/12/2024 1:07:00 PM

**Project:** 24110120

**Lab ID:** 24111575-011

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-011

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.210 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.790 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 1.61 | 1.00 | | pCi/L | ± 0.870 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.770 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/12/2024 10:01:00 AM

**Project:** 24110120

**Lab ID:** 24111575-012

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-012

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0600 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.340 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/12/2024 10:49:00 AM

**Project:** 24110120

**Lab ID:** 24111575-013

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-013

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0800 | 1 | 11/29/2024 9:41:00 AM |
| Yield | 0.970 | | | | | 1 | 11/29/2024 9:41:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.340 | 1 | 11/27/2024 2:09:00 PM |
| Yield | 0.960 | | | | | 1 | 11/27/2024 2:09:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-014
**Client Sample ID:** 24110120-014

**Collection Date:** 11/12/2024 11:25:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0500 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.390 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 0.900 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/12/2024 1:49:00 PM

**Project:** 24110120

**Lab ID:** 24111575-015

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-015

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.390 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/12/2024 12:09:00 PM

**Project:** 24110120

**Lab ID:** 24111575-016

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-016

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.110 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.340 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-017
**Client Sample ID:** 24110120-017

**Collection Date:** 11/13/2024 1:40:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.100 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.380 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 0.990 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110120
**Lab ID:** 24111575-018
**Client Sample ID:** 24110120-018

**Collection Date:** 11/13/2024 12:07:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0700 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.400 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/13/2024 11:35:00 AM

**Project:** 24110120

**Lab ID:** 24111575-019

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-019

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0600 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.390 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24111575**

Date Reported: **12/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 11/13/2024 10:37:00 AM

**Project:** 24110120

**Lab ID:** 24111575-020

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24110120-020

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.110 | 1 | 12/5/2024 9:34:00 AM |
| Yield | 1.00 | | | | | 1 | 12/5/2024 9:34:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | 1.08 | 1.00 | | pCi/L | ± 0.450 | 1 | 12/4/2024 2:33:00 PM |
| Yield | 1.00 | | | | | 1 | 12/4/2024 2:33:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80532**

| Sample ID: **MB-80532** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198234** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E904.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5359799** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-80532** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198234** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E904.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5359800** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.06 | 1.00 | 5.000 | 0 | 61.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-80532** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198234** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E904.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5359801** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.45 | 1.00 | 5.000 | 0 | 69.0 | 50 | 130 | 3.060 | 12.0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80532**

Sample ID: **24111631-001EDUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/26/2024** RunNo: **198234**
Client ID: **BatchQC** Batch ID: **80532** TestNo: **E904.0** **E903-904** Analysis Date: **12/4/2024** SeqNo: **5359814**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80532**

| Sample ID: **MB-80532** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198237** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/5/2024** | SeqNo: **5359889** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-80532** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198237** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/5/2024** | SeqNo: **5359890** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 3.53 | 1.00 | 5.000 | 0 | 70.6 | 70 | 130 | | | | QLR |

| Sample ID: **LCSD-80532** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198237** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/5/2024** | SeqNo: **5359891** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.98 | 1.00 | 5.000 | 0 | 99.6 | 70 | 130 | 3.530 | 34.1 | 20 | R |

| Sample ID: **24111631-001EDUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/26/2024** | RunNo: **198237** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80532** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/5/2024** | SeqNo: **5359904** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80532**

Sample ID: **24111631-001EDUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/26/2024** RunNo: **198237**
Client ID: **BatchQC** Batch ID: **80532** TestNo: **E903.0** **E903-904** Analysis Date: **12/5/2024** SeqNo: **5359904**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80533**

Sample ID: **MB-80533** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352672**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-80533** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352673**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.41 | 1.00 | 5.000 | 0 | 68.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-80533** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352674**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.37 | 1.00 | 5.000 | 0 | 67.4 | 50 | 130 | 3.410 | 1.18 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80533**

Sample ID: **24111225-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352689**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24111363-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352692**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.11 | 1.00 | | 0 | 0 | | | 0.9300 | 17.6 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80533**

| Sample ID: **MB-80533** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352721** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-80533** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352722** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.06 | 1.00 | 5.000 | 0 | 101 | 70 | 130 | | | | |

| Sample ID: **LCSD-80533** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352723** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.18 | 1.00 | 5.000 | 0 | 83.6 | 70 | 130 | 5.060 | 19.0 | 20 | |

| Sample ID: **24111225-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352733** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80533**

Sample ID: **24111225-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197943**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E903.0** **E903-904** Analysis Date: **11/29/2024** SeqNo: **5352733**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24111363-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197943**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E903.0** **E903-904** Analysis Date: **11/29/2024** SeqNo: **5352735**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80535**

Sample ID: **MB-80535** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358242**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-80535** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358243**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.46 | 1.00 | 5.000 | 0 | 89.2 | 50 | 130 | | | | |
| Yield | 0.970 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-80535** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358244**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.32 | 1.00 | 5.000 | 0 | 106 | 50 | 130 | 4.460 | 17.6 | 20 | |
| Yield | 0.970 | | | 0 | 0 | | | 0.9700 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80535**

Sample ID: **24111317-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358249**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.7500 | 28.6 | | |

Sample ID: **24111607-001DDUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358269**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 0.910 | | | 0 | 0 | | | 1.000 | 9.42 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80535**

| Sample ID: **MB-80535** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358431** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.990 | | | | | | | | | | |

| Sample ID: **LCS-80535** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358432** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.81 | 1.00 | 5.000 | 0 | 116 | 70 | 130 | | | | |

| Sample ID: **LCSD-80535** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358433** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.22 | 1.00 | 5.000 | 0 | 104 | 70 | 130 | 5.810 | 10.7 | 20 | |

| Sample ID: **24111317-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358438** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24111575**

***05-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110120 **BatchID:** **80535**

Sample ID: **24111317-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198160**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E903.0** **E903-904** Analysis Date: **12/4/2024** SeqNo: **5358438**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 0.8200 | 19.8 | 0 | |

Sample ID: **24111607-001DDUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198160**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E903.0** **E903-904** Analysis Date: **12/4/2024** SeqNo: **5358458**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 0.980 | | | | | | | 1.000 | 2.02 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

24111575

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

17.4-0.0: 17.4°C
17.2-0.0: 17.2°C
17.3-0.0: 17.3°C
CS intact 11/18/24

Cooler Temp: 17.2-17.4 (Sampler: Client

Fedex, Cooler

QC Level: 2

Comments: **Please Issue reports and invoices via email only**

Please analyze for Radium 226/228 per your usual methods.

Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Samples collected from an IL site.

Project# 24110120

Contact: Shelly Hennessy

Email: shennessy@TekLabInc.com

Requested Due Date: Standard TAT

Billing/PO: 37434

Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | CPM | | | | | | pH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24110120-001 | 11/11/24 1103 | HNO3 | Groundwater | ✔ | 32 | | | | | | 1 | | | |
| | 24110120-002 | 11/11/24 1144 | HNO3 | Groundwater | ✔ | 22 | | | | | | 1 | | | |
| | 24110120-003 | 11/11/24 1221 | HNO3 | Groundwater | ✔ | 14 | | | | | | 1 | | | |
| | 24110120-004 | 11/11/24 1255 | HNO3 | Groundwater | ✔ | 30 | | | | | | 1 | | | |
| | 24110120-005 | 11/11/24 1338 | HNO3 | Groundwater | ✔ | 30 | | | | | | 1 | | | |
| | 24110120-006 | 11/11/24 1428 | HNO3 | Groundwater | ✔ | 40 | | | | | | 1 | | | |
| | 24110120-007 | 11/11/24 1027 | HNO3 | Groundwater | ✔ | 36 | | | | | | 1 | | | |
| | 24110120-008 | 11/13/24 1107 | HNO3 | Groundwater | ✔ | 36 | | | | | | 1 | | | |
| | 24110120-009 | 11/13/24 1315 | HNO3 | Groundwater | ✔ | 42 | | | | | | 1 | | | |
| | 24110120-010 | 11/13/24 1230 | HNO3 | Groundwater | ✔ | 28 | | | | | | 1 | | | |
| | 24110120-011 | 11/12/24 1307 | HNO3 | Groundwater | ✔ | 30 | | | | | | 1 | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | | [signature] | 11/20/24, 1300 |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

17.4-0.0= 17.4°C
17.2-0.0= 17.2°C
17.3-0.0= 17.3°C

Cooler Temp: 17.2-17.4°C Sampler: Client QC Level: 2

Fedex, Cooler
CS intact 11/18/24

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24110120

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 37434 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | cpm | | | | | pH | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24110120-012 | 11/12/24 1001 | HNO3 | Groundwater | ✔ | | 24 | | | | | 1 | | | | |
| | 24110120-013 | 11/12/24 1049 | HNO3 | Groundwater | ✔ | | 32 | | | | | 1 | | | | |
| | 24110120-014 | 11/12/24 1125 | HNO3 | Groundwater | ✔ | | 32 | | | | | 1 | | | | |
| | 24110120-015 | 11/12/24 1349 | HNO3 | Groundwater | ✔ | | 26 | | | | | 1 | | | | |
| | 24110120-016 | 11/12/24 1209 | HNO3 | Groundwater | ✔ | | 22 | | | | | 1 | | | | |
| | 24110120-017 | 11/13/24 1340 | HNO3 | Groundwater | ✔ | | 40 | | | | | 1 | | | | |
| | 24110120-018 | 11/13/24 1207 | HNO3 | Groundwater | ✔ | | 28 | | | | | 1 | | | | |
| | 24110120-019 | 11/13/24 1135 | HNO3 | Groundwater | ✔ | | 26 | | | | | 1 | | | | |
| | 24110120-020 | 11/13/24 1037 | HNO3 | Groundwater | ✔ | | 20 | | | | | 1 | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Undecipherable | | | 11/20/24, 1300 |
| | | | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24111575 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Anthony W. Britton | 11/20/2024 1:00:00 PM | Anthony Britton |
| Completed By: | Anthony W. Britton | 11/21/2024 1:24:10 PM | Anthony Britton |
| Reviewed By: | Jennifer Woolf | 11/26/2024 11:15:22 AM | Jennifer Woolf |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐
   No. Seal Date: 11/18/2024 Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 17.4 | Good | Yes | | 11/18/2024 | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
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# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24111575 RcptNo: 1

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 17.2 | Good | Yes | | 11/18/2024 | |
| 3 | 17.3 | Good | Yes | | 11/18/2024 | |

December 09, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 24110121

Dear Eric Staley:

TEKLAB, INC received 12 samples on 11/13/2024 3:45:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 24110121
**Client Project:** FGDS Landfill
**Report Date:** 09-Dec-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24110121
**Client Project:** FGDS Landfill
**Report Date:** 09-Dec-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24110121
**Report Date:** 09-Dec-24

**Cooler Receipt Temp:** 10.9 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Summit Environmental Technologies. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24110121

**Client Project:** FGDS Landfill

**Report Date:** 09-Dec-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 12/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 10:26

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 11/11/2024 10:26 | R356376 |
| Depth to water | * | -5.00 | | **4.65** | ft | 1 | 11/11/2024 10:26 | R356376 |
| Depth to water from measuring point | * | 0 | | **7.45** | ft | 1 | 11/11/2024 10:26 | R356376 |
| Elevation of groundwater surface | * | 0 | | **539.35** | ft | 1 | 11/11/2024 10:26 | R356376 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 11/11/2024 10:26 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 11/11/2024 10:26 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **11** | NTU | 1 | 11/11/2024 10:26 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.4** | °F | 1 | 11/11/2024 10:26 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 11/11/2024 10:26 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1180** | µmhos/cm @25C | 1 | 11/11/2024 10:26 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **905** | mg/L | 2.5 | 11/14/2024 12:21 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 18:30 | R355975 |
| Chloride | NELAP | 5.00 | | **106** | mg/L | 10 | 11/13/2024 18:30 | R355975 |
| Sulfate | NELAP | 10.0 | | **265** | mg/L | 10 | 11/13/2024 18:30 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0342** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Boron | NELAP | 0.0200 | | **0.126** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Calcium | NELAP | 0.100 | | **164** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:32 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 11/16/2024 1:06 | 231056 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 4:56 | 231056 |
| Lithium | * | 0.0030 | | **0.0167** | mg/L | 5 | 11/20/2024 9:00 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 4:56 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 4:56 | 231056 |

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*
*Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:46 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-002 **Client Sample ID:** G110

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 10:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.05** | ft | 1 | 11/13/2024 10:24 | R356376 |
| Depth to water | * | -5.00 | | **22.15** | ft | 1 | 11/13/2024 10:24 | R356376 |
| Depth to water from measuring point | * | 0 | | **24.76** | ft | 1 | 11/13/2024 10:24 | R356376 |
| Elevation of groundwater surface | * | 0 | | **532.44** | ft | 1 | 11/13/2024 10:24 | R356376 |
| Measuring Point Elevation | * | 0 | | **557.20** | ft | 1 | 11/13/2024 10:24 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.61** | ft | 1 | 11/13/2024 10:24 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **62** | NTU | 1 | 11/13/2024 10:24 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.9** | °F | 1 | 11/13/2024 10:24 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.70** | | 1 | 11/13/2024 10:24 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **616** | µmhos/cm @25C | 1 | 11/13/2024 10:24 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **550** | mg/L | 2.5 | 11/19/2024 14:07 | R356516 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 10:27 | R356222 |
| Chloride | NELAP | 5.00 | | **5.59** | mg/L | 10 | 11/15/2024 10:27 | R356222 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/15/2024 10:27 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.178** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Boron | NELAP | 0.0200 | | **0.101** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Calcium | NELAP | 0.100 | | **109** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:13 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:06 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0058** | mg/L | 5 | 11/20/2024 11:05 | 231194 |
| Lithium | * | 0.0030 | | **< 0.0030** | mg/L | 5 | 11/20/2024 11:05 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 11:05 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 4:06 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:13 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-003 **Client Sample ID:** R111

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 11:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.25** | ft | 1 | 11/11/2024 11:29 | R356376 |
| Depth to water | * | -5.00 | | **25.24** | ft | 1 | 11/11/2024 11:29 | R356376 |
| Depth to water from measuring point | * | 0 | | **25.24** | ft | 1 | 11/11/2024 11:29 | R356376 |
| Elevation of groundwater surface | * | 0 | | **528.76** | ft | 1 | 11/11/2024 11:29 | R356376 |
| Measuring Point Elevation | * | 0 | | **554.00** | ft | 1 | 11/11/2024 11:29 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 11/11/2024 11:29 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 11/11/2024 11:29 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.9** | °F | 1 | 11/11/2024 11:29 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **5.96** | | 1 | 11/11/2024 11:29 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1130** | µmhos/cm @25C | 1 | 11/11/2024 11:29 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **875** | mg/L | 2.5 | 11/14/2024 12:22 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 18:42 | R355975 |
| Chloride | NELAP | 5.00 | | **202** | mg/L | 10 | 11/13/2024 18:42 | R355975 |
| Sulfate | NELAP | 10.0 | | **33.3** | mg/L | 10 | 11/13/2024 18:42 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.686** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Boron | NELAP | 0.0200 | | **4.19** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Calcium | NELAP | 0.100 | | **169** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:33 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 11/16/2024 1:10 | 231056 |
| Arsenic | NELAP | 0.0010 | | **0.0185** | mg/L | 5 | 11/15/2024 5:01 | 231056 |
| Lithium | * | 0.0030 | | **0.0066** | mg/L | 5 | 11/20/2024 9:06 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:01 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 5:01 | 231056 |

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*
*Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:49 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-004 **Client Sample ID:** G112

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 12:27

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.99** | ft | 1 | 11/11/2024 12:27 | R356376 |
| Depth to water | * | -5.00 | | **25.62** | ft | 1 | 11/11/2024 12:27 | R356376 |
| Depth to water from measuring point | * | 0 | | **27.80** | ft | 1 | 11/11/2024 12:27 | R356376 |
| Elevation of groundwater surface | * | 0 | | **527.00** | ft | 1 | 11/11/2024 12:27 | R356376 |
| Measuring Point Elevation | * | 0 | | **554.80** | ft | 1 | 11/11/2024 12:27 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.18** | ft | 1 | 11/11/2024 12:27 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.7** | NTU | 1 | 11/11/2024 12:27 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.6** | °F | 1 | 11/11/2024 12:27 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.21** | | 1 | 11/11/2024 12:27 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1260** | µmhos/cm @25C | 1 | 11/11/2024 12:27 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1050** | mg/L | 2.5 | 11/14/2024 12:22 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 18:54 | R355975 |
| Chloride | NELAP | 5.00 | | **184** | mg/L | 10 | 11/13/2024 18:54 | R355975 |
| Sulfate | NELAP | 10.0 | | **234** | mg/L | 10 | 11/13/2024 18:54 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.423** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Boron | NELAP | 0.0200 | | **0.435** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Calcium | NELAP | 0.100 | | **203** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:35 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 11/16/2024 1:43 | 231056 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:07 | 231056 |
| Lithium | * | 0.0030 | | **0.0214** | mg/L | 5 | 11/20/2024 9:11 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:07 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 5:07 | 231056 |

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*

*Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:51 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-005 **Client Sample ID:** G113

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 11:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **524.85** | ft | 1 | 11/11/2024 11:16 | R356376 |
| Depth to water | * | -5.00 | | **5.17** | ft | 1 | 11/11/2024 11:16 | R356376 |
| Depth to water from measuring point | * | 0 | | **7.67** | ft | 1 | 11/11/2024 11:16 | R356376 |
| Elevation of groundwater surface | * | 0 | | **530.03** | ft | 1 | 11/11/2024 11:16 | R356376 |
| Measuring Point Elevation | * | 0 | | **537.70** | ft | 1 | 11/11/2024 11:16 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 11/11/2024 11:16 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.4** | NTU | 1 | 11/11/2024 11:16 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.1** | °F | 1 | 11/11/2024 11:16 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.14** | | 1 | 11/11/2024 11:16 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **972** | µmhos/cm @25C | 1 | 11/11/2024 11:16 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **785** | mg/L | 2.5 | 11/14/2024 12:22 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 19:40 | R355975 |
| Chloride | NELAP | 5.00 | | **30.7** | mg/L | 10 | 11/13/2024 19:40 | R355975 |
| Sulfate | NELAP | 10.0 | | **164** | mg/L | 10 | 11/13/2024 19:40 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.186** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Boron | NELAP | 0.0200 | | **1.07** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Calcium | NELAP | 0.100 | | **174** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:37 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 11/16/2024 1:47 | 231056 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:12 | 231056 |
| Lithium | * | 0.0030 | | **0.0031** | mg/L | 5 | 11/20/2024 10:04 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:12 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 5:12 | 231056 |

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*

*Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 12:54 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-006 **Client Sample ID:** G120

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 11:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.73** | ft | 1 | 11/13/2024 11:18 | R356376 |
| Depth to water | * | -5.00 | | **16.72** | ft | 1 | 11/13/2024 11:18 | R356376 |
| Depth to water from measuring point | * | 0 | | **16.72** | ft | 1 | 11/13/2024 11:18 | R356376 |
| Elevation of groundwater surface | * | 0 | | **536.38** | ft | 1 | 11/13/2024 11:18 | R356376 |
| Measuring Point Elevation | * | 0 | | **553.10** | ft | 1 | 11/13/2024 11:18 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 11/13/2024 11:18 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **30** | NTU | 1 | 11/13/2024 11:18 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.2** | °F | 1 | 11/13/2024 11:18 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 11/13/2024 11:18 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1380** | µmhos/cm @25C | 1 | 11/13/2024 11:18 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1430** | mg/L | 5 | 11/19/2024 14:17 | R356516 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 10:39 | R356222 |
| Chloride | NELAP | 5.00 | | **37.4** | mg/L | 10 | 11/15/2024 10:39 | R356222 |
| Sulfate | NELAP | 10.0 | | **565** | mg/L | 10 | 11/15/2024 10:39 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.565** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Boron | NELAP | 0.0200 | | **7.50** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Calcium | NELAP | 0.100 | | **263** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:15 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:12 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0119** | mg/L | 5 | 11/20/2024 4:12 | 231194 |
| Lithium | * | 0.0030 | | **0.0086** | mg/L | 5 | 11/20/2024 11:11 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:12 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 4:12 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:16 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 11/27/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-007 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 13:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 11/11/2024 13:30 | R356376 |
| Depth to water | * | -5.00 | | **32.66** | ft | 1 | 11/11/2024 13:30 | R356376 |
| Depth to water from measuring point | * | 0 | | **34.53** | ft | 1 | 11/11/2024 13:30 | R356376 |
| Elevation of groundwater surface | * | 0 | | **521.07** | ft | 1 | 11/11/2024 13:30 | R356376 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 11/11/2024 13:30 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 11/11/2024 13:30 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 11/11/2024 13:30 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.2** | °F | 1 | 11/11/2024 13:30 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.75** | | 1 | 11/11/2024 13:30 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1370** | µmhos/cm @25C | 1 | 11/11/2024 13:30 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1040** | mg/L | 2.5 | 11/14/2024 12:22 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 19:52 | R355975 |
| Chloride | NELAP | 5.00 | | **29.0** | mg/L | 10 | 11/13/2024 19:52 | R355975 |
| Sulfate | NELAP | 10.0 | | **311** | mg/L | 10 | 11/13/2024 19:52 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.626** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Boron | NELAP | 0.0200 | | **3.68** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Calcium | NELAP | 0.100 | | **191** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:38 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 11/16/2024 1:51 | 231056 |
| Arsenic | NELAP | 0.0010 | | **0.0160** | mg/L | 5 | 11/15/2024 5:18 | 231056 |
| Lithium | * | 0.0030 | | **0.0079** | mg/L | 5 | 11/20/2024 10:10 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:18 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 5:18 | 231056 |

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*

*Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 13:02 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-008 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 14:10

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 11/11/2024 14:10 | R356376 |
| Depth to water | * | -5.00 | | **28.50** | ft | 1 | 11/11/2024 14:10 | R356376 |
| Depth to water from measuring point | * | 0 | | **30.24** | ft | 1 | 11/11/2024 14:10 | R356376 |
| Elevation of groundwater surface | * | 0 | | **524.16** | ft | 1 | 11/11/2024 14:10 | R356376 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 11/11/2024 14:10 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 11/11/2024 14:10 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.7** | NTU | 1 | 11/11/2024 14:10 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.4** | °F | 1 | 11/11/2024 14:10 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 11/11/2024 14:10 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1590** | µmhos/cm @25C | 1 | 11/11/2024 14:10 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1360** | mg/L | 2.5 | 11/14/2024 12:22 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 20:04 | R355975 |
| Chloride | NELAP | 5.00 | | **37.6** | mg/L | 10 | 11/13/2024 20:04 | R355975 |
| Sulfate | NELAP | 10.0 | | **547** | mg/L | 10 | 11/13/2024 20:04 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.468** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Boron | NELAP | 0.0200 | S | **11.7** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Calcium | NELAP | 0.100 | S | **246** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:40 | 231056 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | BS | **< 0.0010** | mg/L | 5 | 11/16/2024 1:14 | 231056 |
| Arsenic | NELAP | 0.0010 | | **0.0029** | mg/L | 5 | 11/15/2024 5:24 | 231056 |
| Lithium | * | 0.0030 | | **0.0070** | mg/L | 5 | 11/20/2024 9:17 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 5:24 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/15/2024 5:24 | 231056 |
| *Matrix spike recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable.* | | | | | | | | |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 13:17 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 12:06

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 11/11/2024 12:06 | R356376 |
| Depth to water | * | -5.00 | | **11.79** | ft | 1 | 11/11/2024 12:06 | R356376 |
| Depth to water from measuring point | * | 0 | | **14.54** | ft | 1 | 11/11/2024 12:06 | R356376 |
| Elevation of groundwater surface | * | 0 | | **541.06** | ft | 1 | 11/11/2024 12:06 | R356376 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 11/11/2024 12:06 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 11/11/2024 12:06 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **19** | NTU | 1 | 11/11/2024 12:06 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.6** | °F | 1 | 11/11/2024 12:06 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.56** | | 1 | 11/11/2024 12:06 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1410** | µmhos/cm @25C | 1 | 11/11/2024 12:06 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1100** | mg/L | 2.5 | 11/14/2024 12:25 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 20:15 | R355975 |
| Chloride | NELAP | 5.00 | | **37.3** | mg/L | 10 | 11/13/2024 20:15 | R355975 |
| Sulfate | NELAP | 10.0 | | **388** | mg/L | 10 | 11/13/2024 20:15 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.446** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Boron | NELAP | 0.0200 | | **8.91** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Calcium | NELAP | 0.100 | | **193** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 19:52 | 231056 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 11/16/2024 1:56 | 231056 |
| Arsenic | NELAP | 0.0010 | | **0.168** | mg/L | 5 | 11/16/2024 7:57 | 231056 |
| Lithium | * | 0.0030 | | **0.0113** | mg/L | 5 | 11/20/2024 10:15 | 231056 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/16/2024 7:57 | 231056 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/18/2024 16:43 | 231056 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/14/2024 13:20 | 231146 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-010 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 12:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 11/13/2024 12:38 | R356376 |
| Depth to water | * | -5.00 | | **1.21** | ft | 1 | 11/13/2024 12:38 | R356376 |
| Depth to water from measuring point | * | 0 | | **4.51** | ft | 1 | 11/13/2024 12:38 | R356376 |
| Elevation of groundwater surface | * | 0 | | **525.47** | ft | 1 | 11/13/2024 12:38 | R356376 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 11/13/2024 12:38 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 11/13/2024 12:38 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.6** | NTU | 1 | 11/13/2024 12:38 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.6** | °F | 1 | 11/13/2024 12:38 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.73** | | 1 | 11/13/2024 12:38 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **840** | µmhos/cm @25C | 1 | 11/13/2024 12:38 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | H | **795** | mg/L | 2.5 | 11/21/2024 17:12 | R356629 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 10:51 | R356222 |
| Chloride | NELAP | 5.00 | | **25.7** | mg/L | 10 | 11/15/2024 10:51 | R356222 |
| Sulfate | NELAP | 10.0 | | **99.2** | mg/L | 10 | 11/15/2024 10:51 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.516** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Boron | NELAP | 0.0200 | | **2.46** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Calcium | NELAP | 0.100 | | **144** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:16 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:18 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0130** | mg/L | 5 | 11/20/2024 4:18 | 231194 |
| Lithium | * | 0.0030 | | **0.0062** | mg/L | 5 | 11/20/2024 11:17 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:18 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 4:18 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:24 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-011 **Client Sample ID:** RW-3

**Matrix:** GROUNDWATER **Collection Date:** 11/11/2024 11:03

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 11/11/2024 11:03 | R356376 |
| Depth to water | * | -5.00 | | **8.75** | ft | 1 | 11/11/2024 11:03 | R356376 |
| Depth to water from measuring point | * | 0 | | **11.45** | ft | 1 | 11/11/2024 11:03 | R356376 |
| Elevation of groundwater surface | * | 0 | | **528.05** | ft | 1 | 11/11/2024 11:03 | R356376 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 11/11/2024 11:03 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 11/11/2024 11:03 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **48** | NTU | 1 | 11/11/2024 11:03 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.8** | °F | 1 | 11/11/2024 11:03 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.13** | | 1 | 11/11/2024 11:03 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **531** | µmhos/cm @25C | 1 | 11/11/2024 11:03 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **470** | mg/L | 2.5 | 11/14/2024 12:11 | R356260 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/13/2024 0:00 | R355975 |
| Chloride | NELAP | 5.00 | | **25.1** | mg/L | 10 | 11/13/2024 0:00 | R355975 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 11/13/2024 0:00 | R355975 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.180** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Boron | NELAP | 0.0200 | | **0.137** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Calcium | NELAP | 0.100 | | **67.2** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/12/2024 11:03 | 231044 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/15/2024 22:11 | 231044 |
| Arsenic | NELAP | 0.0010 | | **0.214** | mg/L | 5 | 11/14/2024 0:51 | 231044 |
| Lithium | * | 0.0030 | | **0.0047** | mg/L | 5 | 11/14/2024 17:29 | 231044 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/14/2024 0:51 | 231044 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/14/2024 17:29 | 231044 |
| *LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/13/2024 0:00 | 231083 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |

**Client:** City Water, Light & Power **Work Order:** 24110121

**Client Project:** FGDS Landfill **Report Date:** 09-Dec-24

**Lab ID:** 24110121-012 **Client Sample ID:** P07D

**Matrix:** GROUNDWATER **Collection Date:** 11/13/2024 12:06

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **528.25** | ft | 1 | 11/13/2024 12:06 | R356376 |
| Depth to water | * | -5.00 | | **1.37** | ft | 1 | 11/13/2024 12:06 | R356376 |
| Depth to water from measuring point | * | 0 | | **4.37** | ft | 1 | 11/13/2024 12:06 | R356376 |
| Elevation of groundwater surface | * | 0 | | **523.88** | ft | 1 | 11/13/2024 12:06 | R356376 |
| Measuring Point Elevation | * | 0 | | **528.25** | ft | 1 | 11/13/2024 12:06 | R356376 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.00** | ft | 1 | 11/13/2024 12:06 | R356376 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 11/13/2024 12:06 | R356376 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.0** | °F | 1 | 11/13/2024 12:06 | R356376 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 11/13/2024 12:06 | R356376 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1110** | µmhos/cm @25C | 1 | 11/13/2024 12:06 | R356376 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | H | **1020** | mg/L | 2.5 | 11/21/2024 17:12 | R356629 |
| *Sample analysis did not meet hold time requirements.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 11/15/2024 11:37 | R356222 |
| Chloride | NELAP | 5.00 | | **32.2** | mg/L | 10 | 11/15/2024 11:37 | R356222 |
| Sulfate | NELAP | 10.0 | | **305** | mg/L | 10 | 11/15/2024 11:37 | R356222 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.857** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Boron | NELAP | 0.0200 | | **5.40** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Calcium | NELAP | 0.100 | | **189** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 11/18/2024 12:47 | 231260 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:24 | 231194 |
| Arsenic | NELAP | 0.0010 | | **0.0360** | mg/L | 5 | 11/20/2024 4:24 | 231194 |
| Lithium | * | 0.0030 | | **0.0095** | mg/L | 5 | 11/20/2024 11:22 | 231194 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 11/20/2024 4:24 | 231194 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 11/20/2024 4:24 | 231194 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 11/18/2024 12:27 | 231196 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 12/03/2024 0:00 | R357220 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 24110121
**Report Date:** 09-Dec-24

**Carrier:** Brett Gillihan
**Received By:** JMD

**Completed by:** Amber Dilallo
**On:** 11-Nov-24

**Reviewed by:** Ellie Hopkins
**On:** 14-Nov-24

**Pages to follow:** Chain of custody 4 Extra pages included 42

| | | | | | |
|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 10.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #96651. - JD/amberdilallo - 11/11/2024 4:58:57 PM

Samples were received on 11/13/24 at 15:45 on ice [10.5C - LTG#5]. ph strip #96651. Additional nitric acid (100984) was needed for P07D upon arrival at the laboratory.- lhenson - 11/14/2024 8:39:22 AM

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24110121

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 1.2.9 °C 5
Preserved in: [ ] LAB [x] FIELD FOR LAB USE ONLY
LAB NOTES: PA 96051
SD 11/11/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24110120-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Brett Gillihan

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110121-001 | R101 | 11-11-24 1026 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 11/11/24 1129 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | 11/11/24 1227 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | 11-11-24 1116 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | 11-11-24 1330 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | 11-11-24 1410 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | 11-11-24 1206 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | 11-11-24 1103 | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Brett Gillihan | 11-11-24 1610 | Jackie Davis | 11/11/24 16:10 |
| | | | |
| | | | |
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| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24110124

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110124 - 012 | P07D | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
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| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 11-11 / 1610 | Jackie Davis | 11/11/24 16:10 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 24110121

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.5°C 5
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: PHV 96657
added HNO3 (100984) P07D UH 11/14/24

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event. 24110120-001

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
T Carroll

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24110121-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | 11/13/24 1024 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | 11/13/24 1118 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | 11/13/24 1238 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 11-13/1545 | [signature] | 11/13/24 1545 |
| | | | |
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*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 24110121

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No

Are these samples known to be hazardous? ☐ Yes ☑ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

LAB NOTES:

**Client Comments:**

*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025

**PROJECT NAME/NUMBER**

FGDS Landfill

**SAMPLE COLLECTOR'S NAME**

TCarroll

**RESULTS REQUESTED**

☑ Standard ☐ 1-2 Day (100% Surcharge)

☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 24110121 - 012 | P07D | 11/13/24 1200 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 11-13/1545 | | 11/13/24 1545 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110121
**Monitoring Point:** R101
**Sample ID:** 001
**Date (s):** 11/11/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 55 °F
Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW
Precipitation: ☑ None ☐ Light ☐ Heavy
Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 10:00
Static Water Level: 7.45 feet below TOC
Total Depth: 35.27 feet below TOC
Water Column: 27.82 feet

**Purging Activities**

Purged By: BG Purge Date: 11/11/2024
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 27.82 ft. x 0.022 = 0.61 L x 3 Vol. = 1.83 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: Slight Color: clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 0.0 | 154 | purge start time | | | | | | |
| 10:11 | 1.7 | ↓ | 6.50 | 1,179.40 | 13.55 | 0.97 | -8.70 | 13.48 | |
| 10:14 | 2.2 | | 6.52 | 1,179.10 | 13.57 | 0.92 | -6.80 | 14.93 | |
| 10:17 | 2.6 | | 6.53 | 1,178.90 | 13.60 | 0.88 | -10.40 | 16.39 | |
| 10:20 | 3.1 | | 6.54 | 1,179.10 | 13.60 | 0.87 | -15.10 | 13.59 | |
| 10:23 | 3.5 | | 6.54 | 1,178.70 | 13.60 | 0.85 | -19.90 | 12.12 | |
| 10:26 | 4.0 | | 6.55 | 1,178.70 | 13.58 | 0.84 | -24.30 | 10.74 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/11/2024 10:26
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.55 pH 1,178.70 Spec. Cond. 13.58 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 7.56 feet below TOC Drawdown: 0.11 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan Date: 11/11/2024

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110121
**Monitoring Point:** G110
**Sample ID:** 002
**Date (s):** 11/13/2024

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: 48 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 10:02
Static Water Level: 24.76 feet below TOC
Total Depth: 57.15 feet below TOC
Water Column: 32.39 feet

**Purging Activities**

Purged By: TC Purge Date: 11/13/2024
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 32.39 ft. x 0.022 = 0.71 L x 3 Vol. = 2.13 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.50 L
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:03 | 0.0 | 262 | purge start time | | | | | | |
| 10:09 | 1.6 | ↓ | 6.80 | 606.80 | 14.25 | 1.58 | -127.50 | 13.35 | |
| 10:12 | 2.4 | | 6.79 | 609.30 | 14.27 | 1.34 | -138.40 | 14.52 | |
| 10:15 | 3.1 | | 6.76 | 610.30 | 14.32 | 1.19 | -143.60 | 17.07 | |
| 10:18 | 3.9 | | 6.72 | 613.80 | 14.39 | 1.10 | -145.80 | 24.07 | |
| 10:21 | 4.7 | | 6.71 | 615.10 | 14.47 | 1.03 | -147.50 | 37.25 | |
| 10:24 | 5.5 | | 6.70 | 615.80 | 14.37 | 0.97 | -148.30 | 62.27 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/13/2024 10:24
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.70 pH 615.80 Spec. Cond. 14.37 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 24.91 feet below TOC Drawdown: 0.15 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | R111 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 53 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 11:02

Static Water Level: 25.24 feet below TOC

Total Depth: 55.75 feet below TOC

Water Column: 30.51 feet

**Purging Activities**

Purged By: TC Purge Date: 11/11/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.51 ft. x 0.022 = 0.67 L x 3 Vol. = 2.01 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:02 | 0.0 | 222 | purge start time | | | | | | |
| 11:11 | 2.0 | ↓ | 6.02 | 1,073.20 | 14.28 | 3.04 | -1.90 | 7.77 | |
| 11:14 | 2.7 | | 6.00 | 1,099.80 | 14.26 | 2.68 | -6.70 | 8.75 | |
| 11:17 | 3.4 | | 5.98 | 1,111.70 | 14.27 | 2.44 | -9.90 | 9.68 | |
| 11:20 | 4.0 | | 5.97 | 1,118.70 | 14.30 | 2.26 | -12.60 | 12.64 | |
| 11:23 | 4.7 | | 5.96 | 1,124.70 | 14.33 | 2.13 | -14.90 | 7.74 | |
| 11:26 | 5.4 | | 5.96 | 1,129.30 | 14.32 | 2.02 | -17.20 | 10.77 | |
| 11:29 | 6.0 | | 5.96 | 1,133.70 | 14.37 | 1.93 | -19.00 | 13.81 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/11/2024 11:29

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 5.96 pH 1,133.70 Spec. Cond. 14.37 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 25.38 feet below TOC Drawdown: 0.14 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/11/2024

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110121
**Monitoring Point:** G112
**Sample ID:** 004
**Date (s):** 11/11/2024

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: 55 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 11:58
Static Water Level: 27.80 feet below TOC
Total Depth: 58.81 feet below TOC
Water Column: 31.01 feet

**Purging Activities**

Purged By: TC Purge Date: 11/11/2024
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 31.01 ft. x 0.022 = 0.68 L x 3 Vol. = 2.04 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:58 | 0.0 | 103 | purge start time | | | | | | |
| 12:12 | 1.4 | ↓ | 6.41 | 1,237.60 | 16.01 | 4.01 | 43.10 | 4.39 | |
| 12:15 | 1.8 | | 6.32 | 1,254.40 | 15.87 | 3.40 | 39.00 | 4.03 | |
| 12:18 | 2.1 | | 6.27 | 1,258.60 | 15.88 | 2.96 | 35.20 | 4.59 | |
| 12:21 | 2.4 | | 6.24 | 1,260.50 | 15.86 | 2.69 | 31.20 | 4.29 | |
| 12:24 | 2.7 | | 6.22 | 1,260.40 | 15.87 | 2.47 | 27.30 | 4.65 | |
| 12:27 | 3.0 | | 6.21 | 1,260.90 | 15.89 | 2.31 | 23.50 | 4.70 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/11/2024 12:27
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.21 pH 1,260.90 Spec. Cond. 15.89 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 28.73 feet below TOC Drawdown: 0.93 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | G113 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 10:51

Static Water Level: 7.67 feet below TOC

Total Depth: 12.85 feet below TOC

Water Column: 5.18 feet

**Purging Activities**

Purged By: BG Purge Date: 11/11/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 5.18 ft. x 0.022 = 0.11 L x 3 Vol. = 0.33 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 2.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:51 | 0.0 | 80 | purge start time | | | | | | |
| 11:01 | 0.8 | ↓ | 6.21 | 960.90 | 15.47 | 1.23 | -95.10 | 98.48 | |
| 11:04 | 1.0 | | 6.19 | 960.90 | 15.49 | 1.09 | -97.30 | 35.36 | |
| 11:07 | 1.3 | | 6.17 | 962.20 | 15.49 | 0.96 | -100.50 | 15.18 | |
| 11:10 | 1.5 | | 6.15 | 966.40 | 15.54 | 0.93 | -104.00 | 10.46 | |
| 11:13 | 1.8 | | 6.15 | 969.80 | 15.59 | 0.92 | -107.00 | 8.65 | |
| 11:16 | 2.0 | | 6.14 | 971.60 | 15.59 | 0.89 | -108.80 | 8.40 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/11/2024 11:16

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.14 pH 971.60 Spec. Cond. 15.59 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 8.65 feet below TOC Drawdown: 0.98 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | G120 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 006 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 49 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 10:57

Static Water Level: 16.72 feet below TOC

Total Depth: 50.37 feet below TOC

Water Column: 33.65 feet

**Purging Activities**

Purged By: TC Purge Date: 11/13/2024

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 33.65 ft. x 0.022 = 0.74 L x 3 Vol. = 2.22 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:57 | 0.0 | 381 | purge start time | | | | | | |
| 11:09 | 4.6 | ↓ | 6.55 | 1,379.10 | 15.07 | 0.94 | -166.80 | 19.19 | |
| 11:12 | 5.7 | | 6.55 | 1,377.70 | 15.21 | 0.94 | -166.70 | 20.28 | |
| 11:15 | 6.9 | | 6.55 | 1,377.10 | 15.40 | 0.96 | -161.80 | 26.04 | |
| 11:18 | 8.0 | | 6.55 | 1,381.20 | 15.65 | 0.93 | -164.60 | 29.66 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/13/2024 11:18

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 6.55 pH 1,381.20 Spec. Cond. 15.65 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 17.38 feet below TOC Drawdown: 0.66 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | G121 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 007 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | **Locks** | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 13:07

Static Water Level: 34.53 feet below TOC

Total Depth: 58.56 feet below TOC

Water Column: 24.03 feet

**Purging Activities**

Purged By: BG Purge Date: 11/11/2024

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 24.03 ft. x 0.022 = 0.53 L x 3 Vol. = 1.59 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:07 | 0.0 | 304 | purge start time | | | | | | |
| 13:21 | 4.3 | ↓ | 6.77 | 1,375.80 | 14.29 | 0.72 | -126.20 | 21.03 | |
| 13:24 | 5.2 | | 6.76 | 1,375.00 | 14.39 | 0.70 | -127.60 | 16.22 | |
| 13:27 | 6.1 | | 6.75 | 1,372.30 | 14.56 | 0.67 | -128.80 | 14.20 | |
| 13:30 | 7.0 | | 6.75 | 1,372.70 | 14.54 | 0.65 | -129.80 | 12.07 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/11/2024 13:30

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 6.75 pH 1,372.70 Spec. Cond. 14.54 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 35.76 feet below TOC Drawdown: 1.23 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | G122 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 008 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 62 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 13:46

Static Water Level: 30.24 feet below TOC

Total Depth: 49.29 feet below TOC

Water Column: 19.05 feet

**Purging Activities**

Purged By: BG Purge Date: 11/11/2024

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 19.05 ft. x 0.022 = 0.42 L x 3 Vol. = 1.26 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:46 | 0.0 | 292 | purge start time | | | | | | |
| 13:58 | 3.5 | ↓ | 6.70 | 1,560.70 | 14.16 | 1.82 | -86.50 | 13.00 | |
| 14:01 | 4.4 | | 6.67 | 1,573.10 | 14.21 | 1.62 | -88.90 | 9.64 | |
| 14:04 | 5.3 | | 6.66 | 1,583.50 | 14.16 | 1.42 | -90.70 | 10.31 | |
| 14:07 | 6.1 | | 6.65 | 1,589.40 | 14.13 | 1.26 | -92.60 | 9.34 | |
| 14:10 | 7.0 | | 6.64 | 1,593.40 | 14.13 | 1.12 | -94.50 | 5.71 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 11/11/2024 14:10

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 6.64 pH 1,593.40 Spec. Cond. 14.13 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 31.15 feet below TOC Drawdown: 0.91 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/11/2024

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 24110121
**Monitoring Point:** AW-1
**Sample ID:** 009
**Date (s):** 11/11/2024

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 60 °F
Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW
Precipitation: ☑ None ☐ Light ☐ Heavy
Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 11:39
Static Water Level: 14.54 feet below TOC
Total Depth: 54.81 feet below TOC
Water Column: 40.27 feet

**Purging Activities**

Purged By: BG
Purge Date: 11/11/2024
Purge Method: Peristaltic Pump
Well Diameter: 2"
Purge Volume Calculation (L): 40.27 ft. x 0.022 = 0.89 L x 3 Vol. = 2.67 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Slightly cloudy
Odor: None
Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:39 | 0.0 | 167 | purge start time | | | | | | |
| 11:51 | 2.0 | ↓ | 6.61 | 1,402.90 | 15.51 | 1.63 | -108.90 | 22.99 | |
| 11:54 | 2.5 | | 6.58 | 1,405.40 | 15.51 | 1.47 | -108.00 | 14.38 | |
| 11:57 | 3.0 | | 6.57 | 1,404.70 | 15.44 | 1.35 | -107.00 | 14.62 | |
| 12:00 | 3.5 | | 6.57 | 1,405.60 | 15.35 | 1.24 | -106.70 | 22.00 | |
| 12:03 | 4.0 | | 6.56 | 1,405.40 | 15.33 | 1.15 | -106.90 | 17.79 | |
| 12:06 | 4.5 | | 6.56 | 1,408.20 | 15.33 | 1.08 | -107.20 | 19.26 | |

**Sampling Activities**

Sampled By: BG
Sample Date/Time: 11/11/2024 12:06
Sample Method: Low Flow
Sample Equipment: Peristaltic Pump
Sample Parameters: 6.56 pH 1,408.20 Spec. Cond. 15.33 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 15.42 feet below TOC Drawdown: 0.88 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Brett Gillihan **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | AW-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 50 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | **Locks** | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 12:17

Static Water Level: 4.51 feet below TOC

Total Depth: 32.64 feet below TOC

Water Column: 28.13 feet

**Purging Activities**

Purged By: TC Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 28.13 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.50 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:22 | 0.0 | 344 | purge start time | | | | | | |
| 12:29 | 2.4 | ↓ | 6.74 | 831.00 | 14.99 | 1.22 | -161.90 | 8.74 | |
| 12:32 | 3.4 | | 6.74 | 831.40 | 14.97 | 1.03 | -165.70 | 6.42 | |
| 12:35 | 4.5 | | 6.74 | 834.50 | 14.88 | 0.92 | -168.10 | 5.54 | |
| 12:38 | 5.5 | | 6.73 | 840.40 | 14.78 | 0.84 | -169.60 | 6.63 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/13/2024 12:38

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.73 pH 840.40 Spec. Cond. 14.78 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 4.68 feet below TOC Drawdown: 0.17 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/13/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 011 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/11/2024 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 56 °F Wind Direction: ☐ N ☐ S ☐ W ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 11/11/2024 10:36

Static Water Level: 11.45 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 32.56 feet

**Purging Activities**

Purged By: JC Purge Date: 11/11/2024

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 32.56 ft. x 0.022 = 0.72 L x 3 Vol. = 2.16 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:37 | 0.0 | 173 | purge start time | | | | | | |
| 10:42 | 0.9 | ↓ | 7.12 | 525.70 | 14.52 | 4.56 | -168.70 | 6.48 | |
| 10:45 | 1.4 | | 7.13 | 532.90 | 14.51 | 3.40 | -178.00 | 46.77 | |
| 10:48 | 1.9 | | 7.13 | 535.30 | 14.50 | 2.78 | -180.60 | 90.25 | |
| 10:51 | 2.5 | | 7.13 | 535.60 | 14.50 | 2.41 | -181.80 | 122.85 | |
| 10:54 | 3.0 | | 7.13 | 535.60 | 14.47 | 2.17 | -182.50 | 72.57 | |
| 10:57 | 3.5 | | 7.13 | 535.40 | 14.45 | 1.99 | -182.90 | 112.49 | |
| 11:00 | 4.0 | | 7.13 | 534.70 | 14.47 | 1.87 | -183.00 | 50.61 | |
| 11:03 | 4.5 | | 7.13 | 531.10 | 14.90 | 1.77 | -182.40 | 47.61 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 11/11/2024 11:03

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.13 pH 531.10 Spec. Cond. 14.90 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 15.89 feet below TOC Drawdown: 4.44 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210771
-

**Form Completed By:** Justin Colp **Date:** 11/11/2024

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | P07D |
| **Project Location:** | Springfield, IL | **Sample ID:** | 012 |
| **W.O. Number (s):** | 24110121 | **Date (s):** | 11/13/2024 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 49 °F Wind Direction: ☐ N ☐ S ☐ W ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 11/13/2024 11:32

Static Water Level: 4.37 feet below TOC

Total Depth: 32.54 feet below TOC

Water Column: 28.17 feet

**Purging Activities**

Purged By: TC Purge Date: 11/13/2024

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 28.17 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 12.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:32 | 0.0 | 353 | purge start time | | | | | | |
| 11:42 | 3.5 | ↓ | 6.64 | 1,105.90 | 13.81 | 0.90 | -170.80 | 46.43 | |
| 11:45 | 4.6 | | 6.64 | 1,105.30 | 13.78 | 0.76 | -173.00 | 28.62 | |
| 11:48 | 5.6 | | 6.64 | 1,104.40 | 13.79 | 0.68 | -174.30 | 15.93 | |
| 11:51 | 6.7 | | 6.64 | 1,105.30 | 13.78 | 0.60 | -176.00 | 263.87 | |
| 11:54 | 7.8 | | *Tubing disconnected from flow cell* | | | | | | |
| 11:57 | 8.8 | | 6.64 | 1,105.50 | 13.72 | 1.35 | -162.50 | 11.85 | |
| 12:00 | 9.9 | | 6.64 | 1,105.80 | 13.77 | 0.81 | -169.30 | 7.34 | |
| 12:03 | 10.9 | | 6.64 | 1,106.30 | 13.90 | 0.65 | -172.60 | 8.25 | |
| 12:06 | 12.0 | | 6.64 | 1,106.20 | 13.88 | 0.58 | -174.30 | 12.08 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 11/13/2024 12:06

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.64 pH 1,106.20 Spec. Cond. 13.88 Temp

Field Filtered: No Filter Type:

Water Level: 4.70 feet below TOC Drawdown: 0.33 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45720

**Form Completed By:** Tracy Carroll **Date:** 11/13/2024

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **24111568**
Date: **12/6/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24110121

WorkOrder Narrative:
24111568: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24111568**
Date: **12/6/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24111568**
***06-Dec-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24110121

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24111568-001 | 24110121-001 | | 11/11/2024 10:26:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-002 | 24110121-002 | | 11/13/2024 10:24:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-003 | 24110121-003 | | 11/11/2024 11:29:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-004 | 24110121-004 | | 11/11/2024 12:27:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-005 | 24110121-005 | | 11/11/2024 11:16:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-006 | 24110121-006 | | 11/13/2024 11:18:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-007 | 24110121-007 | | 11/11/2024 1:30:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-008 | 24110121-008 | | 11/11/2024 2:10:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-009 | 24110121-009 | | 11/11/2024 12:06:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-010 | 24110121-010 | | 11/11/2024 12:38:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-011 | 24110121-011 | | 11/11/2024 11:03:00 AM | 11/20/2024 1:00:00 PM | Non-Potable Water |
| 24111568-012 | 24110121-012 | | 11/13/2024 12:06:00 PM | 11/20/2024 1:00:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24111568-001A | 24110121-001 | 11/11/2024 10:26:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111568-002A | 24110121-002 | 11/13/2024 10:24:00 AM | | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111568-003A | 24110121-003 | 11/11/2024 11:29:00 AM | | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111568-004A | 24110121-004 | 11/11/2024 12:27:00 PM | | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111568-005A | 24110121-005 | 11/11/2024 11:16:00 AM | | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111568-006A | 24110121-006 | 11/13/2024 11:18:00 AM | | Radium-226 (EPA 903.0) | | 11/22/2024 11:34:00 AM | 11/29/2024 9:41:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/22/2024 11:34:00 AM | 11/27/2024 2:09:00 PM |
| 24111568-007A | 24110121-007 | 11/11/2024 1:30:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111568-008A | 24110121-008 | 11/11/2024 2:10:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111568-009A | 24110121-009 | 11/11/2024 12:06:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111568-010A | 24110121-010 | 11/11/2024 12:38:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111568-011A | 24110121-011 | 11/11/2024 11:03:00 AM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |
| | | | | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |
| 24111568-012A | 24110121-012 | 11/13/2024 12:06:00 PM | | Radium-226 (EPA 903.0) | | 11/23/2024 8:45:00 AM | 12/4/2024 9:31:52 AM |

Original

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*Website: http://www.settek.com*

# DATES REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,

**Project:** 24110121

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24111568-012A | 24110121-012 | 11/13/2024 12:06:00 PM | Non-Potable Water | Radium-228 (EPA 904.0) | | 11/23/2024 8:45:00 AM | 12/3/2024 4:29:04 PM |

Original

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# Analytical Report

(consolidated)

WO#: **24111568**

Date Reported: **12/6/2024**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 11/11/2024 12:06:00 PM
**Project:** 24110121
**Lab ID:** 24111568-009
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 24110121-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.240 | 1 | 12/4/2024 9:31:52 AM |
| Yield | 0.570 | | | | | 1 | 12/4/2024 9:31:52 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 1.17 | 1.00 | | pCi/L | ± 1.12 | 1 | 12/3/2024 4:29:04 PM |
| Yield | 0.470 | | | | | 1 | 12/3/2024 4:29:04 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80533**

Sample ID: **MB-80533** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352672**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-80533** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352673**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.41 | 1.00 | 5.000 | 0 | 68.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-80533** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352674**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.37 | 1.00 | 5.000 | 0 | 67.4 | 50 | 130 | 3.410 | 1.18 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80533**

Sample ID: **24111225-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352689**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24111363-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197941**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E904.0** **E903-904** Analysis Date: **11/27/2024** SeqNo: **5352692**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.11 | 1.00 | | 0 | 0 | | | 0.9300 | 17.6 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80533**

| Sample ID: **MB-80533** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352721** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-80533** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352722** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.06 | 1.00 | 5.000 | 0 | 101 | 70 | 130 | | | | |

| Sample ID: **LCSD-80533** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352723** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.18 | 1.00 | 5.000 | 0 | 83.6 | 70 | 130 | 5.060 | 19.0 | 20 | |

| Sample ID: **24111225-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/22/2024** | RunNo: **197943** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80533** | TestNo: **E903.0** | **E903-904** | Analysis Date: **11/29/2024** | SeqNo: **5352733** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80533**

Sample ID: **24111225-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197943**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E903.0** **E903-904** Analysis Date: **11/29/2024** SeqNo: **5352733**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24111363-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/22/2024** RunNo: **197943**
Client ID: **BatchQC** Batch ID: **80533** TestNo: **E903.0** **E903-904** Analysis Date: **11/29/2024** SeqNo: **5352735**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80535**

Sample ID: **MB-80535** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358242**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-80535** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358243**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.46 | 1.00 | 5.000 | 0 | 89.2 | 50 | 130 | | | | |
| Yield | 0.970 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-80535** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358244**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.32 | 1.00 | 5.000 | 0 | 106 | 50 | 130 | 4.460 | 17.6 | 20 | |
| Yield | 0.970 | | | 0 | 0 | | | 0.9700 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80535**

Sample ID: **24111317-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358249**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.7500 | 28.6 | | |

Sample ID: **24111607-001DDUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198153**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E904.0** **E903-904** Analysis Date: **12/3/2024** SeqNo: **5358269**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 0.910 | | | 0 | 0 | | | 1.000 | 9.42 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80535**

| Sample ID: **MB-80535** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358431** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.990 | | | | | | | | | | |

| Sample ID: **LCS-80535** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358432** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.81 | 1.00 | 5.000 | 0 | 116 | 70 | 130 | | | | |

| Sample ID: **LCSD-80535** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358433** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.22 | 1.00 | 5.000 | 0 | 104 | 70 | 130 | 5.810 | 10.7 | 20 | |

| Sample ID: **24111317-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **11/23/2024** | RunNo: **198160** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **80535** | TestNo: **E903.0** | **E903-904** | Analysis Date: **12/4/2024** | SeqNo: **5358438** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24111568**

***06-Dec-24***

**Client:** TEKLAB Inc,
**Project:** 24110121 **BatchID:** **80535**

Sample ID: **24111317-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198160**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E903.0** **E903-904** Analysis Date: **12/4/2024** SeqNo: **5358438**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 0.8200 | 19.8 | 0 | |

Sample ID: **24111607-001DDUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/23/2024** RunNo: **198160**
Client ID: **BatchQC** Batch ID: **80535** TestNo: **E903.0** **E903-904** Analysis Date: **12/4/2024** SeqNo: **5358458**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 0.980 | | | | | | | 1.000 | 2.02 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

24111568

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc** 17.2-0.0= 17.2°C
**5445 Horseshoe Lake Road** 17.7-0.0= 17.7°C
**Collinsville, IL 62234**

Cooler Temp: 17.2-17.7°C Sampler: Client QC Level: 2

Fedex, Cooler

CS intact 11/18/24

Project# 24110121

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site. 24110121-011 report from 24110120-001.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 37435 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | cpm | | | | | pH | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24110121-001 | 11/11/24 1026 | HNO3 | Groundwater | ✔ | | 20 | | | | | 1 | | | | |
| | 24110121-002 | 11/13/24 1024 | HNO3 | Groundwater | ✔ | | 42 | | | | | 1 | | | | |
| | 24110121-003 | 11/11/24 1129 | HNO3 | Groundwater | ✔ | | 32 | | | | | 1 | | | | |
| | 24110121-004 | 11/11/24 1227 | HNO3 | Groundwater | ✔ | | 24 | | | | | 1 | | | | |
| | 24110121-005 | 11/11/24 1116 | HNO3 | Groundwater | ✔ | | 34 | | | | | 1 | | | | |
| | 24110121-006 | 11/13/24 1118 | HNO3 | Groundwater | ✔ | | 32 | | | | | 1 | | | | |
| | 24110121-007 | 11/11/24 1330 | HNO3 | Groundwater | ✔ | | 36 | | | | | 1 | | | | |
| | 24110121-008 | 11/11/24 1410 | HNO3 | Groundwater | ✔ | | 22 | | | | | 1 | | | | |
| | 24110121-009 | 11/11/24 1206 | HNO3 | Groundwater | ✔ | | 32 | | | | | 1 | | | | |
| | 24110121-010 | 11/11/24 1238 | HNO3 | Groundwater | ✔ | | 18 | | | | | 1 | | | | |
| | 24110121-011 | 11/11/24 1103 | HNO3 | Groundwater | ✔ | | Did not receive | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | | | 11/20/24, 1300 |
| | | | |
| | | | |
| | | | |
| | | | |

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# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

17.2-0.0 = 17.2c
17.7-0.0 = 17.7c

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: 17.2-17.7c Sampler: Client QC Level: 2

Fedex, cooler

CS intact 11/18/24

Comments: **Please Issue reports and invoices via email only**

Please analyze for Radium 226/228 per your usual methods.

Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Samples collected from an IL site. 24110121-011 report from 24110120-001.

Project# 24110121

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com

Requested Due Date: Standard TAT Billing/PO: 37435 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CPM | | | | | | pH | | | | |
| | 24110121-012 | 11/13/24 1206 | HNO3 | Groundwater | ✔ | 30 | | | | | | 1 | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | | [signature] | 11/20/24, 1300 |
| | | | |
| | | | |
| | | | |
| | | | |



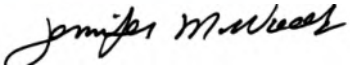
Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24111568 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Anthony W. Britton | 11/20/2024 1:00:00 PM | |
| Completed By: | Anthony W. Britton | 11/21/2024 1:02:25 PM | |
| Reviewed By: | Jennifer Woolf | 11/26/2024 10:57:53 AM |  |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐
   No. Seal Date: 11/18/2024 Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 17.7 | Good | Yes | | 11/18/2024 | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24111568 RcptNo: 1

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 17.2 | Good | Yes | | 11/18/2024 | |

First Quarter 2025

March 31, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 25020749

Dear Eric Staley:

TEKLAB, INC received 20 samples on 2/21/2025 12:22:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25020749
**Report Date:** 31-Mar-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 26 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25020749
**Report Date:** 31-Mar-25

**Cooler Receipt Temp:** 9.9 °C

An employee of Teklab, Inc. collected the sample(s).

AP-14 was frozen, no sample collected.

Radium 226/228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25020749

**Report Date:** 31-Mar-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 02/18/2025 12:00

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 02/18/2025 12:00 | R360883 |
| Depth to water | * | -5.00 | | **6.86** | ft | 1 | 02/18/2025 12:00 | R360883 |
| Depth to water from measuring point | * | 0 | | **9.56** | ft | 1 | 02/18/2025 12:00 | R360883 |
| Elevation of groundwater surface | * | 0 | | **529.94** | ft | 1 | 02/18/2025 12:00 | R360883 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 02/18/2025 12:00 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 02/18/2025 12:00 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **21** | NTU | 1 | 02/18/2025 12:00 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **53.5** | °F | 1 | 02/18/2025 12:00 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.10** | | 1 | 02/18/2025 12:00 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **623** | µmhos/cm @25C | 1 | 02/18/2025 12:00 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **372** | mg/L | 1.25 | 02/19/2025 10:55 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/19/2025 9:38 | R360503 |
| Chloride | NELAP | 5.00 | | **25.4** | mg/L | 10 | 02/19/2025 9:38 | R360503 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/19/2025 9:38 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.136** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Boron | NELAP | 0.0200 | | **0.126** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Calcium | NELAP | 0.100 | | **64.5** | mg/L | 1 | 02/24/2025 11:25 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| Arsenic | NELAP | 0.0010 | | **0.0961** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| Lithium | * | 0.0030 | | **0.0047** | mg/L | 5 | 02/24/2025 8:08 | 234945 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| *LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:09 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-002 **Client Sample ID:** AP-1

**Matrix:** GROUNDWATER **Collection Date:** 02/18/2025 12:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **504.29** | ft | 1 | 02/18/2025 12:38 | R360883 |
| Depth to water | * | -5.00 | | **8.52** | ft | 1 | 02/18/2025 12:38 | R360883 |
| Depth to water from measuring point | * | 0 | | **10.79** | ft | 1 | 02/18/2025 12:38 | R360883 |
| Elevation of groundwater surface | * | 0 | | **524.58** | ft | 1 | 02/18/2025 12:38 | R360883 |
| Measuring Point Elevation | * | 0 | | **535.37** | ft | 1 | 02/18/2025 12:38 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.27** | ft | 1 | 02/18/2025 12:38 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **17** | NTU | 1 | 02/18/2025 12:38 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.8** | °F | 1 | 02/18/2025 12:38 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 02/18/2025 12:38 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1670** | µmhos/cm @25C | 1 | 02/18/2025 12:38 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1600** | mg/L | 1.67 | 02/19/2025 10:56 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/19/2025 9:49 | R360503 |
| Chloride | NELAP | 5.00 | | **49.3** | mg/L | 10 | 02/19/2025 9:49 | R360503 |
| Sulfate | NELAP | 10.0 | | **834** | mg/L | 10 | 02/19/2025 9:49 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.307** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| Boron | NELAP | 0.200 | | **21.7** | mg/L | 10 | 02/25/2025 11:16 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| Calcium | NELAP | 0.100 | | **245** | mg/L | 1 | 02/24/2025 11:32 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:09 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:25 | 234945 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:25 | 234945 |
| Lithium | * | 0.0030 | | **0.0105** | mg/L | 5 | 02/24/2025 8:14 | 234945 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:25 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 11:25 | 234945 |
| *LCS recovered outside upper control limitsfor Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:12 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 02/18/2025 13:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 02/18/2025 13:15 | R360883 |
| Depth to water | * | -5.00 | | **5.37** | ft | 1 | 02/18/2025 13:15 | R360883 |
| Depth to water from measuring point | * | 0 | | **7.87** | ft | 1 | 02/18/2025 13:15 | R360883 |
| Elevation of groundwater surface | * | 0 | | **528.23** | ft | 1 | 02/18/2025 13:15 | R360883 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 02/18/2025 13:15 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 02/18/2025 13:15 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **25** | NTU | 1 | 02/18/2025 13:15 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **52.3** | °F | 1 | 02/18/2025 13:15 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.44** | | 1 | 02/18/2025 13:15 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1250** | µmhos/cm @25C | 1 | 02/18/2025 13:15 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1070** | mg/L | 1 | 02/19/2025 10:57 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/19/2025 10:01 | R360503 |
| Chloride | NELAP | 5.00 | | **35.8** | mg/L | 10 | 02/19/2025 10:01 | R360503 |
| Sulfate | NELAP | 10.0 | | **397** | mg/L | 10 | 02/19/2025 10:01 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0710** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Boron | NELAP | 0.0200 | | **3.53** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Calcium | NELAP | 0.100 | | **198** | mg/L | 1 | 02/24/2025 11:33 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Cobalt | NELAP | 0.0050 | | **0.0140** | mg/L | 1 | 02/24/2025 11:33 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:31 | 234945 |
| Arsenic | NELAP | 0.0010 | | **0.0022** | mg/L | 5 | 02/20/2025 11:31 | 234945 |
| Lithium | * | 0.0030 | | **0.0060** | mg/L | 5 | 02/24/2025 8:19 | 234945 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:31 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 11:31 | 234945 |
| *LCS recovered outside upper control limitsfor Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:14 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 02/19/2025 11:54

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 02/19/2025 11:54 | R360883 |
| Depth to water | * | -5.00 | | **7.20** | ft | 1 | 02/19/2025 11:54 | R360883 |
| Depth to water from measuring point | * | 0 | | **9.75** | ft | 1 | 02/19/2025 11:54 | R360883 |
| Elevation of groundwater surface | * | 0 | | **525.50** | ft | 1 | 02/19/2025 11:54 | R360883 |
| Measuring Point Elevation | * | 0 | | **535.25** | ft | 1 | 02/19/2025 11:54 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.55** | ft | 1 | 02/19/2025 11:54 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **61** | NTU | 1 | 02/19/2025 11:54 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **52.1** | °F | 1 | 02/19/2025 11:54 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 02/19/2025 11:54 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1270** | µmhos/cm @25C | 1 | 02/19/2025 11:54 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **1150** | mg/L | 1.25 | 02/20/2025 11:38 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 10:28 | R360529 |
| Chloride | NELAP | 5.00 | | **61.5** | mg/L | 10 | 02/20/2025 10:28 | R360529 |
| Sulfate | NELAP | 10.0 | | **569** | mg/L | 10 | 02/20/2025 10:28 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.120** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Boron | NELAP | 0.0200 | | **12.1** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Calcium | NELAP | 0.100 | | **168** | mg/L | 1 | 02/24/2025 10:50 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Cobalt | NELAP | 0.0050 | | **0.0057** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:39 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 14:51 | 235016 |
| Arsenic | NELAP | 0.0010 | | **0.0137** | mg/L | 5 | 02/20/2025 14:51 | 235016 |
| Lithium | * | 0.0030 | | **0.0052** | mg/L | 5 | 02/20/2025 14:51 | 235016 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 14:51 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 14:51 | 235016 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 10:35 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-005
**Client Sample ID:** AP-4
**Matrix:** GROUNDWATER
**Collection Date:** 02/18/2025 10:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.19** | ft | 1 | 02/18/2025 10:38 | R360883 |
| Depth to water | * | -5.00 | | **7.54** | ft | 1 | 02/18/2025 10:38 | R360883 |
| Depth to water from measuring point | * | 0 | | **10.68** | ft | 1 | 02/18/2025 10:38 | R360883 |
| Elevation of groundwater surface | * | 0 | | **544.92** | ft | 1 | 02/18/2025 10:38 | R360883 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 02/18/2025 10:38 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.14** | ft | 1 | 02/18/2025 10:38 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **18** | NTU | 1 | 02/18/2025 10:38 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.8** | °F | 1 | 02/18/2025 10:38 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.78** | | 1 | 02/18/2025 10:38 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **786** | µmhos/cm @25C | 1 | 02/18/2025 10:38 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **508** | mg/L | 1.67 | 02/19/2025 10:57 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/19/2025 10:13 | R360503 |
| Chloride | NELAP | 5.00 | | **12.4** | mg/L | 10 | 02/19/2025 10:13 | R360503 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/19/2025 10:13 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.378** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Boron | NELAP | 0.0200 | | **0.0913** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Calcium | NELAP | 0.100 | | **113** | mg/L | 1 | 02/24/2025 11:34 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:10 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 02/21/2025 12:06 | 234945 |
| Arsenic | NELAP | 0.0010 | | **0.0210** | mg/L | 5 | 02/20/2025 11:36 | 234945 |
| Lithium | * | 0.0030 | | **0.0087** | mg/L | 5 | 02/24/2025 8:25 | 234945 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:36 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 11:36 | 234945 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:16 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-006 **Client Sample ID:** AP-5

**Matrix:** GROUNDWATER **Collection Date:** 02/18/2025 10:10

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **552.63** | ft | 1 | 02/18/2025 10:10 | R360883 |
| Depth to water | * | -5.00 | | **12.68** | ft | 1 | 02/18/2025 10:10 | R360883 |
| Depth to water from measuring point | * | 0 | | **14.98** | ft | 1 | 02/18/2025 10:10 | R360883 |
| Elevation of groundwater surface | * | 0 | | **568.92** | ft | 1 | 02/18/2025 10:10 | R360883 |
| Measuring Point Elevation | * | 0 | | **583.90** | ft | 1 | 02/18/2025 10:10 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.30** | ft | 1 | 02/18/2025 10:10 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.7** | NTU | 1 | 02/18/2025 10:10 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **53.4** | °F | 1 | 02/18/2025 10:10 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.83** | | 1 | 02/18/2025 10:10 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **662** | µmhos/cm @25C | 1 | 02/18/2025 10:10 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **474** | mg/L | 1 | 02/19/2025 10:57 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/19/2025 11:23 | R360503 |
| Chloride | NELAP | 5.00 | | **8.40** | mg/L | 10 | 02/19/2025 11:23 | R360503 |
| Sulfate | NELAP | 10.0 | | **59.7** | mg/L | 10 | 02/19/2025 11:23 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0532** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Boron | NELAP | 0.0200 | | **0.0435** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Calcium | NELAP | 0.100 | | **97.3** | mg/L | 1 | 02/24/2025 11:35 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:11 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:42 | 234945 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:42 | 234945 |
| Lithium | * | 0.0030 | | **0.0043** | mg/L | 5 | 02/24/2025 9:56 | 234945 |
| Selenium | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 02/20/2025 11:42 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 11:42 | 234945 |
| *LCS recovered outside upper control limitsfor Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:18 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-007 **Client Sample ID:** AP-6

**Matrix:** GROUNDWATER **Collection Date:** 02/18/2025 11:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.20** | ft | 1 | 02/18/2025 11:32 | R360883 |
| Depth to water | * | -5.00 | | **6.14** | ft | 1 | 02/18/2025 11:32 | R360883 |
| Depth to water from measuring point | * | 0 | | **8.56** | ft | 1 | 02/18/2025 11:32 | R360883 |
| Elevation of groundwater surface | * | 0 | | **529.26** | ft | 1 | 02/18/2025 11:32 | R360883 |
| Measuring Point Elevation | * | 0 | | **537.82** | ft | 1 | 02/18/2025 11:32 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.42** | ft | 1 | 02/18/2025 11:32 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.8** | NTU | 1 | 02/18/2025 11:32 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **52.0** | °F | 1 | 02/18/2025 11:32 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.21** | | 1 | 02/18/2025 11:32 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **617** | µmhos/cm @25C | 1 | 02/18/2025 11:32 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **398** | mg/L | 1 | 02/19/2025 10:59 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **0.54** | mg/L | 10 | 02/19/2025 11:34 | R360503 |
| Chloride | NELAP | 5.00 | | **33.0** | mg/L | 10 | 02/19/2025 11:34 | R360503 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/19/2025 11:34 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.137** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Boron | NELAP | 0.0200 | | **0.228** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Calcium | NELAP | 0.100 | | **64.4** | mg/L | 1 | 02/24/2025 11:35 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:12 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 12:28 | 234945 |
| Arsenic | NELAP | 0.0010 | | **0.0120** | mg/L | 5 | 02/20/2025 12:28 | 234945 |
| Lithium | * | 0.0030 | | **0.0063** | mg/L | 5 | 02/24/2025 10:01 | 234945 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 12:28 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 12:28 | 234945 |
| *LCS recovered outside upper control limitsfor Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:25 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 02/20/2025 11:42

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 02/20/2025 11:42 | R360883 |
| Depth to water | * | -5.00 | | **9.26** | ft | 1 | 02/20/2025 11:42 | R360883 |
| Depth to water from measuring point | * | 0 | | **11.92** | ft | 1 | 02/20/2025 11:42 | R360883 |
| Elevation of groundwater surface | * | 0 | | **527.10** | ft | 1 | 02/20/2025 11:42 | R360883 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 02/20/2025 11:42 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 02/20/2025 11:42 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **50** | NTU | 1 | 02/20/2025 11:42 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **53.5** | °F | 1 | 02/20/2025 11:42 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.38** | | 1 | 02/20/2025 11:42 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **795** | µmhos/cm @25C | 1 | 02/20/2025 11:42 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **430** | mg/L | 1 | 02/21/2025 14:52 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 11:39 | R360629 |
| Chloride | NELAP | 5.00 | | **51.7** | mg/L | 10 | 02/21/2025 11:39 | R360629 |
| Sulfate | NELAP | 10.0 | | **11.6** | mg/L | 10 | 02/21/2025 11:39 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.105** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Boron | NELAP | 0.0200 | | **0.244** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Calcium | NELAP | 0.100 | | **57.6** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 13:34 | 235068 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:30 | 235068 |
| Arsenic | NELAP | 0.0010 | | **0.0248** | mg/L | 5 | 02/25/2025 8:04 | 235068 |
| Lithium | * | 0.0030 | | **0.0056** | mg/L | 5 | 02/25/2025 8:04 | 235068 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:30 | 235068 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 11:30 | 235068 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:12 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 02/19/2025 12:26

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 02/19/2025 12:26 | R360883 |
| Depth to water | * | -5.00 | | **2.61** | ft | 1 | 02/19/2025 12:26 | R360883 |
| Depth to water from measuring point | * | 0 | | **5.51** | ft | 1 | 02/19/2025 12:26 | R360883 |
| Elevation of groundwater surface | * | 0 | | **531.69** | ft | 1 | 02/19/2025 12:26 | R360883 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 02/19/2025 12:26 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 02/19/2025 12:26 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.2** | NTU | 1 | 02/19/2025 12:26 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **49.2** | °F | 1 | 02/19/2025 12:26 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.89** | | 1 | 02/19/2025 12:26 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **850** | µmhos/cm @25C | 1 | 02/19/2025 12:26 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **548** | mg/L | 1.25 | 02/20/2025 11:39 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 10:39 | R360529 |
| Chloride | NELAP | 5.00 | | **22.5** | mg/L | 10 | 02/20/2025 10:39 | R360529 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/20/2025 10:39 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.355** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Boron | NELAP | 0.0200 | | **0.0784** | mg/L | 1 | 02/24/2025 10:52 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Calcium | NELAP | 0.100 | | **91.3** | mg/L | 1 | 02/24/2025 10:52 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 14:57 | 235016 |
| Arsenic | NELAP | 0.0010 | | **0.0487** | mg/L | 5 | 02/20/2025 14:57 | 235016 |
| Lithium | * | 0.0030 | | **0.0080** | mg/L | 5 | 02/20/2025 14:57 | 235016 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 14:57 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 14:57 | 235016 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 10:52 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-010
**Client Sample ID:** AP-9
**Matrix:** GROUNDWATER
**Collection Date:** 02/20/2025 12:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.70** | ft | 1 | 02/20/2025 12:16 | R360883 |
| Depth to water | * | -5.00 | | **10.19** | ft | 1 | 02/20/2025 12:16 | R360883 |
| Depth to water from measuring point | * | 0 | | **13.29** | ft | 1 | 02/20/2025 12:16 | R360883 |
| Elevation of groundwater surface | * | 0 | | **527.01** | ft | 1 | 02/20/2025 12:16 | R360883 |
| Measuring Point Elevation | * | 0 | | **540.30** | ft | 1 | 02/20/2025 12:16 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 02/20/2025 12:16 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **54** | NTU | 1 | 02/20/2025 12:16 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **52.2** | °F | 1 | 02/20/2025 12:16 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.02** | | 1 | 02/20/2025 12:16 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1080** | µmhos/cm @25C | 1 | 02/20/2025 12:16 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 200 | | **880** | mg/L | 10 | 02/21/2025 14:53 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 11:51 | R360629 |
| Chloride | NELAP | 5.00 | | **23.5** | mg/L | 10 | 02/21/2025 11:51 | R360629 |
| Sulfate | NELAP | 10.0 | | **16.1** | mg/L | 10 | 02/21/2025 11:51 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.431** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Boron | NELAP | 0.0200 | | **0.0874** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Calcium | NELAP | 0.100 | | **98.4** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 14:38 | 235068 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:36 | 235068 |
| Arsenic | NELAP | 0.0010 | | **0.0023** | mg/L | 5 | 02/25/2025 8:10 | 235068 |
| Lithium | * | 0.0030 | | **0.0064** | mg/L | 5 | 02/25/2025 8:10 | 235068 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:36 | 235068 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 11:36 | 235068 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:14 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-011
**Client Sample ID:** AP-10
**Matrix:** GROUNDWATER
**Collection Date:** 02/19/2025 12:53

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **499.43** | ft | 1 | 02/19/2025 12:53 | R360883 |
| Depth to water | * | -5.00 | | **0.94** | ft | 1 | 02/19/2025 12:53 | R360883 |
| Depth to water from measuring point | * | 0 | | **4.04** | ft | 1 | 02/19/2025 12:53 | R360883 |
| Elevation of groundwater surface | * | 0 | | **533.46** | ft | 1 | 02/19/2025 12:53 | R360883 |
| Measuring Point Elevation | * | 0 | | **537.50** | ft | 1 | 02/19/2025 12:53 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 02/19/2025 12:53 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.5** | NTU | 1 | 02/19/2025 12:53 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **49.5** | °F | 1 | 02/19/2025 12:53 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.67** | | 1 | 02/19/2025 12:53 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1090** | µmhos/cm @25C | 1 | 02/19/2025 12:53 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **788** | mg/L | 1.25 | 02/20/2025 11:39 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 10:51 | R360529 |
| Chloride | NELAP | 5.00 | | **24.4** | mg/L | 10 | 02/20/2025 10:51 | R360529 |
| Sulfate | NELAP | 10.0 | | **84.4** | mg/L | 10 | 02/20/2025 10:51 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.565** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Boron | NELAP | 0.0200 | | **3.36** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Calcium | NELAP | 0.100 | | **127** | mg/L | 1 | 02/24/2025 10:52 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:40 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 15:03 | 235016 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 15:03 | 235016 |
| Lithium | * | 0.0030 | | **0.0082** | mg/L | 5 | 02/20/2025 15:03 | 235016 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 15:03 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 15:03 | 235016 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 10:54 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-012
**Client Sample ID:** AP-11
**Matrix:** GROUNDWATER
**Collection Date:** 02/20/2025 11:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.15** | ft | 1 | 02/20/2025 11:56 | R360883 |
| Depth to water | * | -5.00 | | **12.44** | ft | 1 | 02/20/2025 11:56 | R360883 |
| Depth to water from measuring point | * | 0 | | **15.24** | ft | 1 | 02/20/2025 11:56 | R360883 |
| Elevation of groundwater surface | * | 0 | | **522.86** | ft | 1 | 02/20/2025 11:56 | R360883 |
| Measuring Point Elevation | * | 0 | | **538.10** | ft | 1 | 02/20/2025 11:56 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 02/20/2025 11:56 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 02/20/2025 11:56 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **48.9** | °F | 1 | 02/20/2025 11:56 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.40** | | 1 | 02/20/2025 11:56 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **706** | µmhos/cm @25C | 1 | 02/20/2025 11:56 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **740** | mg/L | 1 | 02/21/2025 14:54 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 12:37 | R360629 |
| Chloride | NELAP | 5.00 | | **95.1** | mg/L | 10 | 02/21/2025 12:37 | R360629 |
| Sulfate | NELAP | 10.0 | | **65.5** | mg/L | 10 | 02/21/2025 12:37 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.134** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Boron | NELAP | 0.0200 | | **0.221** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Calcium | NELAP | 0.100 | | **135** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 14:39 | 235068 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:41 | 235068 |
| Arsenic | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 02/25/2025 8:15 | 235068 |
| Lithium | * | 0.0030 | | **0.0040** | mg/L | 5 | 02/25/2025 8:15 | 235068 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:41 | 235068 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 11:41 | 235068 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:21 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-013
**Client Sample ID:** AP-12
**Matrix:** GROUNDWATER
**Collection Date:** 02/20/2025 13:06

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **510.30** | ft | 1 | 02/20/2025 13:06 | R360883 |
| Depth to water | * | -5.00 | | **15.18** | ft | 1 | 02/20/2025 13:06 | R360883 |
| Depth to water from measuring point | * | 0 | | **18.08** | ft | 1 | 02/20/2025 13:06 | R360883 |
| Elevation of groundwater surface | * | 0 | | **522.62** | ft | 1 | 02/20/2025 13:06 | R360883 |
| Measuring Point Elevation | * | 0 | | **540.70** | ft | 1 | 02/20/2025 13:06 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 02/20/2025 13:06 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.6** | NTU | 1 | 02/20/2025 13:06 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **51.3** | °F | 1 | 02/20/2025 13:06 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 02/20/2025 13:06 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1020** | µmhos/cm @25C | 1 | 02/20/2025 13:06 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1250** | mg/L | 1 | 02/21/2025 14:54 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 12:49 | R360629 |
| Chloride | NELAP | 5.00 | | **114** | mg/L | 10 | 02/21/2025 12:49 | R360629 |
| Sulfate | NELAP | 10.0 | | **433** | mg/L | 10 | 02/21/2025 12:49 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0450** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Boron | NELAP | 0.0200 | | **0.0217** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Calcium | NELAP | 0.100 | | **197** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 14:41 | 235068 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:47 | 235068 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 8:21 | 235068 |
| Lithium | * | 0.0030 | | **0.0057** | mg/L | 5 | 02/25/2025 8:21 | 235068 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:47 | 235068 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 11:47 | 235068 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:28 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-014 **Client Sample ID:** AP-13

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 13:41

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.00** | ft | 1 | 02/20/2025 13:41 | R360883 |
| Depth to water | * | -5.00 | | **15.04** | ft | 1 | 02/20/2025 13:41 | R360883 |
| Depth to water from measuring point | * | 0 | | **18.44** | ft | 1 | 02/20/2025 13:41 | R360883 |
| Elevation of groundwater surface | * | 0 | | **523.56** | ft | 1 | 02/20/2025 13:41 | R360883 |
| Measuring Point Elevation | * | 0 | | **542.00** | ft | 1 | 02/20/2025 13:41 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.40** | ft | 1 | 02/20/2025 13:41 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.7** | NTU | 1 | 02/20/2025 13:41 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **50.7** | °F | 1 | 02/20/2025 13:41 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.69** | | 1 | 02/20/2025 13:41 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **527** | µmhos/cm @25C | 1 | 02/20/2025 13:41 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 200 | | **620** | mg/L | 10 | 02/21/2025 14:55 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 13:01 | R360629 |
| Chloride | NELAP | 5.00 | | **26.8** | mg/L | 10 | 02/21/2025 13:01 | R360629 |
| Sulfate | NELAP | 10.0 | | **94.5** | mg/L | 10 | 02/21/2025 13:01 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.118** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Boron | NELAP | 0.0200 | | **0.0369** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Calcium | NELAP | 0.100 | S | **101** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 14:42 | 235068 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 13:26 | 235068 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 8:32 | 235068 |
| Lithium | * | 0.0030 | | **0.0088** | mg/L | 5 | 02/25/2025 8:32 | 235068 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 13:26 | 235068 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 13:26 | 235068 |
| *CCV recovered outside the upper control limits for Se. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:30 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power
**Work Order:** 25020749
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 31-Mar-25
**Lab ID:** 25020749-016
**Client Sample ID:** T-1
**Matrix:** GROUNDWATER
**Collection Date:** 02/20/2025 14:13

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **512.70** | ft | 1 | 02/20/2025 14:13 | R360883 |
| Depth to water | * | -5.00 | | **13.51** | ft | 1 | 02/20/2025 14:13 | R360883 |
| Depth to water from measuring point | * | 0 | | **13.84** | ft | 1 | 02/20/2025 14:13 | R360883 |
| Elevation of groundwater surface | * | 0 | | **521.81** | ft | 1 | 02/20/2025 14:13 | R360883 |
| Measuring Point Elevation | * | 0 | | **535.65** | ft | 1 | 02/20/2025 14:13 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **0.33** | ft | 1 | 02/20/2025 14:13 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 02/20/2025 14:13 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **50.6** | °F | 1 | 02/20/2025 14:13 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.59** | | 1 | 02/20/2025 14:13 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **955** | µmhos/cm @25C | 1 | 02/20/2025 14:13 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1010** | mg/L | 1 | 02/21/2025 14:56 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 13:36 | R360629 |
| Chloride | NELAP | 5.00 | | **220** | mg/L | 10 | 02/21/2025 13:36 | R360629 |
| Sulfate | NELAP | 10.0 | | **163** | mg/L | 10 | 02/21/2025 13:36 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0691** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Boron | NELAP | 0.0200 | | **0.170** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Calcium | NELAP | 0.100 | | **157** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/25/2025 11:20 | 235106 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 13:09 | 235106 |
| Arsenic | NELAP | 0.0010 | | **0.0023** | mg/L | 5 | 02/24/2025 13:09 | 235106 |
| Lithium | * | 0.0030 | | **0.0142** | mg/L | 5 | 02/25/2025 8:27 | 235106 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 8:27 | 235106 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 13:09 | 235106 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:32 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-017 **Client Sample ID:** T-2

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 12:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.18** | ft | 1 | 02/20/2025 12:30 | R360883 |
| Depth to water | * | -5.00 | | **23.25** | ft | 1 | 02/20/2025 12:30 | R360883 |
| Depth to water from measuring point | * | 0 | | **25.65** | ft | 1 | 02/20/2025 12:30 | R360883 |
| Elevation of groundwater surface | * | 0 | | **523.97** | ft | 1 | 02/20/2025 12:30 | R360883 |
| Measuring Point Elevation | * | 0 | | **549.62** | ft | 1 | 02/20/2025 12:30 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.40** | ft | 1 | 02/20/2025 12:30 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **11** | NTU | 1 | 02/20/2025 12:30 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **50.0** | °F | 1 | 02/20/2025 12:30 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.53** | | 1 | 02/20/2025 12:30 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1290** | µmhos/cm @25C | 1 | 02/20/2025 12:30 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1270** | mg/L | 1 | 02/21/2025 14:57 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 13:47 | R360629 |
| Chloride | NELAP | 5.00 | | **500** | mg/L | 10 | 02/21/2025 13:47 | R360629 |
| Sulfate | NELAP | 10.0 | | **135** | mg/L | 10 | 02/21/2025 13:47 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.217** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Boron | NELAP | 0.0200 | | **0.0466** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Calcium | NELAP | 0.100 | | **210** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 10:02 | 235106 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 13:14 | 235106 |
| Arsenic | NELAP | 0.0010 | | **0.0073** | mg/L | 5 | 02/24/2025 13:14 | 235106 |
| Lithium | * | 0.0030 | | **0.0314** | mg/L | 5 | 02/25/2025 9:53 | 235106 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 9:53 | 235106 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 13:14 | 235106 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:35 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-018 **Client Sample ID:** T-4

**Matrix:** GROUNDWATER **Collection Date:** 02/19/2025 14:00

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **521.52** | ft | 1 | 02/19/2025 14:00 | R360883 |
| Depth to water | * | -5.00 | | **16.03** | ft | 1 | 02/19/2025 14:00 | R360883 |
| Depth to water from measuring point | * | 0 | | **18.41** | ft | 1 | 02/19/2025 14:00 | R360883 |
| Elevation of groundwater surface | * | 0 | | **530.53** | ft | 1 | 02/19/2025 14:00 | R360883 |
| Measuring Point Elevation | * | 0 | | **548.94** | ft | 1 | 02/19/2025 14:00 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.38** | ft | 1 | 02/19/2025 14:00 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **56** | NTU | 1 | 02/19/2025 14:00 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **49.4** | °F | 1 | 02/19/2025 14:00 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 02/19/2025 14:00 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **520** | µmhos/cm @25C | 1 | 02/19/2025 14:00 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **472** | mg/L | 1 | 02/20/2025 11:40 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 11:02 | R360529 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 02/20/2025 11:02 | R360529 |
| Sulfate | NELAP | 10.0 | | **121** | mg/L | 10 | 02/20/2025 11:02 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0500** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| Boron | NELAP | 0.0200 | | **0.0454** | mg/L | 1 | 02/24/2025 10:54 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| Calcium | NELAP | 0.100 | | **89.2** | mg/L | 1 | 02/24/2025 10:54 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| Cobalt | NELAP | 0.0050 | | **0.0052** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:41 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 15:09 | 235016 |
| Arsenic | NELAP | 0.0010 | | **0.0049** | mg/L | 5 | 02/20/2025 15:09 | 235016 |
| Lithium | * | 0.0030 | | **0.0147** | mg/L | 5 | 02/20/2025 15:09 | 235016 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 15:09 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 15:09 | 235016 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 10:56 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-019 **Client Sample ID:** T-5

**Matrix:** GROUNDWATER **Collection Date:** 02/19/2025 12:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **518.32** | ft | 1 | 02/19/2025 12:29 | R360883 |
| Depth to water | * | -5.00 | | **5.48** | ft | 1 | 02/19/2025 12:29 | R360883 |
| Depth to water from measuring point | * | 0 | | **7.99** | ft | 1 | 02/19/2025 12:29 | R360883 |
| Elevation of groundwater surface | * | 0 | | **532.67** | ft | 1 | 02/19/2025 12:29 | R360883 |
| Measuring Point Elevation | * | 0 | | **540.66** | ft | 1 | 02/19/2025 12:29 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.51** | ft | 1 | 02/19/2025 12:29 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.7** | NTU | 1 | 02/19/2025 12:29 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **43.1** | °F | 1 | 02/19/2025 12:29 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.72** | | 1 | 02/19/2025 12:29 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **448** | µmhos/cm @25C | 1 | 02/19/2025 12:29 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **374** | mg/L | 1 | 02/20/2025 11:40 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 11:37 | R360529 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 02/20/2025 11:37 | R360529 |
| Sulfate | NELAP | 10.0 | | **40.7** | mg/L | 10 | 02/20/2025 11:37 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0535** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Boron | NELAP | 0.0200 | | **0.0608** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Calcium | NELAP | 0.100 | | **70.1** | mg/L | 1 | 02/24/2025 11:08 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:42 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 15:16 | 235016 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/21/2025 16:26 | 235016 |
| Lithium | * | 0.0030 | | **0.0101** | mg/L | 5 | 02/20/2025 15:16 | 235016 |
| Selenium | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 02/21/2025 16:26 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 15:16 | 235016 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 10:59 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020749

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 31-Mar-25

**Lab ID:** 25020749-020 **Client Sample ID:** T-6

**Matrix:** GROUNDWATER **Collection Date:** 02/19/2025 13:00

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.70** | ft | 1 | 02/19/2025 13:00 | R360883 |
| Depth to water | * | -5.00 | | **7.44** | ft | 1 | 02/19/2025 13:00 | R360883 |
| Depth to water from measuring point | * | 0 | | **9.80** | ft | 1 | 02/19/2025 13:00 | R360883 |
| Elevation of groundwater surface | * | 0 | | **528.52** | ft | 1 | 02/19/2025 13:00 | R360883 |
| Measuring Point Elevation | * | 0 | | **538.32** | ft | 1 | 02/19/2025 13:00 | R360883 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.36** | ft | 1 | 02/19/2025 13:00 | R360883 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **29** | NTU | 1 | 02/19/2025 13:00 | R360883 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **45.9** | °F | 1 | 02/19/2025 13:00 | R360883 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.30** | | 1 | 02/19/2025 13:00 | R360883 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **661** | µmhos/cm @25C | 1 | 02/19/2025 13:00 | R360883 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **530** | mg/L | 1 | 02/20/2025 11:41 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 11:49 | R360529 |
| Chloride | NELAP | 5.00 | | **18.9** | mg/L | 10 | 02/20/2025 11:49 | R360529 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/20/2025 11:49 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.166** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Boron | NELAP | 0.0200 | | **0.187** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Calcium | NELAP | 0.100 | | **82.2** | mg/L | 1 | 02/24/2025 11:08 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:43 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 16:06 | 235016 |
| Arsenic | NELAP | 0.0010 | | **0.0037** | mg/L | 5 | 02/20/2025 16:06 | 235016 |
| Lithium | * | 0.0030 | | **0.0098** | mg/L | 5 | 02/20/2025 16:06 | 235016 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 16:06 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 16:06 | 235016 |
| *CCV recovered outside the upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 11:01 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25020749
**Report Date:** 31-Mar-25

**Carrier:** Justin Colp

**Received By:** AMD

**Completed by:** Amber Dilallo
**On:** 18-Feb-25

**Reviewed by:** Ellie Hopkins
**On:** 21-Feb-25

**Pages to follow:** Chain of custody 6 Extra pages included 61

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 9.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 2/18/25 at 1500 on ice [9.9, 11.5C - LTG#5]. pH strip #101358. - NR/amberdilallo - 2/18/2025 3:21:57 PM

Samples were received on 2/19/25 at 1550 on ice [6.9C - LTG#9]. pH strip #101358. - CF/amberdilallo - 2/19/2025 4:10:24 PM

Samples were received on 2/20/25 at 15:55 on ice [temp5.5C, 6.7 - LTG#9]. pH# 101358. Added nitric acid (102194) to AP-7 and AP-9. - EK/lhenson - 2/20/2025 4:21:47 PM

Sample AP-14 COC was received on 12/21/25 at 1222. No sample due to location being frozen. - lhenson - 2/21/2025 12:55:27 PM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020749

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE #1 9.8 °C #2 11.5 #5
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 10/35 8 2/18

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020749-001 | RW-3 | 2-18-25 / 1200 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 2-18-25 / 1238 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | 2-18-25 / 1315 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 2-18-25 / 1038 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | 2-18-25 / 1010 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | 2-18-25 / 1132 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 2-18-25 1500 | [illegible] | 2/18/25 1500 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020749

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 6.9 °C #9
Preserved in: [ ] LAB [X] FIELD
LAB NOTES: PH✓101358

FOR LAB USE ONLY
CF 2/19/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Gilp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020749-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | 2-19-25 / 1154 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | 2-19-25 / 1226 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | 2-19-25 / 1253 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 2-19 / 1550 | Carli Fenton | 2/19/25 15:50 |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25020749

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Culp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020749-012 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | 2-14-25 / 1400 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | 2-14-25 / 1229 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | 2-14-25 / 1300 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [illegible] SO | 2-19 / 1550 | [signature] | 2/19/25 15:00 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020749

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

5.5

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 6.7 °C (9)
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (102194) to AP-7 2liter and PH/101358 AP-9 2 liter. Ex 2/20/2025

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Cdp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020749-001 | RW-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | 7-20-25 / 1142 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | 7-20-25 / 1216 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 2-20 / 1555 | | 2/20/25 1555 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25020749

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Culp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020749-012 | AP-11 | 2/20/25 1156 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 2/20/25 1306 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 2/20/25 1341 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | 2/20/25 1413 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | 2/20/25 1230 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 2-20/1555 | [signature] | 2/20/25 1555 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25020749

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE NA °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Culp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020749-012 | AP-11 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 NO Sample | 2-21-25 / Frozen | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 Frozen @ 2.24) | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Jeremy Cantrell | 2/21/25 1222 | Emily Kassakoski | 2/21/25 1222 |

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# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/18/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 8 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | No |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 11:44

Static Water Level: 9.56 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 34.45 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.45 ft. x 0.022 = 0.76 L x 3 Vol. = 2.28 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: lt brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:45 | 0.0 | 333 | purge start time | | | | | | |
| 11:48 | 1.0 | ↓ | 7.08 | 616.30 | 11.66 | 1.23 | -125.20 | 41.78 | |
| 11:51 | 2.0 | | 7.08 | 629.50 | 11.89 | 0.70 | -143.50 | 48.63 | |
| 11:54 | 3.0 | | 7.09 | 631.70 | 11.94 | 0.58 | -151.00 | 29.58 | |
| 11:57 | 4.0 | | 7.10 | 629.70 | 11.94 | 0.54 | -154.20 | 25.24 | |
| 12:00 | 5.0 | | 7.10 | 622.80 | 11.96 | 0.54 | -154.20 | 20.73 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 12:00

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.10 pH 622.80 Spec. Cond. 11.96 Temp

Field Filtered: No Filter Type:

Water Level: 15.15 feet below TOC Drawdown: 5.59 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** AP-1
**Sample ID:** 002
**Date (s):** 2/18/2025

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 10 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 12:18
Static Water Level: 10.79 feet below TOC
Total Depth: 31.08 feet below TOC
Water Column: 20.29 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 20.29 ft. x 0.022 = 0.45 L x 3 Vol. = 1.35 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.50 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:18 | 0.0 | 325 | purge start time | | | | | | |
| 12:23 | 1.6 | ↓ | 6.54 | 1,482.30 | 12.09 | 1.18 | -66.20 | 25.12 | |
| 12:26 | 2.6 | | 6.53 | 1,548.60 | 12.40 | 0.76 | -78.00 | 22.97 | |
| 12:29 | 3.6 | | 6.53 | 1,599.00 | 12.40 | 0.59 | -84.80 | 28.22 | |
| 12:32 | 4.6 | | 6.54 | 1,644.70 | 12.49 | 0.54 | -88.60 | 24.22 | |
| 12:35 | 5.5 | | 6.55 | 1,666.90 | 12.48 | 0.52 | -91.20 | 21.71 | |
| 12:38 | 6.5 | | 6.55 | 1,674.70 | 12.64 | 0.49 | -93.10 | 16.80 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 12:38
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.55 pH 1,674.70 Spec. Cond. 12.64 Temp
Field Filtered: No Filter Type:
Water Level: 11.14 feet below TOC Drawdown: 0.35 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/18/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 11 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 12:49

Static Water Level: 7.87 feet below TOC

Total Depth: 21.33 feet below TOC

Water Column: 13.46 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 13.46 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: lt brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:50 | 0.0 | 320 | purge start time | | | | | | |
| 12:57 | 2.2 | ↓ | 6.45 | 1,232.60 | 10.86 | 0.94 | 6.10 | 135.27 | |
| 13:00 | 3.2 | | 6.45 | 1,236.30 | 10.82 | 0.78 | 9.00 | 86.86 | |
| 13:03 | 4.2 | | 6.44 | 1,238.60 | 11.21 | 0.69 | 10.50 | 62.32 | |
| 13:06 | 5.1 | | 6.44 | 1,238.00 | 11.62 | 0.63 | 11.50 | 43.73 | |
| 13:09 | 6.1 | | 6.44 | 1,245.20 | 11.08 | 0.60 | 12.40 | 32.16 | |
| 13:12 | 7.0 | | 6.44 | 1,248.50 | 11.15 | 0.57 | 13.10 | 29.84 | |
| 13:15 | 8.0 | | 6.44 | 1,254.10 | 11.29 | 0.56 | 13.50 | 25.46 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 13:15

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.44 pH 1,254.10 Spec. Cond. 11.29 Temp

Field Filtered: No Filter Type:

Water Level: 7.94 feet below TOC Drawdown: 0.07 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** AP-3
**Sample ID:** 004
**Date (s):** 2/19/2025

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 14 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 11:09
Static Water Level: 9.75 feet below TOC
Total Depth: 20.80 feet below TOC
Water Column: 11.05 feet

**Purging Activities**

Purged By: JC — Purge Date: 2/19/2025
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 11.05 ft. x 0.022 = 0.24 L x 3 Vol. = 0.72 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 14.00 L
Physical appearance of purge water: Cloudy — Odor: None — Color: lt brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:09 | 0.0 | 311 | purge start time | | | | | | |
| 11:15 | 1.9 | ↓ | 6.48 | 1,265.80 | 11.69 | 1.24 | -23.70 | 267.20 | |
| 11:18 | 2.8 | | 6.49 | 1,263.40 | 11.69 | 1.17 | -33.90 | 240.68 | |
| 11:21 | 3.7 | | 6.51 | 1,262.30 | 11.63 | 1.16 | -43.20 | 217.87 | |
| 11:24 | 4.7 | | 6.52 | 1,261.30 | 11.49 | 1.11 | -48.00 | 203.38 | |
| 11:27 | 5.6 | | 6.53 | 1,261.40 | 11.53 | 1.02 | -51.50 | 187.54 | |
| 11:30 | 6.5 | | 6.53 | 1,261.50 | 11.52 | 0.96 | -52.80 | 180.34 | |
| 11:33 | 7.5 | | 6.54 | 1,261.10 | 11.38 | 0.92 | -54.00 | 159.27 | |
| 11:36 | 8.4 | | 6.54 | 1,263.20 | 11.22 | 0.88 | -53.90 | 133.35 | |
| 11:39 | 9.3 | | 6.54 | 1,261.50 | 11.22 | 0.85 | -55.10 | 117.37 | |
| 11:42 | 10.3 | | 6.54 | 1,263.30 | 11.12 | 0.81 | -56.20 | 101.61 | |
| 11:45 | 11.2 | | 6.54 | 1,264.30 | 11.35 | 0.78 | -56.40 | 84.49 | |
| 11:48 | 12.1 | | 6.54 | 1,264.70 | 11.42 | 0.75 | -56.40 | 73.00 | |
| 11:51 | 13.1 | | 6.54 | 1,265.30 | 11.25 | 0.73 | -56.80 | 62.82 | |
| 11:54 | 14.0 | | 6.54 | 1,266.60 | 11.18 | 0.70 | -57.00 | 60.69 | |

Sampled By: JC — Sample Date/Time: 2/19/2025 11:54
Sample Method: Low Flow — Sample Equipment: Bladder Pump
Sample Parameters: 6.54 pH — 1,266.60 Spec. Cond. — 11.18 Temp
Field Filtered: No — Filter Type:
Water Level: 9.96 feet below TOC — Drawdown: 0.21 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp — **Date:** 2/19/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/18/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 7 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | No | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 10:21

Static Water Level: 10.68 feet below TOC

Total Depth: 60.41 feet below TOC

Water Column: 49.73 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 49.73 ft. x 0.022 = 1.09 L x 3 Vol. = 3.27 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:22 | 0.0 | 250 | purge start time | | | | | | |
| 10:26 | 1.0 | ↓ | 6.74 | 776.20 | 12.00 | 2.48 | -105.00 | 12.85 | |
| 10:29 | 1.8 | | 6.76 | 782.80 | 12.64 | 1.51 | -118.20 | 16.19 | |
| 10:32 | 2.5 | | 6.77 | 785.10 | 12.68 | 1.20 | -123.00 | 18.55 | |
| 10:35 | 3.3 | | 6.77 | 787.50 | 12.80 | 1.11 | -124.60 | 18.39 | |
| 10:38 | 4.0 | | 6.78 | 786.10 | 12.66 | 1.05 | -124.80 | 18.11 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 10:38

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.78 pH 786.10 Spec. Cond. 12.66 Temp

Field Filtered: No Filter Type:

Water Level: 12.75 feet below TOC Drawdown: 2.07 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 006 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/18/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 5 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 9:48

Static Water Level: 14.98 feet below TOC

Total Depth: 31.27 feet below TOC

Water Column: 16.29 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.29 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:49 | 0.0 | 286 | purge start time | | | | | | |
| 9:55 | 1.7 | ↓ | 6.91 | 658.60 | 11.72 | 4.61 | 64.20 | 19.89 | |
| 9:58 | 2.6 | | 6.87 | 656.90 | 11.63 | 3.84 | 71.90 | 12.78 | |
| 10:01 | 3.4 | | 6.84 | 658.50 | 11.78 | 3.02 | 76.70 | 7.32 | |
| 10:04 | 4.3 | | 6.83 | 660.70 | 11.77 | 2.58 | 80.10 | 4.36 | |
| 10:07 | 5.1 | | 6.83 | 661.30 | 11.79 | 2.38 | 82.50 | 3.23 | |
| 10:10 | 6.0 | | 6.83 | 662.20 | 11.89 | 2.21 | 84.40 | 2.68 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 10:10

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.83 pH 662.20 Spec. Cond. 11.89 Temp

Field Filtered: No Filter Type:

Water Level: 18.70 feet below TOC Drawdown: 3.72 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-6 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 007 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/18/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 8 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | No | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 10:56

Static Water Level: 8.56 feet below TOC

Total Depth: 39.62 feet below TOC

Water Column: 31.06 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 31.06 ft. x 0.022 = 0.68 L x 3 Vol. = 2.04 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.50 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:56 | 0.0 | 208 | purge start time | | | | | | |
| 11:02 | 1.3 | ↓ | 7.20 | 614.50 | 9.77 | 3.90 | -73.00 | 36.81 | |
| 11:05 | 1.9 | | 7.22 | 615.40 | 10.12 | 4.55 | -70.70 | 31.77 | |
| 11:08 | 2.5 | | 7.25 | 613.60 | 10.57 | 4.83 | -68.90 | 25.13 | |
| 11:11 | 3.1 | | 7.25 | 613.60 | 10.67 | 5.01 | -67.80 | 19.54 | |
| 11:14 | 3.8 | | 7.24 | 613.70 | 10.75 | 4.95 | -68.90 | 18.49 | |
| 11:17 | 4.4 | | 7.26 | 615.30 | 10.92 | 5.14 | -67.70 | 14.87 | |
| 11:20 | 5.0 | | 7.26 | 614.70 | 10.79 | 5.17 | -68.30 | 11.14 | |
| 11:23 | 5.6 | | 7.24 | 615.30 | 10.85 | 5.06 | -69.90 | 10.77 | |
| 11:26 | 6.3 | | 7.21 | 617.30 | 10.88 | 4.72 | -72.10 | 9.47 | |
| 11:29 | 6.9 | | 7.21 | 617.20 | 10.92 | 4.60 | -73.00 | 7.96 | |
| 11:32 | 7.5 | | 7.21 | 617.10 | 11.11 | 4.60 | -73.40 | 7.85 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 11:32

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.21 pH 617.10 Spec. Cond. 11.11 Temp

Field Filtered: No Filter Type:

Water Level: 16.97 feet below TOC Drawdown: 8.41 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-7 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 008 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/20/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 9 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 11:15

Static Water Level: 11.92 feet below TOC

Total Depth: 42.52 feet below TOC

Water Column: 30.60 feet

**Purging Activities**

Purged By: BG Purge Date: 2/20/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.6 ft. x 0.022 = 0.67 L x 3 Vol. = 2.01 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:15 | 0.0 | 222 | purge start time | | | | | | |
| 11:30 | 3.3 | ↓ | 7.26 | 872.00 | 9.78 | 2.36 | -136.10 | 111.37 | |
| 11:33 | 4.0 | | 7.27 | 871.80 | 9.54 | 2.24 | -132.20 | 42.04 | |
| 11:36 | 4.7 | | 7.29 | 866.10 | 8.93 | 2.21 | -127.20 | 33.54 | |
| 11:39 | 5.3 | | 7.28 | 856.30 | 11.88 | 2.19 | -122.30 | 54.03 | |
| 11:42 | 6.0 | | 7.38 | 794.90 | 11.96 | 2.95 | -94.10 | 49.55 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 2/20/2025 11:42

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.38 pH 794.90 Spec. Cond. 11.96 Temp

Field Filtered: No Filter Type:

Water Level: 12.31 feet below TOC Drawdown: 0.39 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Brett Gillihan **Date:** 2/20/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-8 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 009 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/19/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 14 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 12:06

Static Water Level: 5.51 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 34.09 feet

**Purging Activities**

Purged By: JC Purge Date: 2/19/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.09 ft. x 0.022 = 0.75 L x 3 Vol. = 2.25 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:08 | 0.0 | 250 | purge start time | | | | | | |
| 12:14 | 1.5 | ↓ | 6.93 | 838.20 | 9.24 | 1.92 | -76.40 | 18.65 | |
| 12:17 | 2.3 | | 6.90 | 847.00 | 9.34 | 1.32 | -92.70 | 12.70 | |
| 12:20 | 3.0 | | 6.90 | 847.90 | 9.43 | 1.11 | -101.10 | 12.19 | |
| 12:23 | 3.8 | | 6.89 | 848.00 | 9.30 | 1.01 | -106.00 | 10.08 | |
| 12:26 | 4.5 | | 6.89 | 850.10 | 9.55 | 0.94 | -109.30 | 8.25 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/19/2025 12:26

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.89 pH 850.10 Spec. Cond. 9.55 Temp

Field Filtered: No Filter Type:

Water Level: 5.77 feet below TOC Drawdown: 0.26 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/19/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-9 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/20/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 11:57

Static Water Level: 13.29 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 26.31 feet

**Purging Activities**

Purged By: BG Purge Date: 2/20/2025

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 26.31 ft. x 0.022 = 0.58 L x 3 Vol. = 1.74 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Cloudy Odor: None Color: lt brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:57 | 0.0 | 263 | purge start time | | | | | | |
| 12:04 | 1.8 | ↓ | 6.98 | 1,096.40 | 10.34 | 3.25 | -90.70 | 168.56 | |
| 12:07 | 2.6 | | 6.98 | 1,098.40 | 12.29 | 2.69 | -90.80 | 120.20 | |
| 12:10 | 3.4 | | 7.01 | 1,091.40 | 12.02 | 2.39 | -89.30 | 91.39 | |
| 12:13 | 4.2 | | 7.02 | 1,092.20 | 11.18 | 2.21 | -89.00 | 71.61 | |
| 12:16 | 5.0 | | 7.02 | 1,081.10 | 11.21 | 2.08 | -89.50 | 53.93 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/20/2025 12:16

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 7.02 pH 1,081.10 Spec. Cond. 11.21 Temp

Field Filtered: No Filter Type:

Water Level: 13.91 feet below TOC Drawdown: 0.62 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Brett Gillihan **Date:** 2/20/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-10 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 011 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/19/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 14 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 12:36

Static Water Level: 4.04 feet below TOC

Total Depth: 38.07 feet below TOC

Water Column: 34.03 feet

**Purging Activities**

Purged By: JC Purge Date: 2/19/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.03 ft. x 0.022 = 0.75 L x 3 Vol. = 2.25 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:37 | 0.0 | 250 | purge start time | | | | | | |
| 12:41 | 1.0 | ↓ | 6.68 | 1,079.40 | 9.00 | 2.66 | -72.40 | 68.13 | |
| 12:44 | 1.8 | | 6.66 | 1,083.70 | 9.47 | 1.66 | -79.70 | 21.50 | |
| 12:47 | 2.5 | | 6.66 | 1,088.80 | 9.83 | 1.43 | -83.50 | 11.10 | |
| 12:50 | 3.3 | | 6.67 | 1,088.00 | 9.66 | 1.32 | -85.50 | 7.80 | |
| 12:53 | 4.0 | | 6.67 | 1,088.50 | 9.73 | 1.26 | -86.70 | 6.46 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/19/2025 12:53

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.67 pH 1,088.50 Spec. Cond. 9.73 Temp

Field Filtered: No Filter Type:

Water Level: 4.29 feet below TOC Drawdown: 0.25 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/19/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** AP-11
**Sample ID:** 012
**Date (s):** 2/20/2025

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 7 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 11:26
Static Water Level: 15.24 feet below TOC
Total Depth: 22.95 feet below TOC
Water Column: 7.71 feet

**Purging Activities**

Purged By: TC Purge Date: 2/20/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 7.71 ft. x 0.022 = 0.17 L x 3 Vol. = 0.51 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:38 | 0.0 | 167 | purge start time | | | | | | |
| 11:41 | 0.5 | ↓ | 6.45 | 724.10 | 9.45 | 3.35 | 78.00 | 29.66 | |
| 11:44 | 1.0 | | 6.42 | 707.90 | 8.95 | 2.93 | 75.80 | 28.00 | |
| 11:47 | 1.5 | | 6.41 | 709.10 | 8.94 | 2.60 | 70.70 | 21.52 | |
| 11:50 | 2.0 | | 6.40 | 707.90 | 9.17 | 2.26 | 54.60 | 19.19 | |
| 11:53 | 2.5 | | 6.40 | 707.90 | 9.51 | 1.98 | 32.40 | 18.77 | |
| 11:56 | 3.0 | | 6.40 | 706.50 | 9.41 | 1.74 | 16.20 | 13.71 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/20/2025 11:56
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.40 pH 706.50 Spec. Cond. 9.41 Temp
Field Filtered: No Filter Type:
Water Level: 15.93 feet below TOC Drawdown: 0.69 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/20/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** AP-12
**Sample ID:** 013
**Date (s):** 2/20/2025

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 11 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 12:44
Static Water Level: 18.08 feet below TOC
Total Depth: 30.40 feet below TOC
Water Column: 12.32 feet

**Purging Activities**

Purged By: TC Purge Date: 2/20/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 12.32 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:45 | 0.0 | 190 | purge start time | | | | | | |
| 12:57 | 2.3 | ↓ | 6.57 | 1,024.90 | 10.79 | 1.91 | -52.60 | 15.33 | |
| 13:00 | 2.9 | | 6.56 | 1,024.50 | 10.74 | 1.70 | -53.80 | 12.53 | |
| 13:03 | 3.4 | | 6.55 | 1,022.70 | 10.66 | 1.60 | -54.60 | 10.49 | |
| 13:06 | 4.0 | | 6.55 | 1,022.00 | 10.72 | 1.53 | -55.20 | 8.58 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/20/2025 13:06
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.55 pH 1,022.00 Spec. Cond. 10.72 Temp
Field Filtered: No Filter Type:
Water Level: 19.31 feet below TOC Drawdown: 1.23 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/20/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** AP-13
**Sample ID:** 014
**Date (s):** 2/20/2025

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 11 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 13:14
Static Water Level: 18.44 feet below TOC
Total Depth: 31.00 feet below TOC
Water Column: 12.56 feet

**Purging Activities**

Purged By: TC Purge Date: 2/20/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 12.56 ft. x 0.022 = 0.28 L x 3 Vol. = 0.84 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:15 | 0.0 | 192 | purge start time | | | | | | |
| 13:29 | 2.7 | ↓ | 6.70 | 519.20 | 10.47 | 2.60 | -90.70 | 38.40 | |
| 13:32 | 3.3 | | 6.70 | 521.30 | 10.48 | 2.46 | -91.60 | 19.92 | |
| 13:35 | 3.8 | | 6.69 | 521.70 | 10.58 | 2.33 | -93.50 | 11.64 | |
| 13:38 | 4.4 | | 6.69 | 525.80 | 10.62 | 2.24 | -93.80 | 23.94 | |
| 13:41 | 5.0 | | 6.69 | 527.20 | 10.40 | 2.20 | -94.70 | 6.69 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/20/2025 13:41
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.69 pH 527.20 Spec. Cond. 10.40 Temp
Field Filtered: No Filter Type:
Water Level: 19.71 feet below TOC Drawdown: 1.27 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/20/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** AP-14
**Sample ID:** 015
**Date (s):**

**Field Team Members**

Name: _____ Affiliation: _____
Name: _____ Affiliation: _____

**Weather Conditions**

Temp: _____ °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

Well Pad _____
Casing _____
Protective Casing _____
Reference Mark/Identification _____

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | |
| Well | | |

**Groundwater Level Measurements**

Date/Time Measured: _____
Static Water Level: _____ feet below TOC
Total Depth: _____ feet below TOC
Water Column: _____ feet

**Purging Activities**

Purged By: _____ Purge Date: _____
Purge Method: _____ Well Diameter: _____
Purge Volume Calculation (L): _____
Actual Purge Volume (L): _____
Physical appearance of purge water: _____ Odor: _____ Color: _____

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

**Sampling Activities**

Sampled By: _____ Sample Date/Time: _____
Sample Method: _____ Sample Equipment: _____
Sample Parameters: _____ pH _____ Spec. Cond. _____ Temp
Field Filtered: _____ Filter Type: _____
Water Level: _____ feet below TOC Drawdown: _____ feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Well/tubing frozen in place. Unable to sample

**Form Completed By:** _____ **Date:** _____

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-1 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 016 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/20/2025 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 11 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 13:50

Static Water Level: 13.84 feet below TOC

Total Depth: 22.95 feet below TOC

Water Column: 9.11 feet

**Purging Activities**

Purged By: TC Purge Date: 2/20/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 9.11 ft. x 0.022 = 0.2 L x 3 Vol. = 0.6 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:50 | 0.0 | 261 | purge start time | | | | | | |
| 14:01 | 2.9 | ↓ | 6.58 | 932.50 | 10.07 | 3.87 | -29.90 | 19.38 | |
| 14:04 | 3.7 | | 6.58 | 942.60 | 10.06 | 3.84 | -26.10 | 16.97 | |
| 14:07 | 4.4 | | 6.59 | 948.40 | 10.12 | 3.86 | -22.90 | 18.85 | |
| 14:10 | 5.2 | | 6.59 | 951.80 | 10.16 | 3.76 | -19.60 | 13.32 | |
| 14:13 | 6.0 | | 6.59 | 954.80 | 10.33 | 3.89 | -16.60 | 11.88 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/20/2025 14:13

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.59 pH 954.80 Spec. Cond. 10.33 Temp

Field Filtered: No Filter Type:

Water Level: 14.61 feet below TOC Drawdown: 0.77 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/20/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** T-2
**Sample ID:** 017
**Date (s):** 2/20/2025

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 11 °F Wind Direction: ☑ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 12:10
Static Water Level: 25.65 feet below TOC
Total Depth: 34.44 feet below TOC
Water Column: 8.79 feet

**Purging Activities**

Purged By: TC Purge Date: 2/20/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 8.79 ft. x 0.022 = 0.19 L x 3 Vol. = 0.57 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:10 | 0.0 | 250 | purge start time | | | | | | |
| 12:15 | 1.3 | ↓ | 6.53 | 1,306.30 | 9.67 | 1.31 | -71.60 | 14.98 | |
| 12:18 | 2.0 | | 6.52 | 1,299.60 | 9.79 | 1.05 | -76.50 | 15.15 | |
| 12:21 | 2.8 | | 6.52 | 1,297.10 | 9.93 | 0.93 | -78.10 | 43.90 | |
| 12:24 | 3.5 | | 6.52 | 1,297.50 | 9.95 | 0.87 | -79.70 | 28.51 | |
| 12:27 | 4.3 | | 6.53 | 1,297.50 | 9.86 | 0.84 | -82.50 | 8.44 | |
| 12:30 | 5.0 | | 6.53 | 1,294.10 | 9.98 | 0.82 | -85.80 | 10.51 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/20/2025 12:30
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.53 pH 1,294.10 Spec. Cond. 9.98 Temp
Field Filtered: No Filter Type:
Water Level: 27.50 feet below TOC Drawdown: 1.85 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/20/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 018 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/19/2025 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F Wind Direction: ☑ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 13:25

Static Water Level: 18.41 feet below TOC

Total Depth: 27.42 feet below TOC

Water Column: 9.01 feet

**Purging Activities**

Purged By: TC Purge Date: 2/19/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 9.01 ft. x 0.022 = 0.2 L x 3 Vol. = 0.6 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Cloudy Odor: None Color: Grey

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:25 | 0.0 | 143 | purge start time | | | | | | |
| 13:48 | 3.3 | ↓ | 6.71 | 522.80 | 9.70 | 1.42 | 36.90 | 100.42 | |
| 13:51 | 3.7 | | 6.68 | 520.60 | 9.64 | 1.33 | 38.80 | 62.94 | |
| 13:54 | 4.1 | | 6.66 | 520.40 | 9.95 | 1.25 | 40.30 | 76.61 | |
| 13:57 | 4.6 | | 6.65 | 522.30 | 9.55 | 1.21 | 41.80 | 47.50 | |
| 14:00 | 5.0 | | 6.64 | 519.80 | 9.65 | 1.15 | 42.60 | 55.80 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/19/2025 14:00

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.64 pH 519.80 Spec. Cond. 9.65 Temp

Field Filtered: No Filter Type:

Water Level: 19.57 feet below TOC Drawdown: 1.16 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/19/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 019 |
| **W.O. Number (s):** | 25020749 | **Date (s):** | 2/19/2025 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F Wind Direction: ☑ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 11:50

Static Water Level: 7.99 feet below TOC

Total Depth: 22.34 feet below TOC

Water Column: 14.35 feet

**Purging Activities**

Purged By: TC Purge Date: 2/19/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 14.35 ft. x 0.022 = 0.32 L x 3 Vol. = 0.96 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:56 | 0.0 | 152 | purge start time | | | | | | |
| 12:17 | 3.2 | ↓ | 6.72 | 445.60 | 5.51 | 4.71 | 84.60 | 7.01 | |
| 12:20 | 3.6 | | 6.72 | 445.40 | 5.59 | 4.67 | 86.90 | 5.23 | |
| 12:23 | 4.1 | | 6.72 | 445.80 | 6.04 | 4.65 | 89.10 | 4.46 | |
| 12:26 | 4.5 | | 6.72 | 446.60 | 6.15 | 4.66 | 91.10 | 4.27 | |
| 12:29 | 5.0 | | 6.72 | 447.50 | 6.19 | 4.67 | 92.90 | 3.67 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/19/2025 12:29

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.72 pH 447.50 Spec. Cond. 6.19 Temp

Field Filtered: No Filter Type:

Water Level: 9.83 feet below TOC Drawdown: 1.84 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/19/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020749
**Monitoring Point:** T-6
**Sample ID:** 020
**Date (s):** 2/19/2025

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F Wind Direction: ☑ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 12:40
Static Water Level: 9.80 feet below TOC
Total Depth: 43.62 feet below TOC
Water Column: 33.82 feet

**Purging Activities**

Purged By: TC Purge Date: 2/19/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 33.82 ft. x 0.022 = 0.74 L x 3 Vol. = 2.22 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:40 | 0.0 | 225 | purge start time | | | | | | |
| 12:51 | 2.5 | ↓ | 7.29 | 661.20 | 7.51 | 6.82 | 111.90 | 68.41 | |
| 12:54 | 3.2 | | 7.30 | 660.80 | 7.44 | 6.90 | 110.80 | 47.35 | |
| 12:57 | 3.8 | | 7.30 | 661.10 | 7.66 | 7.00 | 109.60 | 36.79 | |
| 13:00 | 4.5 | | 7.30 | 661.00 | 7.72 | 6.98 | 108.60 | 28.73 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 2/19/2025 13:00
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.30 pH 661.00 Spec. Cond. 7.72 Temp
Field Filtered: No Filter Type:
Water Level: 10.50 feet below TOC Drawdown: 0.70 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Date: 2/19/2025

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25020749
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 50115 Technician(s): justin colp Date: 2/18/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/18/25 9:30 |
| 7.0 Buffer | wc240913b | 7.00 | 2/18/25 9:26 |
| 10.0 Buffer | wc240625b | 10.00 | 2/18/25 9:34 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/18/25 9:42 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.5 | 2/18/25 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 2/18/25 9:44 | 17.5 | 7.02 | 1,410 | 0.51 | | |
| CCV-1-JC | CCV | 2/18/25 13:20 | 18.5 | 7.06 | 1,423 | 0.57 | | |

**Comments:**

Field Meter ID: Pine 50115 Technician(s): justn colp Date: 2/19/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/19/25 10:31 |
| 7.0 Buffer | wc240913b | 7.00 | 2/19/25 10:28 |
| 10.0 Buffer | wc240625b | 10.00 | 2/19/25 10:36 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/19/25 10:47 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.49 | 2/19/25 10:53 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-JC | LCS | 2/19/25 10:55 | 9.1 | 7.01 | 1,411 | 0.47 | | |
| CCV-2-JC | CCV | 2/19/25 14:29 | 11.1 | 7.03 | 1,417 | 0.56 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25020749
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 50115 Technician(s): justin colp Date: 2/20/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/20/25 8:56 |
| 7.0 Buffer | wc240913b | 7.00 | 2/20/25 8:51 |
| 10.0 Buffer | wc240625b | 10.00 | 2/20/25 9:00 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/20/25 9:06 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.5 | 2/20/25 9:06 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-JC | LCS | 2/20/25 9:08 | 9.3 | 6.99 | 1,415 | 0.5 | | |
| CCV-3-JC | CCV | 2/20/25 13:42 | 10.4 | 7.02 | 1,426 | 0.54 | | |

**Comments:**

Field Meter ID: Pine 50115 Technician(s): justin colp Date: 2/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/21/25 8:41 |
| 7.0 Buffer | wc240913b | 7.00 | 2/21/25 8:37 |
| 10.0 Buffer | wc240625b | 10.00 | 2/21/25 8:45 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/21/25 8:53 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.6 | 2/21/25 8:53 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4-JC | LCS | 2/21/25 8:55 | 9.4 | 7.02 | 1,413 | 0.62 | | |
| CCV-4-JC | CCV | 2/21/25 10:30 | 9.7 | 7.02 | 1,418 | 0.61 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25020749
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210756 Technician(s): Tracy Carroll Date: 2/19/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230619C | 4.01 | 2/19/25 11:14 |
| 7.0 Buffer | WC240913B | 7.00 | 2/19/25 11:11 |
| 10.0 Buffer | WC240625B | 10.00 | 2/19/25 11:19 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/19/25 11:05 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-TC | LCS | 2/19/25 11:21 | 0.3 | 7.06 | 1,413 | | | |
| CCV-1-TC | CCV | 2/19/25 14:27 | 13.7 | 7.08 | 1,321 | | | |

**Comments:**

Field Meter ID: Pine 210756 Technician(s): Tracy Carroll Date: 2/20/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230619C | 4.00 | 2/20/25 9:55 |
| 7.0 Buffer | WC240913B | 7.00 | 2/20/25 9:49 |
| 10.0 Buffer | WC240625B | 10.00 | 2/20/25 10:12 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/20/25 10:13 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-TC | LCS | 2/20/25 10:25 | 0.6 | 7.09 | 1,417 | | | |
| CCV-2-TC | CCV | 2/20/25 14:35 | 0.8 | 7.09 | 1,423 | | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25020749
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210756 Technician(s): Tracy Carroll Date: 2/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230619C | 4.01 | 2/21/25 9:29 |
| 7.0 Buffer | WC240913B | 7.00 | 2/21/25 9:21 |
| 10.0 Buffer | WC240625B | 10.00 | 2/21/25 9:33 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/21/25 9:41 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-TC | LCS | 2/21/25 9:44 | 0.2 | 7.05 | 1,415 | | | |
| CCV-3-TC | CCV | 2/21/25 10:46 | 0.2 | 7.06 | 1,404 | | | |

**Comments:**

*Alliance Technical Group - Akron*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

March 28, 2025

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 25020749

Order No.: 25021959

Dear Shelly Hennessy:

Alliance Technical Group - Akron received 19 sample(s) on 2/27/2025 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **25021959**
Date: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020749

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

# Qualifiers and Acronyms

WO#: **25021959**
Date: **3/28/2025**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **25021959**
***28-Mar-25***

**CLIENT:** TEKLAB Inc,
**Project:** 25020749

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 25021959-001 | 25020749-001B | | 2/18/2025 12:00:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-002 | 25020749-002B | | 2/18/2025 12:38:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-003 | 25020749-003B | | 2/18/2025 1:15:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-004 | 25020749-004B | | 2/19/2025 11:54:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-005 | 25020749-005B | | 2/18/2025 10:38:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-006 | 25020749-006B | | 2/18/2025 10:10:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-007 | 25020749-007B | | 2/18/2025 11:32:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-008 | 25020749-008B | | 2/20/2025 11:42:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-009 | 25020749-009B | | 2/19/2025 12:26:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-010 | 25020749-010B | | 2/20/2025 12:16:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-011 | 25020749-011B | | 2/19/2025 12:53:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-012 | 25020749-012B | | 2/20/2025 11:56:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-013 | 25020749-013B | | 2/20/2025 1:06:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-014 | 25020749-014B | | 2/20/2025 1:41:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-015 | 25020749-016B | | 2/20/2025 2:13:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-016 | 25020749-017B | | 2/20/2025 12:30:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-017 | 25020749-018B | | 2/19/2025 2:00:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-018 | 25020749-019B | | 2/19/2025 12:29:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25021959-019 | 25020749-020B | | 2/19/2025 1:00:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
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# DATES REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 25021959-001A | 25020749-001B | 2/18/2025 12:00:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-002A | 25020749-002B | 2/18/2025 12:38:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-003A | 25020749-003B | 2/18/2025 1:15:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-004A | 25020749-004B | 2/19/2025 11:54:00 AM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-005A | 25020749-005B | 2/18/2025 10:38:00 AM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-006A | 25020749-006B | 2/18/2025 10:10:00 AM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-007A | 25020749-007B | 2/18/2025 11:32:00 AM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-008A | 25020749-008B | 2/20/2025 11:42:00 AM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-009A | 25020749-009B | 2/19/2025 12:26:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-010A | 25020749-010B | 2/20/2025 12:16:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-011A | 25020749-011B | 2/19/2025 12:53:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-012A | 25020749-012B | 2/20/2025 11:56:00 AM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |

Original

*Alliance Technical Group - Akron*
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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# DATES REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 25021959-012A | 25020749-012B | 2/20/2025 11:56:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-013A | 25020749-013B | 2/20/2025 1:06:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-014A | 25020749-014B | 2/20/2025 1:41:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25021959-015A | 25020749-016B | 2/20/2025 2:13:00 PM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25021959-016A | 25020749-017B | 2/20/2025 12:30:00 PM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25021959-017A | 25020749-018B | 2/19/2025 2:00:00 PM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25021959-018A | 25020749-019B | 2/19/2025 12:29:00 PM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25021959-019A | 25020749-020B | 2/19/2025 1:00:00 PM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 12:00:00 PM
**Project:** 25020749
**Lab ID:** 25021959-001
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-001B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.30 | | pCi/L | ± 0.110 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.30 | | pCi/L | ± 0.440 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 0.780 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

*Alliance Technical Group - Akron*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 12:38:00 PM
**Project:** 25020749
**Lab ID:** 25021959-002
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-002B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.20 | | pCi/L | ± 0.220 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.20 | | pCi/L | ± 0.380 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 1:15:00 PM
**Project:** 25020749
**Lab ID:** 25021959-003
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-003B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.30 | | pCi/L | ± 0.100 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.30 | | pCi/L | ± 0.380 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 11:54:00 AM
**Project:** 25020749
**Lab ID:** 25021959-004
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-004B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.30 | | pCi/L | ± 0.110 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.30 | | pCi/L | ± 0.490 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 10:38:00 AM
**Project:** 25020749
**Lab ID:** 25021959-005
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-005B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.40 | | pCi/L | ± 0.150 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.40 | | pCi/L | ± 0.410 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 10:10:00 AM
**Project:** 25020749
**Lab ID:** 25021959-006
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-006B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.40 | | pCi/L | ± 0.110 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.40 | | pCi/L | ± 0.410 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 11:32:00 AM
**Project:** 25020749
**Lab ID:** 25021959-007
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-007B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.30 | | pCi/L | ± 0.110 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.30 | | pCi/L | ± 0.680 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 11:42:00 AM
**Project:** 25020749
**Lab ID:** 25021959-008
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-008B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.40 | | pCi/L | ± 0.130 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.40 | | pCi/L | ± 0.380 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 12:26:00 PM
**Project:** 25020749
**Lab ID:** 25021959-009
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-009B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.40 | | pCi/L | ± 0.220 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.40 | | pCi/L | ± 0.570 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 12:16:00 PM
**Project:** 25020749
**Lab ID:** 25021959-010
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-010B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.30 | | pCi/L | ± 0.220 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.30 | | pCi/L | ± 0.580 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 0.910 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 12:53:00 PM
**Project:** 25020749
**Lab ID:** 25021959-011
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-011B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.40 | | pCi/L | ± 0.170 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.40 | | pCi/L | ± 0.570 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 11:56:00 AM
**Project:** 25020749
**Lab ID:** 25021959-012
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-012B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.50 | | pCi/L | ± 0.140 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.50 | | pCi/L | ± 0.540 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 0.780 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 1:06:00 PM
**Project:** 25020749
**Lab ID:** 25021959-013
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-013B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.40 | | pCi/L | ± 0.130 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.40 | | pCi/L | ± 0.470 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 1:41:00 PM
**Project:** 25020749
**Lab ID:** 25021959-014
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-014B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.50 | | pCi/L | ± 0.160 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.50 | | pCi/L | ± 0.580 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 2:13:00 PM
**Project:** 25020749
**Lab ID:** 25021959-015
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-016B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.110 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.420 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 12:30:00 PM
**Project:** 25020749
**Lab ID:** 25021959-016
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-017B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.180 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.430 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

*Alliance Technical Group - Akron*
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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 2:00:00 PM
**Project:** 25020749
**Lab ID:** 25021959-017
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-018B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 1.04 | 1.00 | | pCi/L | ± 0.250 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 1.56 | 1.00 | | pCi/L | ± 0.500 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 12:29:00 PM
**Project:** 25020749
**Lab ID:** 25021959-018
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-019B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.120 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.490 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25021959**

Date Reported: **3/28/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 1:00:00 PM
**Project:** 25020749
**Lab ID:** 25021959-019
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020749-020B

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.140 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.380 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82663**

Sample ID: **MB-82663** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509486**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-82663** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509487**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 6.47 | 1.00 | 5.000 | 0 | 129 | 50 | 130 | | | | QLR |
| Yield | 0.580 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-82663** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509488**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.45 | 1.00 | 5.000 | 0 | 89.0 | 50 | 130 | 6.470 | 37.0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 0.5800 | 53.2 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82663**

Sample ID: **25021873-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509493**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **25021875-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509495**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 1.260 | 200 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82663**

| Sample ID: **MB-82663** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205811** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/27/2025** | SeqNo: **5509528** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-82663** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205811** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/27/2025** | SeqNo: **5509529** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 3.65 | 1.00 | 5.000 | 0 | 73.0 | 70 | 130 | | | | QLR |

| Sample ID: **LCSD-82663** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205811** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/27/2025** | SeqNo: **5509530** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.97 | 1.00 | 5.000 | 0 | 99.4 | 70 | 130 | 3.650 | 30.6 | 20 | R |

| Sample ID: **25021873-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205811** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/27/2025** | SeqNo: **5509535** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82663**

Sample ID: **25021873-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509535**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **25021875-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509537**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82683**

Sample ID: **MB-82683** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506861**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-82683** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506862**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.54 | 1.00 | 5.000 | 0 | 70.8 | 50 | 130 | | | | |
| Yield | 0.900 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-82683** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506863**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.35 | 1.00 | 5.000 | 0 | 67.0 | 50 | 130 | 3.540 | 5.52 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.9000 | 10.5 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82683**

Sample ID: **25030002-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506868**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **25030004-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506870**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82683**

| Sample ID: **MB-82683** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506940** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-82683** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506941** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.48 | 1.00 | 5.000 | 0 | 89.6 | 70 | 130 | | | | |

| Sample ID: **LCSD-82683** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506942** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.61 | 1.00 | 5.000 | 0 | 92.2 | 70 | 130 | 4.480 | 2.86 | 20 | |

| Sample ID: **25030002-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506947** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **25021959**

***28-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020749 **BatchID:** **82683**

Sample ID: **25030002-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205680**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E903.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5506947**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **25030004-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205680**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E903.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5506949**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



Original

 25021959

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: Teklab QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for combined Radium 226/228 per your routine method/s.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Project# 25020749

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 37997 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25020749-001B | 2/18/25 12:00 | HNO3 | Groundwater | ✔ | pH | 1 | CSM | 30 | | | | | | | |
| | 25020749-002B | 2/18/25 12:38 | HNO3 | Groundwater | ✔ | | 1 | | 32 | | | | | | | |
| | 25020749-003B | 2/18/25 13:15 | HNO3 | Groundwater | ✔ | | 1 | | 36 | | | | | | | |
| | 25020749-004B | 2/19/25 11:54 | HNO3 | Groundwater | ✔ | | 1 | | 28 | | | | | | | |
| | 25020749-005B | 2/18/25 10:38 | HNO3 | Groundwater | ✔ | | 1 | | 40 | | | | | | | |
| | 25020749-006B | 2/18/25 10:10 | HNO3 | Groundwater | ✔ | | 1 | | 33 | | | | | | | |
| | 25020749-007B | 2/18/25 11:32 | HNO3 | Groundwater | ✔ | | 1 | | 31 | | | | | | | |
| | 25020749-008B | 2/20/25 11:42 | HNO3 | Groundwater | ✔ | | 1 | | 26 | | | | | | | |
| | 25020749-009B | 2/19/25 12:26 | HNO3 | Groundwater | ✔ | | 1 | | 23 | | | | | | | |
| | 25020749-010B | 2/20/25 12:16 | HNO3 | Groundwater | ✔ | | 1 | | 16 | | | | | | | |
| | 25020749-011B | 2/19/25 12:53 | HNO3 | Groundwater | ✔ | ✓ | 1 | ✓ | 28 | | | | | | | |

18.8-0.0=18.8, CS intact 02/25-Fedex Box/code ✓

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | | | 02/27/25 1130 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

 25021959

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: | Sampler: Teklab | QC Level: 2

Project# 25020749

Comments: **Please Issue reports and invoices via email only**
Please analyze for combined Radium 226/228 per your routine method/s.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Contact: Shelly Hennessy | Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT | Billing/PO: 37997 | Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25020749-012B | 02/20/25 11:56 | HNO3 | Groundwater | ✔ | pH | 1 | CPM | 26 | | | | | | | | |
| | 25020749-013B | 02/20/25 13:06 | HNO3 | Groundwater | ✔ | | 1 | | 42 | | | | | | | | |
| | 25020749-014B | 02/20/25 13:41 | HNO3 | Groundwater | ✔ | | 1 | | 30 | | | | | | | | |
| | 25020749-016B | 02/20/25 14:13 | HNO3 | Groundwater | ✔ | | 1 | | 31 | | | | | | | | |
| | 25020749-017B | 02/20/25 12:30 | HNO3 | Groundwater | ✔ | | 1 | | 33 | | | | | | | | |
| | 25020749-018B | 02/19/25 14:00 | HNO3 | Groundwater | ✔ | | 1 | | 50 | | | | | | | | |
| | 25020749-019B | 02/19/25 12:29 | HNO3 | Groundwater | ✔ | | 1 | | 26 | | | | | | | | |
| | 25020749-020B | 02/19/25 13:00 | HNO3 | Groundwater | ✔ | | 1 | | 26 | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | | |

18.8-0.0=18.8, cs intact 02/25 - Feder Box/Cooler

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | | | 02/27/25 1130 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

*Alliance Technical Group - Akron*
*3310 Win Street*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 25021959 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Spencer M. Hartwell | 2/27/2025 11:30:00 AM | Spencer M. Hartwell |
| Completed By: | Spencer M. Hartwell | 2/28/2025 3:02:15 PM | Spencer M. Hartwell |
| Reviewed By: | Jennifer Woolf | 2/28/2025 3:11:56 PM | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☑ | No ☐ | Not Present ☐ |
| | No. Seal Date: 2/19/2025 Signed By: | | | |
| 5. | Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

*Alliance Technical Group - Akron*
*3310 Win Street*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 25021959 RcptNo: 1

April 22, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 25030754

Dear Eric Staley:

TEKLAB, INC received 1 sample on 3/18/2025 3:05:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25030754
**Report Date:** 22-Apr-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 8 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25030754

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 22-Apr-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25030754
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 22-Apr-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25030754
**Report Date:** 22-Apr-25

**Cooler Receipt Temp:** 10.7 °C

An employee of Teklab, Inc. collected the sample(s).

Radium 226/228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

| | |
|---|---|
| **Address** | 3920 Pintail Dr<br>Springfield, IL 62711-9415 |
| **Phone** | (217) 698-1004 |
| **Fax** | (217) 698-1005 |
| **Email** | KKlostermann@teklabinc.com |

### Kansas City

| | |
|---|---|
| **Address** | 8421 Nieman Road<br>Lenexa, KS 66214 |
| **Phone** | (913) 541-1998 |
| **Fax** | (913) 541-1998 |
| **Email** | jhriley@teklabinc.com |

### Collinsville Air

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | EHurley@teklabinc.com |

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@teklabinc.com |

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25030754
**Report Date:** 22-Apr-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 25030754
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 22-Apr-25
**Lab ID:** 25030754-001
**Client Sample ID:** AP-14
**Matrix:** GROUNDWATER
**Collection Date:** 03/18/2025 12:17

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 04/18/2025 0:00 | R363684 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 04/18/2025 0:00 | R363684 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25030754
**Report Date:** 22-Apr-25

**Carrier:** Daniel Crump

**Received By:** JMD

**Completed by:** Laura E Henson
**On:** 18-Mar-25

**Reviewed by:** Elizabeth A. Hurley
**On:** 18-Mar-25

**Pages to follow:** Chain of custody 1 Extra pages included 12

| | | | | | |
|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C | 10.7 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice | ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | | |
| Sample containers intact? | Yes ☑ | No ☐ | | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #101358. - JD/lhenson - 3/18/2025 4:07:28 PM

Additional nitric acid (102194) was needed upon arrival at the laboratory. - JD/lhenson - 3/18/2025 4:07:30 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 25030754

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 10.7 °C
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: PH101358
Added HNO3 (102194) 1/2 JD 3/18/25

Client Comments:
Resample AP14, original WO#25022048.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: Bret Gillihan

RESULTS REQUESTED
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25030754-001 | AP-14 | 3-18-25 1217 | Groundwater | | 2 | | | | | | | | | | | ✓ | ✓ | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 3-18-25 1505 | | 3/18/25 15:05 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Alliance Technical Group - Akron*
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*Website: http://www.settek.com*

April 22, 2025

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 25030754

Order No.: 25031751

Dear Shelly Hennessy:

Alliance Technical Group - Akron received 1 sample(s) on 3/21/2025 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Salwa Najjar

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **25031751**
Date: **4/22/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25030754

WorkOrder Narrative:
25031751: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Alliance Technical Group - Akro
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Cuyahoga Falls, Ohio 4422
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Website: http://www.settek.co

# Qualifiers and Acronyms

WO#: **25031751**
Date: **4/22/2025**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **25031751**

***22-Apr-25***

**CLIENT:** TEKLAB Inc,
**Project:** 25030754

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 25031751-001 | 25030754-001 | | 3/18/2025 12:17:00 PM | 3/21/2025 12:45:00 PM | Non-Potable Water |

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# DATES REPORT

WO#: **25031751**

***22-Apr-25***

**Client:** TEKLAB Inc,

**Project:** 25030754

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 25031751-001A | 25030754-001 | 3/18/2025 12:17:00 PM | Non-Potable Water | Radium-226 (EPA 903.0) | | 4/14/2025 4:00:36 PM | 4/21/2025 10:58:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 4/14/2025 4:00:36 PM | 4/18/2025 2:20:00 PM |

Original

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# Analytical Report

(consolidated)

WO#: **25031751**

Date Reported: **4/22/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25030754
**Lab ID:** 25031751-001
**Client Sample ID:** 25030754-001

**Collection Date:** 3/18/2025 12:17:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0600 | 1 | 4/21/2025 10:58:00 AM |
| Yield | 1.00 | | | | | 1 | 4/21/2025 10:58:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.400 | 1 | 4/18/2025 2:20:00 PM |
| Yield | 0.980 | | | | | 1 | 4/18/2025 2:20:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# QC SUMMARY REPORT

WO#: **25031751**

***22-Apr-25***

**Client:** TEKLAB Inc,
**Project:** 25030754 **BatchID:** **83646**

Sample ID: **MB-83646** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/14/2025** RunNo: **207342**
Client ID: **BatchQC** Batch ID: **83646** TestNo: **E904.0** **E903-904** Analysis Date: **4/18/2025** SeqNo: **5548239**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCS-83646** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/14/2025** RunNo: **207342**
Client ID: **BatchQC** Batch ID: **83646** TestNo: **E904.0** **E903-904** Analysis Date: **4/18/2025** SeqNo: **5548240**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.42 | 1.00 | 5.000 | 0 | 68.4 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

Sample ID: **LCSD-83646** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/14/2025** RunNo: **207342**
Client ID: **BatchQC** Batch ID: **83646** TestNo: **E904.0** **E903-904** Analysis Date: **4/18/2025** SeqNo: **5548241**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 2.87 | 1.00 | 5.000 | 0 | 57.4 | 50 | 130 | 3.420 | 17.5 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **25031751**

***22-Apr-25***

**Client:** TEKLAB Inc,
**Project:** 25030754 **BatchID:** **83646**

Sample ID: **25031742-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/14/2025** RunNo: **207342**
Client ID: **BatchQC** Batch ID: **83646** TestNo: **E904.0** **E903-904** Analysis Date: **4/18/2025** SeqNo: **5548246**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 0.800 | | | 0 | 0 | | | 0.9800 | 20.2 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **25031751**

***22-Apr-25***

**Client:** TEKLAB Inc,
**Project:** 25030754 **BatchID:** **83646**

| Sample ID: **MB-83646** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/14/2025** | RunNo: **207393** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **83646** | TestNo: **E903.0** | **E903-904** | Analysis Date: **4/21/2025** | SeqNo: **5549116** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-83646** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/14/2025** | RunNo: **207393** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **83646** | TestNo: **E903.0** | **E903-904** | Analysis Date: **4/21/2025** | SeqNo: **5549117** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 3.91 | 1.00 | 5.000 | 0 | 78.2 | 70 | 130 | | | | QLR |

| Sample ID: **LCSD-83646** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/14/2025** | RunNo: **207393** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **83646** | TestNo: **E903.0** | **E903-904** | Analysis Date: **4/21/2025** | SeqNo: **5549118** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.90 | 1.00 | 5.000 | 0 | 98.0 | 70 | 130 | 3.910 | 22.5 | 20 | R |

| Sample ID: **25031742-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **4/14/2025** | RunNo: **207393** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **83646** | TestNo: **E903.0** | **E903-904** | Analysis Date: **4/21/2025** | SeqNo: **5549123** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **25031751**

***22-Apr-25***

**Client:** TEKLAB Inc,
**Project:** 25030754 **BatchID:** **83646**

Sample ID: **25031742-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/14/2025** RunNo: **207393**
Client ID: **BatchQC** Batch ID: **83646** TestNo: **E903.0** **E903-904** Analysis Date: **4/21/2025** SeqNo: **5549123**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **25031743-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/14/2025** RunNo: **207393**
Client ID: **BatchQC** Batch ID: **83646** TestNo: **E903.0** **E903-904** Analysis Date: **4/21/2025** SeqNo: **5549125**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

# TEKLAB, INC. Chain of Custody

25031751

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc** 18.2-0.0=
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: 18.2 Sampler: teklab employee QC Level: 2

Fedex, cooler CS intact 3/19/25

Project# 25030754

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Contact: Shelly Hennessy Email: shennessy@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 38180 Phone: (618) 344-1004 ex 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Ra226/228 | | CPM | | | | PM | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25030754-001 | 3/18/25 12.17 | HNO3 | Groundwater | ✔ | | 24, 34 | | | | 1, 1 | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Aqueous | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |
| | | | HNO3 | Groundwater | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | | | 3/21/25, 1245 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

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*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 25031751 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 3/21/2025 12:45:00 PM | Tegan Richards |
| Completed By: | Tegan A. Richards | 3/22/2025 4:31:16 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 3/24/2025 12:44:54 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐
   No. Seal Date: 3/13/2025 Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:
    relinquish time & date not included

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 18.2 | Good | Yes | | 3/19/2025 | |

March 31, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 25020750

Dear Eric Staley:

TEKLAB, INC received 12 samples on 2/21/2025 12:22:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 25020750
**Client Project:** FGDS Landfill
**Report Date:** 31-Mar-25

**This reporting package includes the following:**


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| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25020750
**Client Project:** FGDS Landfill
**Report Date:** 31-Mar-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25020750
**Report Date:** 31-Mar-25

**Cooler Receipt Temp:** 9.9 °C

An employee of Teklab, Inc. collected the sample(s).

Radium 226/228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 25020750

**Client Project:** FGDS Landfill

**Report Date:** 31-Mar-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 02/21/2025 10:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 02/21/2025 10:20 | R360884 |
| Depth to water | * | -5.00 | | **4.09** | ft | 1 | 02/21/2025 10:20 | R360884 |
| Depth to water from measuring point | * | 0 | | **6.89** | ft | 1 | 02/21/2025 10:20 | R360884 |
| Elevation of groundwater surface | * | 0 | | **539.91** | ft | 1 | 02/21/2025 10:20 | R360884 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 02/21/2025 10:20 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 02/21/2025 10:20 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.1** | NTU | 1 | 02/21/2025 10:20 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **49.0** | °F | 1 | 02/21/2025 10:20 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.07** | | 1 | 02/21/2025 10:20 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **680** | µmhos/cm @25C | 1 | 02/21/2025 10:20 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **940** | mg/L | 1 | 02/24/2025 14:54 | R360789 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 21:22 | R360629 |
| Chloride | NELAP | 5.00 | | **98.4** | mg/L | 10 | 02/21/2025 21:22 | R360629 |
| Sulfate | NELAP | 10.0 | | **254** | mg/L | 10 | 02/21/2025 21:22 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0086** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Boron | NELAP | 0.0200 | | **0.125** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Calcium | NELAP | 0.100 | S | **159** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 10:03 | 235106 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 14:57 | 235106 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 14:57 | 235106 |
| Lithium | * | 0.0030 | | **0.0135** | mg/L | 5 | 02/25/2025 11:22 | 235106 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 11:22 | 235106 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 14:57 | 235106 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/25/2025 10:03 | 235158 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-002 **Client Sample ID:** G110

**Matrix:** GROUNDWATER **Collection Date:** 02/19/2025 13:25

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.05** | ft | 1 | 02/19/2025 13:25 | R360884 |
| Depth to water | * | -5.00 | | **21.79** | ft | 1 | 02/19/2025 13:25 | R360884 |
| Depth to water from measuring point | * | 0 | | **24.40** | ft | 1 | 02/19/2025 13:25 | R360884 |
| Elevation of groundwater surface | * | 0 | | **532.80** | ft | 1 | 02/19/2025 13:25 | R360884 |
| Measuring Point Elevation | * | 0 | | **557.20** | ft | 1 | 02/19/2025 13:25 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.61** | ft | 1 | 02/19/2025 13:25 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.2** | NTU | 1 | 02/19/2025 13:25 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **52.2** | °F | 1 | 02/19/2025 13:25 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.80** | | 1 | 02/19/2025 13:25 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **693** | µmhos/cm @25C | 1 | 02/19/2025 13:25 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **465** | mg/L | 1.25 | 02/20/2025 11:41 | R360650 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/20/2025 12:01 | R360529 |
| Chloride | NELAP | 5.00 | | **5.69** | mg/L | 10 | 02/20/2025 12:01 | R360529 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/20/2025 12:01 | R360529 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.164** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Boron | NELAP | 0.0200 | | **0.0857** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Calcium | NELAP | 0.100 | | **101** | mg/L | 1 | 02/24/2025 11:09 | 235016 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 16:47 | 235016 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/21/2025 16:32 | 235016 |
| Arsenic | NELAP | 0.0010 | | **0.0044** | mg/L | 5 | 02/21/2025 16:32 | 235016 |
| Lithium | * | 0.0030 | | **< 0.0030** | mg/L | 5 | 02/20/2025 15:22 | 235016 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/21/2025 16:32 | 235016 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 15:22 | 235016 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/20/2025 11:03 | 235028 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-003 **Client Sample ID:** R111

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 11:41

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.25** | ft | 1 | 02/20/2025 11:41 | R360884 |
| Depth to water | * | -5.00 | | **25.04** | ft | 1 | 02/20/2025 11:41 | R360884 |
| Depth to water from measuring point | * | 0 | | **25.04** | ft | 1 | 02/20/2025 11:41 | R360884 |
| Elevation of groundwater surface | * | 0 | | **528.96** | ft | 1 | 02/20/2025 11:41 | R360884 |
| Measuring Point Elevation | * | 0 | | **554.00** | ft | 1 | 02/20/2025 11:41 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 02/20/2025 11:41 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.8** | NTU | 1 | 02/20/2025 11:41 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **46.8** | °F | 1 | 02/20/2025 11:41 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.86** | | 1 | 02/20/2025 11:41 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1090** | µmhos/cm @25C | 1 | 02/20/2025 11:41 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **725** | mg/L | 1.67 | 02/21/2025 14:57 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 13:59 | R360629 |
| Chloride | NELAP | 5.00 | | **169** | mg/L | 10 | 02/21/2025 13:59 | R360629 |
| Sulfate | NELAP | 10.0 | | **24.7** | mg/L | 10 | 02/21/2025 13:59 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.586** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Boron | NELAP | 0.0200 | | **3.09** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Calcium | NELAP | 0.100 | | **148** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 14:47 | 235068 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:52 | 235068 |
| Arsenic | NELAP | 0.0010 | | **0.0156** | mg/L | 5 | 02/25/2025 10:43 | 235068 |
| Lithium | * | 0.0030 | | **0.0055** | mg/L | 5 | 02/25/2025 10:43 | 235068 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:52 | 235068 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 11:52 | 235068 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:37 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/25/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-004 **Client Sample ID:** G112

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 12:55

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.99** | ft | 1 | 02/20/2025 12:55 | R360884 |
| Depth to water | * | -5.00 | | **26.31** | ft | 1 | 02/20/2025 12:55 | R360884 |
| Depth to water from measuring point | * | 0 | | **28.49** | ft | 1 | 02/20/2025 12:55 | R360884 |
| Elevation of groundwater surface | * | 0 | | **526.31** | ft | 1 | 02/20/2025 12:55 | R360884 |
| Measuring Point Elevation | * | 0 | | **554.80** | ft | 1 | 02/20/2025 12:55 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.18** | ft | 1 | 02/20/2025 12:55 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.8** | NTU | 1 | 02/20/2025 12:55 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **47.6** | °F | 1 | 02/20/2025 12:55 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.07** | | 1 | 02/20/2025 12:55 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1360** | µmhos/cm @25C | 1 | 02/20/2025 12:55 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1360** | mg/L | 1.67 | 02/21/2025 14:57 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 14:11 | R360629 |
| Chloride | NELAP | 5.00 | | **192** | mg/L | 10 | 02/21/2025 14:11 | R360629 |
| Sulfate | NELAP | 10.0 | | **227** | mg/L | 10 | 02/21/2025 14:11 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.453** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Boron | NELAP | 0.0200 | | **0.459** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Calcium | NELAP | 0.100 | | **223** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 11:11 | 235055 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:07 | 235055 |
| Arsenic | NELAP | 0.0010 | | **0.0010** | mg/L | 5 | 02/25/2025 11:00 | 235055 |
| Lithium | * | 0.0030 | | **0.0322** | mg/L | 5 | 02/24/2025 10:07 | 235055 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:07 | 235055 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2025 11:00 | 235055 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:39 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-005 **Client Sample ID:** G113

**Matrix:** GROUNDWATER **Collection Date:** 02/21/2025 9:42

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **524.85** | ft | 1 | 02/21/2025 9:42 | R360884 |
| Depth to water | * | -5.00 | | **2.51** | ft | 1 | 02/21/2025 9:42 | R360884 |
| Depth to water from measuring point | * | 0 | | **5.01** | ft | 1 | 02/21/2025 9:42 | R360884 |
| Elevation of groundwater surface | * | 0 | | **532.69** | ft | 1 | 02/21/2025 9:42 | R360884 |
| Measuring Point Elevation | * | 0 | | **537.70** | ft | 1 | 02/21/2025 9:42 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 02/21/2025 9:42 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **68** | NTU | 1 | 02/21/2025 9:42 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **41.0** | °F | 1 | 02/21/2025 9:42 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.40** | | 1 | 02/21/2025 9:42 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1690** | µmhos/cm @25C | 1 | 02/21/2025 9:42 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1390** | mg/L | 1 | 02/24/2025 14:56 | R360789 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 21:34 | R360629 |
| Chloride | NELAP | 5.00 | | **59.2** | mg/L | 10 | 02/21/2025 21:34 | R360629 |
| Sulfate | NELAP | 10.0 | | **151** | mg/L | 10 | 02/21/2025 21:34 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.330** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Boron | NELAP | 0.0200 | | **0.968** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Calcium | NELAP | 0.100 | | **337** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 10:05 | 235106 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 13:20 | 235106 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 13:20 | 235106 |
| Lithium | * | 0.0030 | | **0.0031** | mg/L | 5 | 02/25/2025 10:48 | 235106 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 10:48 | 235106 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 13:20 | 235106 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/25/2025 10:05 | 235158 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-006 **Client Sample ID:** G120

**Matrix:** GROUNDWATER **Collection Date:** 02/21/2025 9:36

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.73** | ft | 1 | 02/21/2025 9:36 | R360884 |
| Depth to water | * | -5.00 | | **15.89** | ft | 1 | 02/21/2025 9:36 | R360884 |
| Depth to water from measuring point | * | 0 | | **15.89** | ft | 1 | 02/21/2025 9:36 | R360884 |
| Elevation of groundwater surface | * | 0 | | **537.21** | ft | 1 | 02/21/2025 9:36 | R360884 |
| Measuring Point Elevation | * | 0 | | **553.10** | ft | 1 | 02/21/2025 9:36 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 02/21/2025 9:36 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **17** | NTU | 1 | 02/21/2025 9:36 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.8** | °F | 1 | 02/21/2025 9:36 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.66** | | 1 | 02/21/2025 9:36 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1910** | µmhos/cm @25C | 1 | 02/21/2025 9:36 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1400** | mg/L | 2.5 | 02/24/2025 14:57 | R360789 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 21:46 | R360629 |
| Chloride | NELAP | 5.00 | | **35.2** | mg/L | 10 | 02/21/2025 21:46 | R360629 |
| Sulfate | NELAP | 10.0 | | **548** | mg/L | 10 | 02/21/2025 21:46 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.708** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Boron | NELAP | 0.0200 | | **7.50** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Calcium | NELAP | 0.100 | | **249** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 10:06 | 235106 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 14:17 | 235106 |
| Arsenic | NELAP | 0.0010 | | **0.0113** | mg/L | 5 | 02/24/2025 14:17 | 235106 |
| Lithium | * | 0.0030 | | **0.0076** | mg/L | 5 | 02/25/2025 10:54 | 235106 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/25/2025 10:54 | 235106 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/24/2025 14:17 | 235106 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/25/2025 10:07 | 235158 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-007 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 13:25

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 02/20/2025 13:25 | R360884 |
| Depth to water | * | -5.00 | | **26.38** | ft | 1 | 02/20/2025 13:25 | R360884 |
| Depth to water from measuring point | * | 0 | | **28.25** | ft | 1 | 02/20/2025 13:25 | R360884 |
| Elevation of groundwater surface | * | 0 | | **527.35** | ft | 1 | 02/20/2025 13:25 | R360884 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 02/20/2025 13:25 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 02/20/2025 13:25 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **30** | NTU | 1 | 02/20/2025 13:25 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.8** | °F | 1 | 02/20/2025 13:25 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.95** | | 1 | 02/20/2025 13:25 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1570** | µmhos/cm @25C | 1 | 02/20/2025 13:25 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 200 | | **1240** | mg/L | 10 | 02/21/2025 14:58 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 14:22 | R360629 |
| Chloride | NELAP | 5.00 | | **28.0** | mg/L | 10 | 02/21/2025 14:22 | R360629 |
| Sulfate | NELAP | 10.0 | | **314** | mg/L | 10 | 02/21/2025 14:22 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.560** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Boron | NELAP | 0.0200 | | **3.54** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Calcium | NELAP | 0.100 | | **169** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 11:12 | 235055 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:13 | 235055 |
| Arsenic | NELAP | 0.0010 | | **0.0169** | mg/L | 5 | 02/25/2025 11:05 | 235055 |
| Lithium | * | 0.0030 | | **0.0080** | mg/L | 5 | 02/24/2025 10:13 | 235055 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:13 | 235055 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2025 11:05 | 235055 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:41 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-008 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 13:39

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 02/20/2025 13:39 | R360884 |
| Depth to water | * | -5.00 | | **27.98** | ft | 1 | 02/20/2025 13:39 | R360884 |
| Depth to water from measuring point | * | 0 | | **29.72** | ft | 1 | 02/20/2025 13:39 | R360884 |
| Elevation of groundwater surface | * | 0 | | **524.68** | ft | 1 | 02/20/2025 13:39 | R360884 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 02/20/2025 13:39 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 02/20/2025 13:39 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 02/20/2025 13:39 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **50.2** | °F | 1 | 02/20/2025 13:39 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.75** | | 1 | 02/20/2025 13:39 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1420** | µmhos/cm @25C | 1 | 02/20/2025 13:39 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **1320** | mg/L | 1.25 | 02/21/2025 14:59 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 15:09 | R360629 |
| Chloride | NELAP | 5.00 | | **35.0** | mg/L | 10 | 02/21/2025 15:09 | R360629 |
| Sulfate | NELAP | 10.0 | | **510** | mg/L | 10 | 02/21/2025 15:09 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.220** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Boron | NELAP | 0.0200 | | **10.3** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Calcium | NELAP | 0.100 | | **220** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 11:13 | 235055 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:18 | 235055 |
| Arsenic | NELAP | 0.0010 | | **0.0010** | mg/L | 5 | 02/25/2025 11:11 | 235055 |
| Lithium | * | 0.0030 | | **0.0091** | mg/L | 5 | 02/24/2025 10:18 | 235055 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:18 | 235055 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2025 11:11 | 235055 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:44 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-009 **Client Sample ID:** AW-1

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 12:21

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 02/20/2025 12:21 | R360884 |
| Depth to water | * | -5.00 | | **10.70** | ft | 1 | 02/20/2025 12:21 | R360884 |
| Depth to water from measuring point | * | 0 | | **13.45** | ft | 1 | 02/20/2025 12:21 | R360884 |
| Elevation of groundwater surface | * | 0 | | **542.15** | ft | 1 | 02/20/2025 12:21 | R360884 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 02/20/2025 12:21 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 02/20/2025 12:21 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.4** | NTU | 1 | 02/20/2025 12:21 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **48.2** | °F | 1 | 02/20/2025 12:21 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 02/20/2025 12:21 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1310** | µmhos/cm @25C | 1 | 02/20/2025 12:21 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1110** | mg/L | 2.5 | 02/21/2025 14:59 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 15:21 | R360629 |
| Chloride | NELAP | 5.00 | | **35.4** | mg/L | 10 | 02/21/2025 15:21 | R360629 |
| Sulfate | NELAP | 10.0 | | **374** | mg/L | 10 | 02/21/2025 15:21 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.486** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Boron | NELAP | 0.0200 | | **8.79** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Calcium | NELAP | 0.100 | | **186** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 11:14 | 235055 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:24 | 235055 |
| Arsenic | NELAP | 0.0010 | | **0.146** | mg/L | 5 | 02/25/2025 11:17 | 235055 |
| Lithium | * | 0.0030 | | **0.0108** | mg/L | 5 | 02/24/2025 10:24 | 235055 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 10:24 | 235055 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2025 11:17 | 235055 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | S | **< 0.00020** | mg/L | 1 | 02/21/2025 14:46 | 235075 |
| *Matrix spike did not recover within control limits due to matrix interference. Verified by bench spike.* | | | | | | | | |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-010 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 10:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 02/20/2025 10:18 | R360884 |
| Depth to water | * | -5.00 | | **1.23** | ft | 1 | 02/20/2025 10:18 | R360884 |
| Depth to water from measuring point | * | 0 | | **4.53** | ft | 1 | 02/20/2025 10:18 | R360884 |
| Elevation of groundwater surface | * | 0 | | **525.45** | ft | 1 | 02/20/2025 10:18 | R360884 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 02/20/2025 10:18 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 02/20/2025 10:18 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **18** | NTU | 1 | 02/20/2025 10:18 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **41.9** | °F | 1 | 02/20/2025 10:18 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.05** | | 1 | 02/20/2025 10:18 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **764** | µmhos/cm @25C | 1 | 02/20/2025 10:18 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **588** | mg/L | 1 | 02/21/2025 15:00 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 15:32 | R360629 |
| Chloride | NELAP | 5.00 | | **19.5** | mg/L | 10 | 02/21/2025 15:32 | R360629 |
| Sulfate | NELAP | 10.0 | | **53.7** | mg/L | 10 | 02/21/2025 15:32 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.283** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Boron | NELAP | 0.0200 | | **1.48** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Calcium | NELAP | 0.100 | | **111** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 11:19 | 235055 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:02 | 235055 |
| Arsenic | NELAP | 0.0010 | | **0.0017** | mg/L | 5 | 02/25/2025 12:25 | 235055 |
| Lithium | * | 0.0030 | | **0.0051** | mg/L | 5 | 02/25/2025 12:25 | 235055 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:02 | 235055 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2025 12:25 | 235055 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 14:58 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-011 **Client Sample ID:** RW-3

**Matrix:** GROUNDWATER **Collection Date:** 02/18/2025 12:00

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 02/18/2025 12:00 | R360884 |
| Depth to water | * | -5.00 | | **6.86** | ft | 1 | 02/18/2025 12:00 | R360884 |
| Depth to water from measuring point | * | 0 | | **9.56** | ft | 1 | 02/18/2025 12:00 | R360884 |
| Elevation of groundwater surface | * | 0 | | **529.94** | ft | 1 | 02/18/2025 12:00 | R360884 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 02/18/2025 12:00 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 02/18/2025 12:00 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **21** | NTU | 1 | 02/18/2025 12:00 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **53.5** | °F | 1 | 02/18/2025 12:00 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.10** | | 1 | 02/18/2025 12:00 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **623** | µmhos/cm @25C | 1 | 02/18/2025 12:00 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **372** | mg/L | 1.25 | 02/19/2025 10:55 | R360584 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/19/2025 0:00 | R360503 |
| Chloride | NELAP | 5.00 | | **25.4** | mg/L | 10 | 02/19/2025 0:00 | R360503 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 02/19/2025 0:00 | R360503 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.136** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Boron | NELAP | 0.0200 | | **0.126** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Calcium | NELAP | 0.100 | | **64.5** | mg/L | 1 | 02/24/2025 11:25 | 234945 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/20/2025 17:08 | 234945 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| Arsenic | NELAP | 0.0010 | | **0.0961** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| Lithium | * | 0.0030 | | **0.0047** | mg/L | 5 | 02/24/2025 8:08 | 234945 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/20/2025 11:19 | 234945 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/19/2025 11:09 | 234976 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/26/2025 0:00 | R362556 |

**Client:** City Water, Light & Power **Work Order:** 25020750

**Client Project:** FGDS Landfill **Report Date:** 31-Mar-25

**Lab ID:** 25020750-012 **Client Sample ID:** P07D

**Matrix:** GROUNDWATER **Collection Date:** 02/20/2025 11:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **528.25** | ft | 1 | 02/20/2025 11:12 | R360884 |
| Depth to water | * | -5.00 | | **1.49** | ft | 1 | 02/20/2025 11:12 | R360884 |
| Depth to water from measuring point | * | 0 | | **4.49** | ft | 1 | 02/20/2025 11:12 | R360884 |
| Elevation of groundwater surface | * | 0 | | **523.76** | ft | 1 | 02/20/2025 11:12 | R360884 |
| Measuring Point Elevation | * | 0 | | **528.25** | ft | 1 | 02/20/2025 11:12 | R360884 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.00** | ft | 1 | 02/20/2025 11:12 | R360884 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **40** | NTU | 1 | 02/20/2025 11:12 | R360884 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **46.8** | °F | 1 | 02/20/2025 11:12 | R360884 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.78** | | 1 | 02/20/2025 11:12 | R360884 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1250** | µmhos/cm @25C | 1 | 02/20/2025 11:12 | R360884 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **990** | mg/L | 2.5 | 02/21/2025 15:01 | R360717 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 02/21/2025 15:44 | R360629 |
| Chloride | NELAP | 5.00 | | **31.4** | mg/L | 10 | 02/21/2025 15:44 | R360629 |
| Sulfate | NELAP | 10.0 | | **287** | mg/L | 10 | 02/21/2025 15:44 | R360629 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.913** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Boron | NELAP | 0.0200 | | **5.26** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Calcium | NELAP | 0.100 | | **179** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 02/24/2025 11:20 | 235055 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:07 | 235055 |
| Arsenic | NELAP | 0.0010 | | **0.0276** | mg/L | 5 | 02/25/2025 12:31 | 235055 |
| Lithium | * | 0.0030 | | **0.0081** | mg/L | 5 | 02/25/2025 12:31 | 235055 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 02/24/2025 11:07 | 235055 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 02/25/2025 12:31 | 235055 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 02/21/2025 15:00 | 235075 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 03/21/2025 0:00 | R362556 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25020750
**Report Date:** 31-Mar-25

**Carrier:** Justin Colp
**Received By:** AMD

**Completed by:** Amber Dilallo
**On:** 18-Feb-25

**Reviewed by:** Ellie Hopkins
**On:** 21-Feb-25

**Pages to follow:** Chain of custody 5 Extra pages included 49

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 9.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 2/18/25 at 1500 on ice [9.9, 11.5C - LTG#5]. pH strip #101358. - amberdilallo - 2/18/2025 3:33:57 PM

Samples were received on 2/19/25 at 15.50 on ice [temp10.1C - LTG#9]. pH#101358 -EK/ lhenson - 2/19/2025 4:09:47 PM

Samples were received on 2/20/25 at 15.55 on ice [temp5.7C, 5.9C - LTG#9]. pH#101358. Added nitric acid (102194) to G121 and AW-1. - lhenson - 2/20/2025 4:39:14 PM

Samples were received on 12/21/25 at 12.22 on ice [temp5.5C - LTG#9]. pH#101358/98858. Added nitric acid (102194) to G113 and G120. - EK/lhenson - 2/21/2025 1:04:17 PM

Print PDF

# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020750

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 9.9 . 11.5°C #5
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: 101358 DM 2/18/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020750-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | 2-18-25 / 1700 | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| J. Colp | 2-18-25 1500 | [illegible] | 2/18/25 1500 |
| | | | |
| | | | |
| | | | |
| | | | |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020750

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.1 °C #9
Preserved in: ☐ LAB ☒ FIELD
FOR LAB USE ONLY
LAB NOTES: ph√ 101358 EIC 2119 12025

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Gdp

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020750-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | 2-4-25 / 1325 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 2-19 / 1550 | | 2/19/25 15:50 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020750

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 5.7/5.9 °C #9
Preserved in: [x] LAB [ ] FIELD
FOR LAB USE ONLY
LAB NOTES: Added HNO3(102194) to G121 2 liter and AW-1 2 liter. PHV101358 EK 2/20/2025

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020750-001 | R101 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | 2-20-25 / 1141 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | 2-20-25 / 1255 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | 2-20-25 / 1325 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | 2-20-25 / 1334 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | 2-20-25 / 1221 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | 2-20-25 / 1018 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 2-20 / 1555 | | 2/20/25 1555 |

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25020750

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Client Comments:
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

PROJECT NAME/NUMBER: FGDS Landfill
SAMPLE COLLECTOR'S NAME: Justin Colp

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020750 02 | P07D | 2-20-25 / 1112 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 2-20 / 1555 | | 2/20/25 1555 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25020750

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 5.5 °C #9
Preserved in: [x] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (102194) to G113 and G120. PhV98858, 101358 EK 2/21/2025

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring 4Q2023-3Q2025
RW-3 report data from Ash Pond sampling event.

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25020750-001 | R101 | 2-21-25 / 1020 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G110 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | R111 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | G112 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | G113 | 2-21-25 / 0942 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | G120 | 2-21-25 / 0936 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AW-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | RW-3 | | Groundwater | 0 | 0 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Tracy Carrell | 2/21/25 1222 | Emily Kosakoski | 2/21/2025 1222 |
| | | | |
| | | | |
| | | | |

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# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | R101 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/21/2025 |

**Field Team Members**

Name: Tracy Carroll — Affiliation: TekLab, Inc.

Name: Danny Crump — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F — Wind Direction: ☐ N ☐ S ☑ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/21/2025 9:52

Static Water Level: 6.89 feet below TOC

Total Depth: 35.27 feet below TOC

Water Column: 28.38 feet

**Purging Activities**

Purged By: TC — Purge Date: 2/21/2025

Purge Method: Peristaltic Pump — Well Diameter: 4"

Purge Volume Calculation (L): 28.38 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:54 | 0.0 | 308 | purge start time | | | | | | |
| 10:02 | 2.5 | ↓ | 7.01 | 681.10 | 9.04 | 7.11 | 68.90 | 5.04 | |
| 10:05 | 3.4 | | 7.03 | 681.10 | 8.94 | 6.96 | 69.60 | 6.98 | |
| 10:08 | 4.3 | | 7.04 | 680.60 | 9.10 | 6.78 | 70.30 | 5.30 | |
| 10:11 | 5.2 | | 7.05 | 680.30 | 9.12 | 6.57 | 71.10 | 3.96 | |
| 10:14 | 6.2 | | 7.06 | 681.50 | 9.11 | 6.44 | 71.80 | 3.31 | |
| 10:17 | 7.1 | | 7.07 | 681.00 | 8.82 | 6.31 | 72.70 | 3.08 | |
| 10:20 | 8.0 | | 7.07 | 679.80 | 9.47 | 6.27 | 73.10 | 3.06 | |

**Sampling Activities**

Sampled By: TC — Sample Date/Time: 2/21/2025 10:20

Sample Method: Low Flow — Sample Equipment: Peristaltic Pump

Sample Parameters: 7.07 pH — 679.80 Spec. Cond. — 9.47 Temp

Field Filtered: Yes — Filter Type: Inline Disposable

Water Level: 10.02 feet below TOC — Drawdown: 3.13 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Tracy Carroll — **Date:** 2/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | G110 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 002 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/19/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 16 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/19/2025 13:10

Static Water Level: 24.40 feet below TOC

Total Depth: 57.15 feet below TOC

Water Column: 32.75 feet

**Purging Activities**

Purged By: JC — Purge Date: 2/19/2025

Purge Method: Peristaltic Pump — Well Diameter: 2"

Purge Volume Calculation (L): 32.75 ft. x 0.022 = 0.72 L x 3 Vol. = 2.16 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:10 | 0.0 | 267 | purge start time | | | | | | |
| 13:16 | 1.6 | ↓ | 6.81 | 695.30 | 11.06 | 1.69 | -80.60 | 2.57 | |
| 13:19 | 2.4 | | 6.81 | 694.80 | 11.20 | 1.54 | -84.90 | 2.32 | |
| 13:22 | 3.2 | | 6.80 | 694.80 | 11.05 | 1.41 | -87.40 | 2.86 | |
| 13:25 | 4.0 | | 6.80 | 693.10 | 11.20 | 1.33 | -89.00 | 4.16 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 2/19/2025 13:25

Sample Method: Low Flow — Sample Equipment: Peristaltic Pump

Sample Parameters: 6.80 pH — 693.10 Spec. Cond. — 11.20 Temp

Field Filtered: Yes — Filter Type: Inline Disposable

Water Level: 24.48 feet below TOC — Drawdown: 0.08 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** **Date:** 2/19/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | R111 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/20/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 11 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 11:26

Static Water Level: 25.04 feet below TOC

Total Depth: 55.75 feet below TOC

Water Column: 30.71 feet

**Purging Activities**

Purged By: JC Purge Date: 2/20/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.71 ft. x 0.022 = 0.68 L x 3 Vol. = 2.04 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 3.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:27 | 0.0 | 214 | purge start time | | | | | | |
| 11:32 | 1.1 | ↓ | 6.94 | 851.90 | 8.56 | 1.64 | -103.20 | 6.33 | |
| 11:35 | 1.7 | | 6.92 | 806.60 | 8.51 | 1.39 | -107.50 | 4.95 | |
| 11:38 | 2.4 | | 6.89 | 895.30 | 8.40 | 1.29 | -109.10 | 3.74 | |
| 11:41 | 3.0 | | 6.86 | 1,087.10 | 8.21 | 1.23 | -109.20 | 3.75 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/20/2025 11:41

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.86 pH 1,087.10 Spec. Cond. 8.21 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 25.18 feet below TOC Drawdown: 0.14 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/20/2025

# Field Data Sheet

**Project Name:** FGDS LF
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020750
**Monitoring Point:** G112
**Sample ID:** 004
**Date (s):** 2/20/2025

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 17 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 12:38
Static Water Level: 28.49 feet below TOC
Total Depth: 58.81 feet below TOC
Water Column: 30.32 feet

**Purging Activities**

Purged By: JC — Purge Date: 2/20/2025
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 30.32 ft. x 0.022 = 0.67 L x 3 Vol. = 2.01 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:40 | 0.0 | 200 | purge start time | | | | | | |
| 12:46 | 1.2 | ↓ | 7.06 | 1,328.20 | 8.92 | 2.09 | -120.20 | 4.12 | |
| 12:49 | 1.8 | | 7.06 | 1,336.20 | 8.54 | 2.39 | -124.20 | 3.97 | |
| 12:52 | 2.4 | | 7.07 | 1,342.30 | 8.55 | 2.47 | -124.60 | 4.26 | |
| 12:55 | 3.0 | | 7.07 | 1,363.10 | 8.65 | 2.50 | -123.60 | 3.81 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 2/20/2025 12:55
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 7.07 pH — 1,363.10 Spec. Cond. — 8.65 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 28.49 feet below TOC — Drawdown: 0.00 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp — **Date:** 2/20/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | G113 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/21/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F Wind Direction: ☐ N ☐ S ☑ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/21/2025 9:11

Static Water Level: 5.01 feet below TOC

Total Depth: 12.85 feet below TOC

Water Column: 7.84 feet

**Purging Activities**

Purged By: JC Purge Date: 2/21/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 7.84 ft. x 0.022 = 0.17 L x 3 Vol. = 0.51 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 2.50 L

Physical appearance of purge water: Cloudy Odor: None Color: lt brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:27 | 0.0 | 167 | purge start time | | | | | | |
| 9:30 | 0.5 | ↓ | 6.55 | 1,694.40 | 5.46 | 2.95 | -105.30 | 84.13 | |
| 9:33 | 1.0 | | 6.47 | 1,683.60 | 4.66 | 1.88 | -96.90 | 82.59 | |
| 9:36 | 1.5 | | 6.43 | 1,681.50 | 4.84 | 1.65 | -98.10 | 59.92 | |
| 9:39 | 2.0 | | 6.41 | 1,680.30 | 5.12 | 1.48 | -100.40 | 59.73 | |
| 9:42 | 2.5 | | 6.40 | 1,688.90 | 5.02 | 1.32 | -102.50 | 68.40 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/21/2025 9:42

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.40 pH 1,688.90 Spec. Cond. 5.02 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 7.45 feet below TOC Drawdown: 2.44 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | G120 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 006 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/21/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F Wind Direction: ☐ N ☐ S ☑ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/21/2025 9:15

Static Water Level: 15.89 feet below TOC

Total Depth: 50.37 feet below TOC

Water Column: 34.48 feet

**Purging Activities**

Purged By: BG Purge Date: 2/21/2025

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.48 ft. x 0.022 = 0.76 L x 3 Vol. = 2.28 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:15 | 0.0 | 286 | purge start time | | | | | | |
| 9:24 | 2.6 | ↓ | 6.68 | 1,927.00 | 11.01 | 3.56 | -117.50 | 72.51 | |
| 9:27 | 3.4 | | 6.66 | 1,924.20 | 13.36 | 2.96 | -123.80 | 21.63 | |
| 9:30 | 4.3 | | 6.66 | 1,923.00 | 13.29 | 2.61 | -127.10 | 12.70 | |
| 9:33 | 5.1 | | 6.66 | 1,921.80 | 13.29 | 2.37 | -128.90 | 13.74 | |
| 9:36 | 6.0 | | 6.66 | 1,914.80 | 13.23 | 2.20 | -130.40 | 16.78 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 2/21/2025 9:36

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 6.66 pH 1,914.80 Spec. Cond. 13.23 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 16.34 feet below TOC Drawdown: 0.45 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Brett Gillihan **Date:** 2/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | G121 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 007 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/20/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 17 °F Wind Direction: ☐ N ☐ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/21/2025 13:01

Static Water Level: 28.25 feet below TOC

Total Depth: 58.56 feet below TOC

Water Column: 30.31 feet

**Purging Activities**

Purged By: BG Purge Date: 2/20/2025

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.31 ft. x 0.022 = 0.67 L x 3 Vol. = 2.01 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 10.00 L

Physical appearance of purge water: Cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:01 | 0.0 | 417 | purge start time | | | | | | |
| 13:13 | 5.0 | ↓ | 6.95 | 1,563.90 | 12.00 | 3.36 | -117.40 | 41.75 | |
| 13:16 | 6.3 | | 6.95 | 1,579.30 | 12.12 | 2.80 | -121.70 | 27.75 | |
| 13:19 | 7.5 | | 6.95 | 1,565.20 | 12.25 | 2.47 | -123.30 | 33.21 | |
| 13:22 | 8.8 | | 6.95 | 1,564.30 | 12.48 | 2.19 | -126.30 | 30.81 | |
| 13:25 | 10.0 | | 6.95 | 1,565.50 | 12.64 | 1.97 | -128.70 | 30.48 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 2/20/2025 13:25

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 6.95 pH 1,565.50 Spec. Cond. 12.64 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 29.31 feet below TOC Drawdown: 1.06 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Brett Gillihan **Date:** 2/20/2025

# Field Data Sheet

**Project Name:** FGDS LF
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020750
**Monitoring Point:** G122
**Sample ID:** 008
**Date (s):** 2/20/2025

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 18 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 13:21
Static Water Level: 29.72 feet below TOC
Total Depth: 49.29 feet below TOC
Water Column: 19.57 feet

**Purging Activities**

Purged By: JC Purge Date: 2/20/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 19.57 ft. x 0.022 = 0.43 L x 3 Vol. = 1.29 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:21 | 0.0 | 222 | purge start time | | | | | | |
| 13:24 | 0.7 | ↓ | 6.95 | 1,403.30 | 11.69 | 3.44 | -26.40 | 13.20 | |
| 13:27 | 1.3 | | 6.84 | 1,426.70 | 10.26 | 2.18 | -15.00 | 13.16 | |
| 13:30 | 2.0 | | 6.80 | 1,417.30 | 10.09 | 1.92 | -9.40 | 12.82 | |
| 13:33 | 2.7 | | 6.78 | 1,421.70 | 10.05 | 1.78 | -6.40 | 12.78 | |
| 13:36 | 3.3 | | 6.76 | 1,419.90 | 10.15 | 1.56 | -4.50 | 13.40 | |
| 13:39 | 4.0 | | 6.75 | 1,424.40 | 10.11 | 1.48 | -3.20 | 14.15 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/20/2025 13:39
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.75 pH 1,424.40 Spec. Cond. 10.11 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 29.76 feet below TOC Drawdown: 0.04 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/20/2025

# Field Data Sheet

**Project Name:** FGDS LF
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020750
**Monitoring Point:** AW-1
**Sample ID:** 009
**Date (s):** 2/20/2025

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 15 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 12:06
Static Water Level: 13.45 feet below TOC
Total Depth: 54.81 feet below TOC
Water Column: 41.36 feet

**Purging Activities**

Purged By: JC — Purge Date: 2/20/2025
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 41.36 ft. x 0.022 = 0.91 L x 3 Vol. = 2.73 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:07 | 0.0 | 214 | purge start time | | | | | | |
| 12:15 | 1.7 | ↓ | 6.66 | 1,309.30 | 8.60 | 5.87 | -75.60 | 9.62 | |
| 12:18 | 2.4 | | 6.65 | 1,312.30 | 8.97 | 6.03 | -77.20 | 8.26 | |
| 12:21 | 3.0 | | 6.64 | 1,313.90 | 9.02 | 6.19 | -78.20 | 8.45 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 2/20/2025 12:21
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.64 pH — 1,313.90 Spec. Cond. — 9.02 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 15.57 feet below TOC — Drawdown: 2.12 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp — **Date:** 2/20/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | AW-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/20/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Payton Yoch — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 6 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 9:42

Static Water Level: 4.53 feet below TOC

Total Depth: 32.64 feet below TOC

Water Column: 28.11 feet

**Purging Activities**

Purged By: JC — Purge Date: 2/20/2025

Purge Method: Peristaltic Pump — Well Diameter: 2"

Purge Volume Calculation (L): 28.11 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:53 | 0.0 | 240 | purge start time | | | | | | |
| 9:57 | 1.0 | ↓ | 7.08 | 771.10 | 5.54 | 2.16 | 47.20 | 37.34 | |
| 10:00 | 1.7 | | 7.05 | 764.70 | 4.92 | 1.87 | 35.40 | 40.57 | |
| 10:03 | 2.4 | | 7.05 | 763.70 | 5.38 | 1.63 | 18.90 | 30.93 | |
| 10:06 | 3.1 | | 7.05 | 764.50 | 5.25 | 1.51 | 7.50 | 25.69 | |
| 10:09 | 3.8 | | 7.05 | 765.40 | 5.92 | 1.38 | 4.20 | 26.14 | |
| 10:12 | 4.6 | | 7.05 | 767.40 | 5.19 | 1.34 | 1.30 | 17.26 | |
| 10:15 | 5.3 | | 7.05 | 766.70 | 5.52 | 1.29 | 0.40 | 13.58 | |
| 10:18 | 6.0 | | 7.05 | 763.60 | 5.52 | 1.27 | -0.10 | 17.95 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 2/20/2025 10:18

Sample Method: Low Flow — Sample Equipment: Peristaltic Pump

Sample Parameters: 7.05 pH — 763.60 Spec. Cond. — 5.52 Temp

Field Filtered: Yes — Filter Type: Inline Disposable

Water Level: 5.49 feet below TOC — Drawdown: 0.96 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp — **Date:** 2/20/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS LF | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 011 |
| **W.O. Number (s):** | 25020750 | **Date (s):** | 2/18/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 8 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | No |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/18/2025 11:44

Static Water Level: 9.56 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 34.45 feet

**Purging Activities**

Purged By: JC Purge Date: 2/18/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.45 ft. x 0.022 = 0.76 L x 3 Vol. = 2.28 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: ltbrown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:45 | 0.0 | 333 | purge start time | | | | | | |
| 11:48 | 1.0 | ↓ | 7.08 | 616.30 | 11.66 | 1.23 | -125.20 | 41.78 | |
| 11:51 | 2.0 | | 7.08 | 629.50 | 11.89 | 0.70 | -143.50 | 48.63 | |
| 11:54 | 3.0 | | 7.09 | 631.70 | 11.94 | 0.58 | -151.00 | 29.58 | |
| 11:57 | 4.0 | | 7.10 | 629.70 | 11.94 | 0.54 | -154.20 | 25.24 | |
| 12:00 | 5.0 | | 7.10 | 622.80 | 11.96 | 0.54 | -154.20 | 20.73 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/18/2025 12:00

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.10 pH 622.80 Spec. Cond. 11.96 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 15.15 feet below TOC Drawdown: 5.59 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/18/2025

# Field Data Sheet

**Project Name:** FGDS LF
**Project Location:** Springfield, IL
**W.O. Number (s):** 25020750
**Monitoring Point:** P07D
**Sample ID:** 012
**Date (s):** 2/20/2025

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 7 °F Wind Direction: ☐ N ☑ S ☐ E ☐ EW ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 2/20/2025 10:31
Static Water Level: 4.49 feet below TOC
Total Depth: 32.54 feet below TOC
Water Column: 28.05 feet

**Purging Activities**

Purged By: JC Purge Date: 2/20/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 28.05 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 7.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: ltbrown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:34 | 0.0 | 184 | purge start time | | | | | | |
| 11:00 | 4.8 | ↓ | 6.77 | 1,251.80 | 8.06 | 1.22 | -106.10 | 63.75 | |
| 11:03 | 5.3 | | 6.78 | 1,248.00 | 7.78 | 1.21 | -109.50 | 55.28 | |
| 11:06 | 5.9 | | 6.77 | 1,250.70 | 7.60 | 1.08 | -111.70 | 46.90 | |
| 11:09 | 6.4 | | 6.77 | 1,251.50 | 8.27 | 1.01 | -113.80 | 40.37 | |
| 11:12 | 7.0 | | 6.78 | 1,252.30 | 8.21 | 0.99 | -115.20 | 40.04 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 2/20/2025 11:12
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 7.10 pH 622.80 Spec. Cond. 11.96 Temp
Field Filtered: No Filter Type:
Water Level: 4.55 feet below TOC Drawdown: 0.06 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 50115

**Form Completed By:** Justin Colp **Date:** 2/20/2025

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25020750
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 50115 Technician(s): justin colp Date: 2/18/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/18/25 9:30 |
| 7.0 Buffer | wc240913b | 7.00 | 2/18/25 9:26 |
| 10.0 Buffer | wc240625b | 10.00 | 2/18/25 9:34 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/18/25 9:42 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.5 | 2/18/25 9:42 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 2/18/25 9:44 | 17.5 | 7.02 | 1,410 | 0.51 | | |
| CCV-1-JC | CCV | 2/18/25 13:20 | 18.5 | 7.06 | 1,423 | 0.57 | | |

**Comments:**

Field Meter ID: Pine 50115 Technician(s): justn colp Date: 2/19/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/19/25 10:31 |
| 7.0 Buffer | wc240913b | 7.00 | 2/19/25 10:28 |
| 10.0 Buffer | wc240625b | 10.00 | 2/19/25 10:36 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/19/25 10:47 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.49 | 2/19/25 10:53 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-JC | LCS | 2/19/25 10:55 | 9.1 | 7.01 | 1,411 | 0.47 | | |
| CCV-2-JC | CCV | 2/19/25 14:29 | 11.1 | 7.03 | 1,417 | 0.56 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25020750
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 50115 Technician(s): justin colp Date: 2/20/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/20/25 8:56 |
| 7.0 Buffer | wc240913b | 7.00 | 2/20/25 8:51 |
| 10.0 Buffer | wc240625b | 10.00 | 2/20/25 9:00 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/20/25 9:06 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.5 | 2/20/25 9:06 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-JC | LCS | 2/20/25 9:08 | 9.3 | 6.99 | 1,415 | 0.5 | | |
| CCV-3-JC | CCV | 2/20/25 13:42 | 10.4 | 7.02 | 1,426 | 0.54 | | |

**Comments:**

Field Meter ID: Pine 50115 Technician(s): justin colp Date: 2/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc230619c | 4.00 | 2/21/25 8:41 |
| 7.0 Buffer | wc240913b | 7.00 | 2/21/25 8:37 |
| 10.0 Buffer | wc240625b | 10.00 | 2/21/25 8:45 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/21/25 8:53 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.6 | 2/21/25 8:53 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4-JC | LCS | 2/21/25 8:55 | 9.4 | 7.02 | 1,413 | 0.62 | | |
| CCV-4-JC | CCV | 2/21/25 10:30 | 9.7 | 7.02 | 1,418 | 0.61 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25020750
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210756 Technician(s): Tracy Carroll Date: 2/19/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230619C | 4.01 | 2/19/25 11:14 |
| 7.0 Buffer | WC240913B | 7.00 | 2/19/25 11:11 |
| 10.0 Buffer | WC240625B | 10.00 | 2/19/25 11:19 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/19/25 11:05 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-TC | LCS | 2/19/25 11:21 | 0.3 | 7.06 | 1,413 | | | |
| CCV-1-TC | CCV | 2/19/25 14:27 | 13.7 | 7.08 | 1,321 | | | |

**Comments:**

Field Meter ID: Pine 210756 Technician(s): Tracy Carroll Date: 2/20/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230619C | 4.00 | 2/20/25 9:55 |
| 7.0 Buffer | WC240913B | 7.00 | 2/20/25 9:49 |
| 10.0 Buffer | WC240625B | 10.00 | 2/20/25 10:12 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/20/25 10:13 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-TC | LCS | 2/20/25 10:25 | 0.6 | 7.09 | 1,417 | | | |
| CCV-2-TC | CCV | 2/20/25 14:35 | 0.8 | 7.09 | 1,423 | | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25020750
**Technician(s):** DC, JC, TC, BG, PY

**Field Calibration Log(s)**
**CWLP- 1Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210756 Technician(s): Tracy Carroll Date: 2/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC230619C | 4.01 | 2/21/25 9:29 |
| 7.0 Buffer | WC240913B | 7.00 | 2/21/25 9:21 |
| 10.0 Buffer | WC240625B | 10.00 | 2/21/25 9:33 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 102040 | 1412 | 2/21/25 9:41 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | | |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-TC | LCS | 2/21/25 9:44 | 0.2 | 7.05 | 1,415 | | | |
| CCV-3-TC | CCV | 2/21/25 10:46 | 0.2 | 7.06 | 1,404 | | | |

**Comments:**

*Alliance Technical Group - Akron*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

March 31, 2025

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 25020750

Order No.: 25030052

Dear Shelly Hennessy:

Alliance Technical Group - Akron received 12 sample(s) on 2/27/2025 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **25030052**
Date: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750

WorkOrder Narrative:
25030052: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-82663 Radium-228_DW(904.0): LCS/LCSD exhibited a high RPD, individually each LCS/LCSD meets the required criteria.

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Cuyahoga Falls, Ohio 4422
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Website: http://www.settek.co

# Qualifiers and Acronyms

WO#: **25030052**
Date: **3/31/2025**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Alliance Technical Group - Akron*
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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **25030052**
***31-Mar-25***

**CLIENT:** TEKLAB Inc,
**Project:** 25020750

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 25030052-001 | 25020750-001 | | 2/21/2025 10:20:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-002 | 25020750-002 | | 2/19/2025 1:25:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-003 | 25020750-003 | | 2/20/2025 11:41:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-004 | 25020750-004 | | 2/20/2025 12:55:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-005 | 25020750-005 | | 2/21/2025 9:42:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-006 | 25020750-006 | | 2/21/2025 9:36:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-007 | 25020750-007 | | 2/20/2025 1:25:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-008 | 25020750-008 | | 2/20/2025 1:39:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-009 | 25020750-009 | | 2/20/2025 12:21:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-010 | 25020750-010 | | 2/20/2025 10:18:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-011 | 25020750-011 | | 2/18/2025 12:00:00 PM | 2/27/2025 11:30:00 AM | Non-Potable Water |
| 25030052-012 | 25020750-012 | | 2/20/2025 11:12:00 AM | 2/27/2025 11:30:00 AM | Non-Potable Water |

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*3310 Win St.*
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*Website: http://www.settek.com*

# DATES REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 25030052-001A | 25020750-001 | 2/21/2025 10:20:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25030052-002A | 25020750-002 | 2/19/2025 1:25:00 PM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25030052-003A | 25020750-003 | 2/20/2025 11:41:00 AM | | Radium-226 (EPA 903.0) | | 3/5/2025 10:47:15 AM | 3/26/2025 9:39:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/5/2025 10:47:15 AM | 3/25/2025 2:10:00 PM |
| 25030052-004A | 25020750-004 | 2/20/2025 12:55:00 PM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-005A | 25020750-005 | 2/21/2025 9:42:00 AM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-006A | 25020750-006 | 2/21/2025 9:36:00 AM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-007A | 25020750-007 | 2/20/2025 1:25:00 PM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-008A | 25020750-008 | 2/20/2025 1:39:00 PM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-009A | 25020750-009 | 2/20/2025 12:21:00 PM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-010A | 25020750-010 | 2/20/2025 10:18:00 AM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |
| | | | | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |
| 25030052-011A | 25020750-011 | 2/18/2025 12:00:00 PM | | Radium-226 (EPA 903.0) | | 3/4/2025 11:20:02 AM | 3/27/2025 10:25:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 3/4/2025 11:20:02 AM | 3/26/2025 3:34:00 PM |
| 25030052-012A | 25020750-012 | 2/20/2025 11:12:00 AM | | Radium-226 (EPA 903.0) | | 3/8/2025 1:30:00 PM | 3/23/2025 1:04:00 PM |

Original

*Alliance Technical Group - Akron*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# DATES REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,

**Project:** 25020750

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 25030052-012A | 25020750-012 | 2/20/2025 11:12:00 AM | Non-Potable Water | Radium-228 (EPA 904.0) | | 3/8/2025 1:30:00 PM | 3/21/2025 2:04:00 PM |

Original

*Alliance Technical Group - Akron*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-001
**Client Sample ID:** 25020750-001

**Collection Date:** 2/21/2025 10:20:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.100 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.380 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/19/2025 1:25:00 PM
**Project:** 25020750
**Lab ID:** 25030052-002
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020750-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.160 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.380 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-003
**Client Sample ID:** 25020750-003

**Collection Date:** 2/20/2025 11:41:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.210 | 1 | 3/26/2025 9:39:00 AM |
| Yield | 1.00 | | | | | 1 | 3/26/2025 9:39:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.530 | 1 | 3/25/2025 2:10:00 PM |
| Yield | 1.00 | | | | | 1 | 3/25/2025 2:10:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 12:55:00 PM
**Project:** 25020750
**Lab ID:** 25030052-004
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020750-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.180 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.350 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-005
**Client Sample ID:** 25020750-005

**Collection Date:** 2/21/2025 9:42:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.160 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 0.990 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.460 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 0.920 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-006
**Client Sample ID:** 25020750-006

**Collection Date:** 2/21/2025 9:36:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 2.75 | 1.00 | | pCi/L | ± 0.360 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.470 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-007
**Client Sample ID:** 25020750-007

**Collection Date:** 2/20/2025 1:25:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 1.97 | 1.00 | | pCi/L | ± 0.300 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.460 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-008
**Client Sample ID:** 25020750-008

**Collection Date:** 2/20/2025 1:39:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.0800 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.280 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-009
**Client Sample ID:** 25020750-009

**Collection Date:** 2/20/2025 12:21:00 PM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.200 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.500 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Project:** 25020750
**Lab ID:** 25030052-010
**Client Sample ID:** 25020750-010

**Collection Date:** 2/20/2025 10:18:00 AM
**Matrix:** NON-POTABLE WATER

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.110 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.00 | | pCi/L | ± 0.290 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/18/2025 12:00:00 PM
**Project:** 25020750
**Lab ID:** 25030052-011
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020750-011

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | ND | 1.30 | | pCi/L | ± 0.110 | 1 | 3/27/2025 10:25:00 AM |
| Yield | 1.00 | | | | | 1 | 3/27/2025 10:25:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | ND | 1.30 | | pCi/L | ± 0.440 | 1 | 3/26/2025 3:34:00 PM |
| Yield | 0.780 | | | | | 1 | 3/26/2025 3:34:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **25030052**

Date Reported: **3/31/2025**

**CLIENT:** TEKLAB Inc,
**Collection Date:** 2/20/2025 11:12:00 AM
**Project:** 25020750
**Lab ID:** 25030052-012
**Matrix:** NON-POTABLE WATER
**Client Sample ID:** 25020750-012

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **HDJ** |
| Radium-226 | 1.17 | 1.00 | | pCi/L | ± 0.240 | 1 | 3/23/2025 1:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/23/2025 1:04:00 PM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **HDJ** |
| Radium-228 | 1.32 | 1.00 | | pCi/L | ± 0.500 | 1 | 3/21/2025 2:04:00 PM |
| Yield | 1.00 | | | | | 1 | 3/21/2025 2:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82663**

| Sample ID: **MB-82663** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205809** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5509486** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-82663** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205809** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5509487** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 6.47 | 1.00 | 5.000 | 0 | 129 | 50 | 130 | | | | QLR |
| Yield | 0.580 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-82663** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/4/2025** | RunNo: **205809** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82663** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5509488** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.45 | 1.00 | 5.000 | 0 | 89.0 | 50 | 130 | 6.470 | 37.0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 0.5800 | 53.2 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



Original

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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82663**

Sample ID: **25021873-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509493**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **25021875-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205809**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E904.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5509495**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 1.260 | 200 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82663**

Sample ID: **MB-82663** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509528**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-82663** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509529**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 3.65 | 1.00 | 5.000 | 0 | 73.0 | 70 | 130 | | | | QLR |

Sample ID: **LCSD-82663** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509530**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.97 | 1.00 | 5.000 | 0 | 99.4 | 70 | 130 | 3.650 | 30.6 | 20 | R |

Sample ID: **25021873-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509535**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82663**

Sample ID: **25021873-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509535**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **25021875-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/4/2025** RunNo: **205811**
Client ID: **BatchQC** Batch ID: **82663** TestNo: **E903.0** **E903-904** Analysis Date: **3/27/2025** SeqNo: **5509537**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82683**

| Sample ID: **MB-82683** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205677** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/25/2025** | SeqNo: **5506861** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-82683** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205677** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/25/2025** | SeqNo: **5506862** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.54 | 1.00 | 5.000 | 0 | 70.8 | 50 | 130 | | | | |
| Yield | 0.900 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-82683** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205677** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/25/2025** | SeqNo: **5506863** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.35 | 1.00 | 5.000 | 0 | 67.0 | 50 | 130 | 3.540 | 5.52 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 0.9000 | 10.5 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82683**

Sample ID: **25030002-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506868**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **25030004-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205677**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E904.0** **E903-904** Analysis Date: **3/25/2025** SeqNo: **5506870**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82683**

| Sample ID: **MB-82683** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506940** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-82683** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506941** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.48 | 1.00 | 5.000 | 0 | 89.6 | 70 | 130 | | | | |

| Sample ID: **LCSD-82683** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506942** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.61 | 1.00 | 5.000 | 0 | 92.2 | 70 | 130 | 4.480 | 2.86 | 20 | |

| Sample ID: **25030002-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/5/2025** | RunNo: **205680** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82683** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/26/2025** | SeqNo: **5506947** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82683**

Sample ID: **25030002-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205680**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E903.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5506947**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **25030004-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/5/2025** RunNo: **205680**
Client ID: **BatchQC** Batch ID: **82683** TestNo: **E903.0** **E903-904** Analysis Date: **3/26/2025** SeqNo: **5506949**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82776**

| Sample ID: **MB-82776** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205482** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/21/2025** | SeqNo: **5502453** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-82776** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205482** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/21/2025** | SeqNo: **5502454** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.46 | 1.00 | 5.000 | 0 | 69.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-82776** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205482** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E904.0** | **E903-904** | Analysis Date: **3/21/2025** | SeqNo: **5502455** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 4.00 | 1.00 | 5.000 | 0 | 80.0 | 50 | 130 | 3.460 | 14.5 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82776**

Sample ID: **25030057-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/8/2025** RunNo: **205482**
Client ID: **BatchQC** Batch ID: **82776** TestNo: **E904.0** **E903-904** Analysis Date: **3/21/2025** SeqNo: **5502474**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **25030059-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/8/2025** RunNo: **205482**
Client ID: **BatchQC** Batch ID: **82776** TestNo: **E904.0** **E903-904** Analysis Date: **3/21/2025** SeqNo: **5502476**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82776**

| Sample ID: **MB-82776** | SampType: **MBLK** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205492** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/23/2025** | SeqNo: **5502642** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-82776** | SampType: **LCS** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205492** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/23/2025** | SeqNo: **5502643** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.72 | 1.00 | 5.000 | 0 | 94.4 | 70 | 130 | | | | |

| Sample ID: **LCSD-82776** | SampType: **LCSD** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205492** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/23/2025** | SeqNo: **5502644** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.29 | 1.00 | 5.000 | 0 | 106 | 70 | 130 | 4.720 | 11.4 | 20 | |

| Sample ID: **25030057-001ADUP** | SampType: **DUP** | TestCode: **Radium-226_** | Units: **pCi/L** | Prep Date: **3/8/2025** | RunNo: **205492** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **82776** | TestNo: **E903.0** | **E903-904** | Analysis Date: **3/23/2025** | SeqNo: **5502658** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **25030052**

***31-Mar-25***

**Client:** TEKLAB Inc,
**Project:** 25020750 **BatchID:** **82776**

Sample ID: **25030057-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/8/2025** RunNo: **205492**
Client ID: **BatchQC** Batch ID: **82776** TestNo: **E903.0** **E903-904** Analysis Date: **3/23/2025** SeqNo: **5502658**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **25030059-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/8/2025** RunNo: **205492**
Client ID: **BatchQC** Batch ID: **82776** TestNo: **E903.0** **E903-904** Analysis Date: **3/23/2025** SeqNo: **5502660**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



Original

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

25030052

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 25020750

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 38001 Phone: (618) 344-1004 ext. 36

Report data from 25020749-001

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25020750-001 | 2/21/25 1020 | HNO3 | Groundwater | ✔ | pH | 1 | CPM | 28 | | | | | | | |
| | 25020750-002 | 2/19/25 1325 | HNO3 | Groundwater | ✔ | | 1 | | 23 | | | | | | | |
| | 25020750-003 | 2/20/25 1141 | HNO3 | Groundwater | ✔ | | 1 | | 52 | | | | | | | |
| | 25020750-004 | 2/20/25 1255 | HNO3 | Groundwater | ✔ | | 1 | | 46 | | | | | | | |
| | 25020750-005 | 2/21/25 0942 | HNO3 | Groundwater | ✔ | | 1 | | 30 | | | | | | | |
| | 25020750-006 | 2/21/25 ~~935~~ 0930 | HNO3 | Groundwater | ✔ | | 1 | | 33 | | | | | | | |
| | 25020750-007 | 2/20/25 1325 | HNO3 | Groundwater | ✔ | | 1 | | 38 | | | | | | | |
| | 25020750-008 | 2/20/25 1339 | HNO3 | Groundwater | ✔ | | 1 | | 22 | | | | | | | |
| | 25020750-009 | 2/20/25 1221 | HNO3 | Groundwater | ✔ | | 1 | | 28 | | | | | | | |
| | 25020750-010 | 2/20/25 1018 | HNO3 | Groundwater | ✔ | | 1 | | 30 | | | | | | | |
| | 25020750-011 | 2/18/25 1200 | HNO3 | Groundwater | ✔ | | | | | | | | | | | |

18.8-0.6 = 18.8 cs intact 02/25 - Fedex Box/cooler

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | | [signature] | 02/27/25 1130 |
| | | | |
| | | | |
| | | | |
| | | | |

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sample information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: ____ Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 25020750

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 38001 Phone: (618) 344-1004 ext.

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25020750-012 | 2/20/25 1112 | HNO3 | Groundwater | ✔ | pH | 1 | CPM 52 | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

18.8-0.0=18.8, CS intact 02/25 - Fedex Box/cooler

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | | [signature] | 02/27/25 1130 |
| | | | |
| | | | |
| | | | |
| | | | |

Teklab maintains a strict policy of client confidentiality and as such does not provide client sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)



SubCocRevA
3/2/2016

*Alliance Technical Group - Akron*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 25030052 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Anthony W. Britton | 2/27/2025 11:30:00 AM | Anthony Britton |
| Completed By: | Tegan A. Richards | 3/1/2025 6:16:55 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 3/3/2025 11:03:50 AM | Jennifer Woolf |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐
   No. Seal Date: 2/25/2025 Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:
    Relinquish time & dare not included

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 18.8 | Good | Yes | | 2/25/2025 | |

Second Quarter 2025

June 23, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10438 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Landfill Monitoring Wells **WorkOrder:** 25051157

Dear Eric Staley:

TEKLAB, INC received 12 samples on 5/27/2025 3:35:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 25051157
**Report Date:** 23-Jun-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 31 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25051157

**Client Project:** Landfill Monitoring Wells **Report Date:** 23-Jun-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 25051157
**Report Date:** 23-Jun-25

**Cooler Receipt Temp:** 5.9 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10438 | NELAP | 7/31/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-001
**Client Sample ID:** R101
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 10:46

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **3150** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Barium | NELAP | 2.5 | | **232** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Boron | NELAP | 20.0 | | **129** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Calcium | NELAP | 0.100 | | **175** | mg/L | 1 | 05/29/2025 13:32 | 239684 |
| Chromium | NELAP | 5.0 | | **5.4** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Cobalt | NELAP | 5.0 | | **8.8** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Copper | NELAP | 5.0 | | **10.0** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Iron | NELAP | 40.0 | | **6860** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Magnesium | NELAP | 0.050 | | **69.6** | mg/L | 1 | 05/29/2025 13:32 | 239684 |
| Manganese | NELAP | 7.0 | | **11900** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Potassium | NELAP | 0.100 | | **1.32** | mg/L | 1 | 05/29/2025 13:32 | 239684 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Sodium | NELAP | 0.050 | | **30.1** | mg/L | 1 | 05/29/2025 13:32 | 239684 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| Zinc | NELAP | 10.0 | | **20.5** | µg/L | 1 | 05/29/2025 13:32 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/30/2025 10:06 | 239733 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/30/2025 10:06 | 239733 |
| *LCS recovered outside upper control limits for As. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 15:01 | 239684 |
| Arsenic | NELAP | 1.0 | | **2.1** | µg/L | 5 | 05/28/2025 15:01 | 239684 |
| Lead | NELAP | 1.0 | | **4.3** | µg/L | 5 | 05/28/2025 15:01 | 239684 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 15:01 | 239684 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/29/2025 15:21 | 239734 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/29/2025 15:19 | 239734 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-002
**Client Sample ID:** G110
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 11:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | B | **< 25.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Barium | NELAP | 2.5 | | **179** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Boron | NELAP | 20.0 | | **97.9** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Calcium | NELAP | 0.100 | B | **101** | mg/L | 1 | 05/29/2025 8:27 | 239494 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Iron | NELAP | 40.0 | B | **5720** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Magnesium | NELAP | 0.050 | B | **43.3** | mg/L | 1 | 05/30/2025 8:26 | 239494 |
| Manganese | NELAP | 7.0 | | **73.9** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Potassium | NELAP | 0.100 | | **1.58** | mg/L | 1 | 05/29/2025 8:27 | 239494 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Sodium | NELAP | 0.050 | B | **13.8** | mg/L | 1 | 05/29/2025 8:27 | 239494 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |

*Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*
*Sample result for Fe exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.*
*Contamination present in the MBLK for Al. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **4.7** | µg/L | 5 | 05/23/2025 10:41 | 239534 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/23/2025 10:41 | 239534 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 17:57 | 239494 |
| Arsenic | NELAP | 1.0 | | **4.7** | µg/L | 5 | 05/27/2025 20:18 | 239494 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 17:57 | 239494 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 17:57 | 239494 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 16:56 | 239492 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 16:54 | 239492 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-003
**Client Sample ID:** R111
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 12:22

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 2.5 | | **696** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Boron | NELAP | 20.0 | | **3980** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Calcium | NELAP | 0.100 | B | **166** | mg/L | 1 | 05/29/2025 8:27 | 239494 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Iron | NELAP | 40.0 | B | **12300** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Magnesium | NELAP | 0.050 | B | **72.5** | mg/L | 1 | 05/30/2025 8:26 | 239494 |
| Manganese | NELAP | 7.0 | | **112** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Potassium | NELAP | 0.100 | | **1.94** | mg/L | 1 | 05/29/2025 8:27 | 239494 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Sodium | NELAP | 0.050 | B | **36.9** | mg/L | 1 | 05/29/2025 8:27 | 239494 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 8:27 | 239494 |
| *Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Sample result for Fe exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **16.1** | µg/L | 5 | 05/23/2025 10:47 | 239534 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/23/2025 10:47 | 239534 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 18:04 | 239494 |
| Arsenic | NELAP | 1.0 | | **21.5** | µg/L | 5 | 05/27/2025 20:24 | 239494 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 18:04 | 239494 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 18:04 | 239494 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 17:01 | 239492 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 16:58 | 239492 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-004
**Client Sample ID:** G112
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 12:41

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **75.1** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Barium | NELAP | 2.5 | | **421** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Boron | NELAP | 20.0 | | **500** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Calcium | NELAP | 0.100 | | **245** | mg/L | 1 | 05/29/2025 13:33 | 239684 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Copper | NELAP | 5.0 | | **14.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Iron | NELAP | 40.0 | | **2730** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Magnesium | NELAP | 0.050 | | **73.8** | mg/L | 1 | 05/29/2025 13:33 | 239684 |
| Manganese | NELAP | 7.0 | | **254** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Potassium | NELAP | 0.100 | | **2.64** | mg/L | 1 | 05/29/2025 13:33 | 239684 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Sodium | NELAP | 0.050 | | **31.7** | mg/L | 1 | 05/29/2025 13:33 | 239684 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 13:33 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/30/2025 10:12 | 239733 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/30/2025 10:12 | 239733 |
| *LCS recovered outside upper control limits for As. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **1.2** | µg/L | 5 | 05/28/2025 15:07 | 239684 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 15:07 | 239684 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 15:07 | 239684 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 15:07 | 239684 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/29/2025 15:30 | 239734 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/29/2025 15:28 | 239734 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-005
**Client Sample ID:** G113
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 11:40

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **45.8** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Barium | NELAP | 2.5 | | **338** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Beryllium | NELAP | 0.5 | | **0.9** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Boron | NELAP | 20.0 | | **1170** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Calcium | NELAP | 0.100 | | **350** | mg/L | 1 | 05/29/2025 13:59 | 239684 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Iron | NELAP | 40.0 | | **328** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Magnesium | NELAP | 0.050 | | **84.7** | mg/L | 1 | 05/29/2025 13:59 | 239684 |
| Manganese | NELAP | 7.0 | | **12000** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Potassium | NELAP | 0.100 | | **3.61** | mg/L | 1 | 05/29/2025 13:59 | 239684 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Sodium | NELAP | 0.050 | | **24.0** | mg/L | 1 | 05/29/2025 13:59 | 239684 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 13:59 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/30/2025 10:18 | 239733 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/30/2025 10:18 | 239733 |
| *LCS recovered outside upper control limits for As. Sample results are below the reporting limit. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 15:13 | 239684 |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 15:13 | 239684 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 15:13 | 239684 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 15:13 | 239684 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/29/2025 15:34 | 239734 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/29/2025 15:32 | 239734 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-006
**Client Sample ID:** G120
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 13:58

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 2.5 | | **2330** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Beryllium | NELAP | 0.5 | | **0.5** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Boron | NELAP | 20.0 | | **7620** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Cadmium | NELAP | 2.0 | | **2.1** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Calcium | NELAP | 0.100 | BS | **258** | mg/L | 1 | 05/29/2025 8:28 | 239494 |
| Chromium | NELAP | 5.0 | | **10.7** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Cobalt | NELAP | 5.0 | | **7.5** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Copper | NELAP | 5.0 | | **35.1** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Iron | NELAP | 40.0 | B | **68000** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Magnesium | NELAP | 0.050 | BS | **109** | mg/L | 1 | 05/30/2025 8:27 | 239494 |
| Manganese | NELAP | 7.0 | | **548** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Nickel | NELAP | 5.0 | | **11.1** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Potassium | NELAP | 0.100 | | **2.58** | mg/L | 1 | 05/29/2025 8:28 | 239494 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Sodium | NELAP | 0.050 | B | **42.2** | mg/L | 1 | 05/29/2025 8:28 | 239494 |
| Vanadium | NELAP | 10.0 | | **16.2** | µg/L | 1 | 05/29/2025 8:28 | 239494 |
| Zinc | NELAP | 10.0 | | **101** | µg/L | 1 | 05/29/2025 8:28 | 239494 |

*Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*
*Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.*
*Sample results for Al and Fe exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*
*Matrix spike did not recover within control limits due to matrix interference. Verified by bench spike.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **7.7** | µg/L | 5 | 05/23/2025 10:52 | 239534 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/23/2025 10:52 | 239534 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **1.8** | µg/L | 5 | 05/28/2025 18:16 | 239494 |
| Arsenic | NELAP | 1.0 | | **17.4** | µg/L | 5 | 05/27/2025 21:53 | 239494 |
| Lead | NELAP | 1.0 | | **8.2** | µg/L | 5 | 05/28/2025 18:16 | 239494 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 18:16 | 239494 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 17:15 | 239492 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 17:03 | 239492 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-007
**Client Sample ID:** G121
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 11:43

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 2.5 | | **631** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Boron | NELAP | 20.0 | | **3950** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Calcium | NELAP | 0.100 | | **197** | mg/L | 1 | 05/29/2025 14:14 | 239543 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Copper | NELAP | 5.0 | | **12.5** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Iron | NELAP | 40.0 | | **23200** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Magnesium | NELAP | 0.050 | | **87.3** | mg/L | 1 | 05/29/2025 14:14 | 239543 |
| Manganese | NELAP | 7.0 | | **212** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Potassium | NELAP | 0.100 | | **3.17** | mg/L | 1 | 05/29/2025 14:14 | 239543 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Sodium | NELAP | 0.050 | | **42.2** | mg/L | 1 | 05/29/2025 14:14 | 239543 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:14 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **14.1** | µg/L | 5 | 05/27/2025 13:20 | 239569 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 13:20 | 239569 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **1.0** | µg/L | 5 | 05/27/2025 11:08 | 239543 |
| Arsenic | NELAP | 1.0 | | **15.0** | µg/L | 5 | 05/27/2025 11:08 | 239543 |
| Lead | NELAP | 1.0 | | **2.3** | µg/L | 5 | 05/23/2025 13:10 | 239543 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/23/2025 13:10 | 239543 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:04 | 239545 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:01 | 239545 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-008
**Client Sample ID:** G122
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 12:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **31.6** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Barium | NELAP | 2.5 | | **515** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Boron | NELAP | 20.0 | | **11700** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Calcium | NELAP | 0.100 | | **253** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Iron | NELAP | 40.0 | | **33200** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Magnesium | NELAP | 0.050 | | **97.9** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Manganese | NELAP | 7.0 | | **1180** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Potassium | NELAP | 0.100 | | **2.01** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Sodium | NELAP | 0.050 | | **39.6** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **3.1** | µg/L | 5 | 05/27/2025 13:25 | 239569 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 13:25 | 239569 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 11:14 | 239543 |
| Arsenic | NELAP | 1.0 | | **2.7** | µg/L | 5 | 05/27/2025 11:14 | 239543 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/23/2025 13:16 | 239543 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/23/2025 13:16 | 239543 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:13 | 239545 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:11 | 239545 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-009
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 10:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 2.5 | | **78.1** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Boron | NELAP | 20.0 | | **8790** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Calcium | NELAP | 0.100 | | **202** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Iron | NELAP | 40.0 | | **254** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Magnesium | NELAP | 0.050 | | **88.5** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Manganese | NELAP | 7.0 | | **50.8** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Potassium | NELAP | 0.100 | | **2.50** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Sodium | NELAP | 0.050 | | **33.0** | mg/L | 1 | 05/29/2025 14:15 | 239543 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:15 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 13:31 | 239569 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 13:31 | 239569 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 11:19 | 239543 |
| Arsenic | NELAP | 1.0 | | **1.5** | µg/L | 5 | 05/27/2025 11:19 | 239543 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/23/2025 13:22 | 239543 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/23/2025 13:22 | 239543 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 15:05 | 239545 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:15 | 239545 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-010
**Client Sample ID:** AW-2
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 13:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 2.5 | | **641** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Boron | NELAP | 20.0 | | **3160** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Calcium | NELAP | 0.100 | | **163** | mg/L | 1 | 05/29/2025 14:16 | 239543 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Iron | NELAP | 40.0 | | **18600** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Magnesium | NELAP | 0.050 | | **66.7** | mg/L | 1 | 05/29/2025 14:16 | 239543 |
| Manganese | NELAP | 7.0 | | **234** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Potassium | NELAP | 0.100 | | **2.36** | mg/L | 1 | 05/29/2025 14:16 | 239543 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Sodium | NELAP | 0.050 | | **43.9** | mg/L | 1 | 05/29/2025 14:16 | 239543 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 14:16 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **15.0** | µg/L | 5 | 05/27/2025 13:36 | 239569 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 13:36 | 239569 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 11:25 | 239543 |
| Arsenic | NELAP | 1.0 | | **16.3** | µg/L | 5 | 05/27/2025 11:25 | 239543 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/23/2025 13:29 | 239543 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/23/2025 13:29 | 239543 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:27 | 239545 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/23/2025 14:25 | 239545 |

**Client:** City Water, Light & Power
**Work Order:** 25051157
**Client Project:** Landfill Monitoring Wells
**Report Date:** 23-Jun-25
**Lab ID:** 25051157-011
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 10:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Aluminum | NELAP | 25.0 | | **43.6** | µg/L | 1 | 06/03/2025 16:25 | 239883 |
| Barium | NELAP | 2.5 | | **149** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Beryllium | NELAP | 0.5 | | **< 0.5** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Boron | NELAP | 20.0 | | **167** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Cadmium | NELAP | 2.0 | | **< 2.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Calcium | NELAP | 0.100 | B | **68.0** | mg/L | 1 | 05/29/2025 8:30 | 239494 |
| Chromium | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Cobalt | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Copper | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Iron | NELAP | 40.0 | B | **3930** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Magnesium | NELAP | 0.050 | B | **28.3** | mg/L | 1 | 05/30/2025 8:18 | 239494 |
| Manganese | NELAP | 7.0 | | **90.9** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Nickel | NELAP | 5.0 | | **< 5.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Potassium | NELAP | 0.100 | | **1.96** | mg/L | 1 | 05/29/2025 8:30 | 239494 |
| Selenium | NELAP | 40.0 | | **< 40.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Silver | NELAP | 7.0 | | **< 7.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Sodium | NELAP | 0.050 | B | **51.7** | mg/L | 1 | 05/29/2025 8:30 | 239494 |
| Vanadium | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| Zinc | NELAP | 10.0 | | **< 10.0** | µg/L | 1 | 05/29/2025 8:30 | 239494 |
| *Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Sample result for Fe exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **67.8** | µg/L | 5 | 05/27/2025 8:08 | 239534 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/27/2025 8:08 | 239534 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 18:10 | 239494 |
| Arsenic | NELAP | 1.0 | | **84.6** | µg/L | 5 | 05/27/2025 20:29 | 239494 |
| Lead | NELAP | 1.0 | | **< 1.0** | µg/L | 5 | 05/28/2025 18:10 | 239494 |
| Thallium | NELAP | 2.0 | | **< 2.0** | µg/L | 5 | 05/28/2025 18:10 | 239494 |
| **SW-846 7470A (DISSOLVED)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 17:19 | 239492 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.20 | | **< 0.20** | µg/L | 1 | 05/22/2025 17:17 | 239492 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Landfill Monitoring Wells

**Work Order:** 25051157
**Report Date:** 23-Jun-25

**Carrier:** Daniel Crump

**Received By:** LEH

**Completed by:** Laura E Henson
**On:** 21-May-25

**Reviewed by:** Ellie Hopkins
**On:** 27-May-25

**Pages to follow:** Chain of custody 5 Extra pages included 15

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 5.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip #101358/98858. - lhenson - 5/21/2025 5:13:57 PM

Cooler #2 = 5.3C, Cooler #3 = 8.3C (LTG#9). - LH 5/21/25

Samples were received on 5/22/25 at 15.45 on ice [temp 4.5C, 7.1C - LTG#9]. pH#101358/98858. - JD/lhenson - 5/22/2025 4:36:37 PM

Samples were received on 5/27/25 at 1535 on ice [13.1/16.3C - LTG#5]. Additional Sodium Hydroxide (102642) was needed upon arrival at the laboratory for G113. pH strip #98858/101358. R101 - date and time of collection per WO #25051159. - EK/amberdilallo - 5/27/2025 4:13:46 PM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051157

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

5.3, 8.3

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.9 °C 9

Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY

LAB NOTES: HV 101358/98858

LH 5/21/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No

Are these samples known to be hazardous? [ ] Yes [✓] No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**

Quarter 2

*elevations, pH, conductivity, temperature

**As B Cd Cr Pb Mg Hg Zn

***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**

Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

Payton Tock

**RESULTS REQUESTED**

[ ] Standard [ ] 1-2 Day (100% Surcharge)

[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| | Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 25051157 001 | R101 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 002 | G110 | 5/21/25 1123 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 003 | R111 | 5/21/25 1222 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 004 | G112 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 005 | G113 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 006 | G120 | 5/21/25 1358 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ** | 007 | G121 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| *** | 008 | G122 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **** | 009 | AW-1 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ***** | 010 | AW-2 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ****** | 011 | RW-3 | 5-21-25 1020 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5-21/1605 | | 5/21/25 1605 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25051157

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
Quarter 2
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051157 012 | Duplicate | | Groundwater | 2 | 2 | 1 | 4 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5-21/1605 | | 5/21/25 1605 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051157

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

7.1

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 4.5 °C 9

Preserved in: [ ] LAB [x] FIELD FOR LAB USE ONLY

LAB NOTES: PH 101358 98858

JD 5/22/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No

Are these samples known to be hazardous? [ ] Yes [x] No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**

Quarter 2

*elevations, pH, conductivity, temperature

**As B Cd Cr Pb Mg Hg Zn

***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**

Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

Payton Tock

**RESULTS REQUESTED**

[ ] Standard [ ] 1-2 Day (100% Surcharge)

[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | | | | |
| * | 25051157 001 | R101 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | 002 | G110 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | 003 | R111 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | 004 | G112 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | 005 | G113 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | 006 | G120 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| * | 007 | G121 | 5/22/25 1143 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| * | 008 | G122 | 5/22/25 1245 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| * | 009 | AW-1 | 5/22/25 1024 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| * | 010 | AW-2 | 5/22/25 1344 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| * | 011 | RW-3 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5-22/1545 | | 5/22/25 1545 |
| | | | |
| | | | |
| | | | |
| | | | |

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25051157

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD
FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
Quarter 2
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) | | | | |
| 25051157-012 | Duplicate | | Groundwater | 2 | 2 | 1 | 4 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5-22/1545 | [signature] | 5/22/25 1545 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051157

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 13.1/16.3°C 5
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: Date and time collected for sample R101 from 25051159 workorder. PHV 101358 : 98858

Client Comments: Added NaOH(102642) to G113. EK 5/27/25
Quarter 2
*elevations, pH, conductivity, temperature
**As B Cd Cr Pb Mg Hg Zn
***Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn

**PROJECT NAME/NUMBER**
Landfill Monitoring Wells G1-G2

**SAMPLE COLLECTOR'S NAME**
Justin Colp

**RESULTS REQUESTED**
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl SO4 TDS (D) | Metals (D)** | Cyanide | Nitrate (D) | Ammonia (D) | Metals (T)*** | BOD Cl F SO4 (T) | NH3 COD TOC | Nitrate (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 25051157 001 | R101 | 5-27-25 1046 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | G110 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | R111 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | G112 | 5-27-25 1241 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | G113 | 5-27-25 1140 | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | G120 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | G121 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | G122 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AW-1 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AW-2 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | RW-3 | | Groundwater | 2 | 2 | 1 | 4 | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5-27/1535 | Emily Kossakowski | 5/27/25 1535 |

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# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | R101 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 62 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 10:17

Static Water Level: 6.88 feet below TOC

Total Depth: 35.27 feet below TOC

Water Column: 28.39 feet

**Purging Activities**

Purged By: JC Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 28.39 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:18 | 0.0 | 250 | purge start time | | | | | | |
| 10:25 | 1.7 | ↓ | 6.96 | 1,328.90 | 12.73 | 5.18 | 88.40 | 11.76 | |
| 10:28 | 2.5 | | 6.90 | 1,328.50 | 12.68 | 4.72 | 88.50 | 9.21 | |
| 10:31 | 3.2 | | 6.86 | 1,329.10 | 12.65 | 4.39 | 88.30 | 6.05 | |
| 10:34 | 4.0 | | 6.83 | 1,329.90 | 12.65 | 4.13 | 88.30 | 6.27 | |
| 10:37 | 4.8 | | 6.82 | 1,329.90 | 12.66 | 3.93 | 88.00 | 6.82 | |
| 10:40 | 5.5 | | 6.81 | 1,330.10 | 12.65 | 3.77 | 87.70 | 8.03 | |
| 10:43 | 6.3 | | 6.80 | 1,329.60 | 12.66 | 3.64 | 87.40 | 9.04 | |
| 10:46 | 7.0 | | 6.79 | 1,330.40 | 12.72 | 3.53 | 87.30 | 10.24 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/27/2025 10:46

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.79 pH 1,330.40 Spec. Cond. 12.72 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 10.17 feet below TOC Drawdown: 3.29 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/27/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | G110 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 002 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/21/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 10:52

Static Water Level: 24.85 feet below TOC

Total Depth: 57.15 feet below TOC

Water Column: 32.30 feet

**Purging Activities**

Purged By: PY Purge Date: 5/21/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 32.3 ft. x 0.022 = 0.71 L x 3 Vol. = 2.13 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear Odor: Slight Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:48 | 0.0 | 200 | purge start time | | | | | | |
| 11:11 | 4.6 | ↓ | 6.59 | 876.00 | 15.45 | 2.90 | 69.70 | 2.60 | |
| 11:14 | 5.2 | | 6.60 | 878.70 | 15.48 | 2.75 | 70.70 | 2.12 | |
| 11:17 | 5.8 | | 6.61 | 879.50 | 15.51 | 2.63 | 71.60 | 1.41 | |
| 11:20 | 6.4 | | 6.62 | 879.70 | 15.45 | 2.52 | 72.50 | 1.32 | |
| 11:23 | 7.0 | | 6.62 | 883.00 | 15.07 | 2.47 | 73.30 | 1.64 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/21/2025 11:23

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.62 pH 883.00 Spec. Cond. 15.07 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 25.12 feet below TOC Drawdown: 0.27 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | R111 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/21/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 11:44

Static Water Level: 25.19 feet below TOC

Total Depth: 55.75 feet below TOC

Water Column: 30.56 feet

**Purging Activities**

Purged By: PY Purge Date: 5/21/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.56 ft. x 0.022 = 0.67 L x 3 Vol. = 2.01 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: Moderate Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:44 | 0.0 | 132 | purge start time | | | | | | |
| 12:10 | 3.4 | ↓ | 6.70 | 1,476.10 | 14.76 | 2.46 | 71.30 | 3.92 | |
| 12:13 | 3.8 | | 6.70 | 1,480.10 | 14.74 | 2.38 | 68.30 | 3.20 | |
| 12:16 | 4.2 | | 6.71 | 1,488.60 | 14.71 | 2.31 | 65.40 | 2.38 | |
| 12:19 | 4.6 | | 6.71 | 1,494.20 | 15.06 | 2.25 | 62.20 | 2.21 | |
| 12:22 | 5.0 | | 6.71 | 1,501.00 | 14.93 | 2.20 | 59.10 | 1.99 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/21/2025 12:22

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

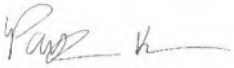
Sample Parameters: 6.71 pH 1,501.00 Spec. Cond. 14.93 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 25.31 feet below TOC Drawdown: 0.12 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:**  **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | G112 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 004 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 64 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 12:06

Static Water Level: 17.54 feet below TOC

Total Depth: 58.81 feet below TOC

Water Column: 41.27 feet

**Purging Activities**

Purged By: JC Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 41.27 ft. x 0.022 = 0.91 L x 3 Vol. = 2.73 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:09 | 0.0 | 156 | purge start time | | | | | | |
| 12:17 | 1.3 | | 7.16 | 1,716.00 | 16.24 | 5.54 | 80.60 | 25.02 | |
| 12:20 | 1.7 | | 7.14 | 1,719.00 | 16.57 | 4.97 | 82.00 | 26.26 | |
| 12:23 | 2.2 | | 7.13 | 1,721.50 | 16.61 | 4.57 | 83.30 | 24.02 | |
| 12:26 | 2.7 | | 7.14 | 1,720.20 | 16.59 | 4.26 | 84.30 | 24.31 | |
| 12:29 | 3.1 | | 7.14 | 1,718.50 | 16.51 | 4.01 | 85.50 | 23.17 | |
| 12:32 | 3.6 | | 7.14 | 1,718.20 | 16.44 | 3.82 | 86.60 | 23.33 | |
| 12:35 | 4.1 | | 7.14 | 1,721.30 | 16.38 | 3.68 | 87.50 | 22.37 | |
| 12:38 | 4.5 | | 7.14 | 1,719.10 | 16.19 | 3.56 | 88.60 | 20.67 | |
| 12:41 | 5.0 | | 7.14 | 1,716.40 | 16.10 | 3.44 | 89.60 | 19.46 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/27/2025 12:41

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.14 pH 1,716.40 Spec. Cond. 16.10 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 29.09 feet below TOC Drawdown: 11.55 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/27/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | G113 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: — Affiliation:

**Weather Conditions**

Temp: 63 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 11:16

Static Water Level: 5.80 feet below TOC

Total Depth: 12.85 feet below TOC

Water Column: 7.05 feet

**Purging Activities**

Purged By: JC — Purge Date: 5/27/2025

Purge Method: Peristaltic Pump — Well Diameter: 2"

Purge Volume Calculation (L): 7.05 ft. x 0.022 = 0.16 L x 3 Vol. = 0.48 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:17 | 0.0 | 174 | purge start time | | | | | | |
| 11:22 | 0.9 | ↓ | 6.46 | 2,094.20 | 14.00 | 6.89 | 74.00 | 6.83 | |
| 11:25 | 1.4 | | 6.45 | 2,096.40 | 13.99 | 6.60 | 61.50 | 5.71 | |
| 11:28 | 1.9 | | 6.45 | 2,096.60 | 13.99 | 6.42 | 54.40 | 5.08 | |
| 11:31 | 2.4 | | 6.44 | 2,094.90 | 13.89 | 6.29 | 50.40 | 4.85 | |
| 11:34 | 3.0 | | 6.44 | 2,095.10 | 13.87 | 6.23 | 47.00 | 4.69 | |
| 11:37 | 3.5 | | 6.44 | 2,094.10 | 13.84 | 6.19 | 44.80 | 4.20 | |
| 11:40 | 4.0 | | 6.44 | 2,093.00 | 13.78 | 6.16 | 43.30 | 4.29 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 5/27/2025 11:40

Sample Method: Low Flow — Sample Equipment: Peristaltic Pump

Sample Parameters: 6.44 pH — 2,093.00 Spec. Cond. — 13.78 Temp

Field Filtered: Yes — Filter Type: Inline Disposable

Water Level: 7.23 feet below TOC — Drawdown: 1.43 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp — **Date:** 5/27/2025

# Field Data Sheet

**Project Name:** Landfill Monitoring Wells
**Monitoring Point:** G120
**Project Location:** Springfield, IL
**Sample ID:** 006
**W.O. Number (s):** 25051157
**Date (s):** 5/21/2025

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 13:34
Static Water Level: 16.18 feet below TOC
Total Depth: 50.37 feet below TOC
Water Column: 34.19 feet

**Purging Activities**

Purged By: PY Purge Date: 5/21/2025
Purge Method: Submersible Pump Well Diameter: 2"
Purge Volume Calculation (L): 34.19 ft. x 0.022 = 0.75 L x 3 Vol. = 2.25 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 7.00 L
Physical appearance of purge water: Slightly cloudy Odor: Slight Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:25 | 0.0 | 212 | purge start time | | | | | | |
| 13:43 | 3.8 | ↓ | 6.59 | 1,943.40 | 15.75 | 3.59 | 77.90 | 15.49 | |
| 13:46 | 4.5 | | 6.58 | 1,946.40 | 15.82 | 3.31 | 73.60 | 15.45 | |
| 13:49 | 5.1 | | 6.58 | 1,947.80 | 15.70 | 3.11 | 68.80 | 20.89 | |
| 13:52 | 5.7 | | 6.57 | 1,946.60 | 15.86 | 2.95 | 63.60 | 18.90 | |
| 13:55 | 6.4 | | 6.57 | 1,949.50 | 15.88 | 2.82 | 58.10 | 13.31 | |
| 13:58 | 7.0 | | 6.57 | 1,948.40 | 15.95 | 2.71 | 52.50 | 13.58 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/21/2025 13:58
Sample Method: Low Flow Sample Equipment: Submersible Pump
Sample Parameters: 6.57 pH 1,948.40 Spec. Cond. 15.95 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 16.30 feet below TOC Drawdown: 0.12 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Date: 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | G121 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 007 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 10:57

Static Water Level: 27.82 feet below TOC

Total Depth: 58.56 feet below TOC

Water Column: 30.74 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.74 ft. x 0.022 = 0.68 L x 3 Vol. = 2.04 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:16 | 0.0 | 222 | purge start time | | | | | | |
| 11:31 | 3.3 | ↓ | 6.81 | 1,556.30 | 14.05 | 4.51 | 87.60 | 43.15 | |
| 11:34 | 4.0 | | 6.80 | 1,555.90 | 14.11 | 4.21 | 89.10 | 41.96 | |
| 11:37 | 4.7 | | 6.79 | 1,555.10 | 14.17 | 3.96 | 90.20 | 31.18 | |
| 11:40 | 5.3 | | 6.79 | 1,557.20 | 14.34 | 3.75 | 90.90 | 26.58 | |
| 11:43 | 6.0 | | 6.79 | 1,555.80 | 14.37 | 3.60 | 91.20 | 21.79 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 11:43

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

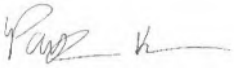
Sample Parameters: 6.79 pH 1,555.80 Spec. Cond. 14.37 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 28.12 feet below TOC Drawdown: 0.30 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:**  **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | G122 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 008 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 12:12

Static Water Level: 29.75 feet below TOC

Total Depth: 49.29 feet below TOC

Water Column: 19.54 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 19.54 ft. x 0.022 = 0.43 L x 3 Vol. = 1.29 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:19 | 0.0 | 192 | purge start time | | | | | | |
| 12:33 | 2.7 | ↓ | 6.79 | 1,744.90 | 16.43 | 6.07 | 100.00 | 10.46 | |
| 12:36 | 3.3 | | 6.77 | 1,747.10 | 15.80 | 6.06 | 100.80 | 8.54 | |
| 12:39 | 3.8 | | 6.76 | 1,752.30 | 15.16 | 6.06 | 101.40 | 6.78 | |
| 12:42 | 4.4 | | 6.75 | 1,756.80 | 14.80 | 6.04 | 101.50 | 6.16 | |
| 12:45 | 5.0 | | 6.74 | 1,760.80 | 14.69 | 6.03 | 101.20 | 6.00 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 12:45

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.74 pH 1,760.80 Spec. Cond. 14.69 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 29.78 feet below TOC Drawdown: 0.03 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | AW-1 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 009 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Locks | Yes | No |
|---|---|---|---|---|---|
| Well Pad | Good | | Protective Casing | | X |
| Casing | Good | | Well | | X |
| Protective Casing | Good | | | | |
| Reference Mark/Identification | Yes | | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 9:50

Static Water Level: 13.77 feet below TOC

Total Depth: 54.81 feet below TOC

Water Column: 41.04 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 41.04 ft. x 0.022 = 0.9 L x 3 Vol. = 2.7 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:55 | 0.0 | 172 | purge start time | | | | | | |
| 10:12 | 2.9 | ↓ | 6.89 | 1,482.50 | 13.66 | 7.29 | 70.00 | 4.06 | |
| 10:15 | 3.4 | | 6.90 | 1,480.20 | 13.86 | 7.16 | 70.40 | 4.64 | |
| 10:18 | 4.0 | | 6.92 | 1,478.90 | 14.31 | 7.08 | 70.70 | 4.12 | |
| 10:21 | 4.5 | | 6.94 | 1,478.80 | 14.50 | 7.10 | 71.00 | 3.38 | |
| 10:24 | 5.0 | | 6.96 | 1,477.40 | 14.65 | 7.19 | 71.50 | 3.55 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 10:24

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.96 pH 1,477.40 Spec. Cond. 14.65 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 15.72 feet below TOC Drawdown: 1.95 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | AW-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 13:23

Static Water Level: 4.92 feet below TOC

Total Depth: 32.64 feet below TOC

Water Column: 27.72 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 27.72 ft. x 0.022 = 0.61 L x 3 Vol. = 1.83 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: Slight Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:20 | 0.0 | 250 | purge start time | | | | | | |
| 13:32 | 3.0 | ↓ | 6.92 | 1,111.00 | 13.52 | 4.93 | 91.00 | 8.14 | |
| 13:35 | 3.8 | | 6.90 | 1,110.90 | 13.53 | 4.50 | 91.70 | 8.53 | |
| 13:38 | 4.5 | | 6.90 | 1,110.60 | 13.55 | 4.17 | 92.00 | 8.27 | |
| 13:41 | 5.3 | | 6.89 | 1,110.80 | 13.51 | 3.92 | 92.10 | 8.36 | |
| 13:44 | 6.0 | | 6.89 | 1,110.70 | 13.52 | 3.71 | 91.90 | 9.46 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 13:44

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.89 pH 1,110.70 Spec. Cond. 13.52 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 5.05 feet below TOC Drawdown: 0.13 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Landfill Monitoring Wells | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 011 |
| **W.O. Number (s):** | 25051157 | **Date (s):** | 5/21/2025 |

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.

Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 10:00

Static Water Level: 9.27 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 34.74 feet

**Purging Activities**

Purged By: DC Purge Date: 5/21/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.74 ft. x 0.022 = 0.76 L x 3 Vol. = 2.28 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 0.0 | 300 | purge start time | | | | | | |
| 10:08 | 2.4 | ↓ | 7.04 | 649.70 | 12.60 | 0.59 | -99.00 | 8.49 | |
| 10:11 | 3.3 | | 7.04 | 649.10 | 12.61 | 0.55 | -103.90 | 6.68 | |
| 10:14 | 4.2 | | 7.04 | 648.50 | 12.58 | 0.51 | -108.10 | 4.91 | |
| 10:17 | 5.1 | | 7.03 | 649.20 | 12.59 | 0.48 | -111.30 | 5.05 | |
| 10:20 | 6.0 | | 7.03 | 649.80 | 12.58 | 0.45 | -114.40 | 5.04 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 5/21/2025 10:20

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.03 pH 649.80 Spec. Cond. 12.58 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 9.27 feet below TOC Drawdown: 0.00 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/21/2025

# Field Data Sheet

**Project Name:** Landfill Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051157
**Monitoring Point:** Duplicate
**Sample ID:** 012
**Date (s):** 5/21/2025

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 11:44
Static Water Level: 25.19 feet below TOC
Total Depth: 55.75 feet below TOC
Water Column: 30.56 feet

**Purging Activities**

Purged By: PY Purge Date: 5/21/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 30.56 ft. x 0.022 = 0.67 L x 3 Vol. = 2.01 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:44 | 0.0 | 132 | purge start time | | | | | | |
| 12:10 | 3.4 | ↓ | 6.70 | 1,476.10 | 14.76 | 2.46 | 71.30 | 3.92 | |
| 12:13 | 3.8 | | 6.70 | 1,480.10 | 14.74 | 2.38 | 68.30 | 3.20 | |
| 12:16 | 4.2 | | 6.71 | 1,488.60 | 14.71 | 2.31 | 65.40 | 2.38 | |
| 12:19 | 4.6 | | 6.71 | 1,494.20 | 15.06 | 2.25 | 62.20 | 2.21 | |
| 12:22 | 5.0 | | 6.71 | 1,501.00 | 14.93 | 2.20 | 59.10 | 1.99 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/21/2025 12:22
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.71 pH 1,501.00 Spec. Cond. 14.93 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 25.31 feet below TOC Drawdown: 0.12 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760
- QA/QC Sample
- Collected at R111

**Form Completed By:** Payton K **Date:** 5/21/2025

**Site Samping Event:** Landfill Monitoring Wells
**LIMS Workorder:** 25051157
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 44716 Technician(s): Brett Gillihan Date: 5/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/21/25 9:19 |
| 7.0 Buffer | WC250407A | 7.00 | 5/21/25 9:12 |
| 10.0 Buffer | WC240625A | 10.00 | 5/21/25 9:25 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/21/25 9:31 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.23 | 5/21/25 9:37 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-BG | LCS | 5/21/25 9:41 | 17 | 7.01 | 1,447 | 0.63 | | |
| CCV-1-BG | CCV | 5/21/25 16:03 | 17.8 | 7.04 | 1,422 | 0.66 | | |

**Comments:**

**Site Samping Event:** Landfill Monitoring Wells
**LIMS Workorder:** 25051157
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 5/21/25 9:19 |
| 7.0 Buffer | wc250407a | 7.00 | 5/21/25 9:14 |
| 10.0 Buffer | wc240625a | 10.00 | 5/21/25 9:24 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/21/25 9:29 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.12 | 5/21/25 9:30 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 5/21/25 9:34 | 18.9 | 6.98 | 1,410 | 1.08 | | |
| CCV-1-JC | CCV | 5/21/25 14:37 | 20 | 6.96 | 1,434 | 1.05 | | |

**Comments:**

Field Meter ID: Pine 210760 Technician(s): Payton Yoch Date: 5/22/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/22/25 9:14 |
| 7.0 Buffer | WC250407A | 7.00 | 5/22/25 9:09 |
| 10.0 Buffer | WC240625A | 10.00 | 5/22/25 9:20 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/22/25 9:23 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.07 | 5/22/25 9:31 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-PY | LCS | 5/22/25 9:38 | 17.3 | 7.05 | 1,412 | 1.07 | | |
| CCV-2-PY | CCV | 5/22/25 14:14 | 18.5 | 6.98 | 1,415 | 1.08 | | |

**Comments:**

**Site Samping Event:** Landfill Monitoring Wells
**LIMS Workorder:** 25051157
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/27/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/27/25 8:56 |
| 7.0 Buffer | WC250407A | 7.00 | 5/27/25 8:50 |
| 10.0 Buffer | WC240625A | 10.00 | 5/27/25 9:01 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/27/25 9:07 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.21 | 5/27/25 9:08 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-JC | LCS | 5/27/25 9:11 | 19.2 | 6.96 | 1,407 | 1.24 | | |
| CCV-3-JC | CCV | 5/27/25 14:15 | 21.9 | 7.02 | 1,404 | 1.31 | | |

**Comments:**

July 03, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10438 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 25051159

Dear Eric Staley:

TEKLAB, INC received 5 samples on 5/27/2025 3:35:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25051159
**Report Date:** 03-Jul-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 12 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25051159

**Client Project:** FGDS Landfill **Report Date:** 03-Jul-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 25051159
**Client Project:** FGDS Landfill
**Report Date:** 03-Jul-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25051159
**Report Date:** 03-Jul-25

**Cooler Receipt Temp:** 4.5 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 25051159
**Client Project:** FGDS Landfill
**Report Date:** 03-Jul-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10438 | NELAP | 7/31/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2026 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2026 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 25051159
**Client Project:** FGDS Landfill
**Report Date:** 03-Jul-25
**Lab ID:** 25051159-001
**Client Sample ID:** R101
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 10:46

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 05/27/2025 10:46 | R365854 |
| Depth to water | * | -5.00 | | **4.08** | ft | 1 | 05/27/2025 10:46 | R365854 |
| Depth to water from measuring point | * | 0 | | **6.88** | ft | 1 | 05/27/2025 10:46 | R365854 |
| Elevation of groundwater surface | * | 0 | | **539.92** | ft | 1 | 05/27/2025 10:46 | R365854 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 05/27/2025 10:46 | R365854 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 05/27/2025 10:46 | R365854 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **10** | NTU | 1 | 05/27/2025 10:46 | R365854 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.9** | °F | 1 | 05/27/2025 10:46 | R365854 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.79** | | 1 | 05/27/2025 10:46 | R365854 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1330** | µmhos/cm @25C | 1 | 05/27/2025 10:46 | R365854 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **902** | mg/L | 1 | 06/02/2025 17:03 | R365986 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 12:35 | R365685 |
| Chloride | NELAP | 5.00 | | **109** | mg/L | 10 | 05/28/2025 12:35 | R365685 |
| Sulfate | NELAP | 10.0 | | **272** | mg/L | 10 | 05/28/2025 12:35 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.149** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| Boron | NELAP | 0.0200 | | **0.116** | mg/L | 1 | 06/02/2025 22:22 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| Calcium | NELAP | 0.100 | | **163** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/02/2025 22:22 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 19:17 | 239684 |
| *Contamination present in the CCB for Cr. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:32 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 05/28/2025 16:32 | 239684 |
| Lithium | * | 0.0030 | | **0.0194** | mg/L | 5 | 05/28/2025 16:32 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:32 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 16:32 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:59 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |

**Client:** City Water, Light & Power **Work Order:** 25051159

**Client Project:** FGDS Landfill **Report Date:** 03-Jul-25

**Lab ID:** 25051159-002 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 05/22/2025 11:43

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 05/22/2025 11:43 | R365854 |
| Depth to water | * | -5.00 | | **25.95** | ft | 1 | 05/22/2025 11:43 | R365854 |
| Depth to water from measuring point | * | 0 | | **27.82** | ft | 1 | 05/22/2025 11:43 | R365854 |
| Elevation of groundwater surface | * | 0 | | **527.78** | ft | 1 | 05/22/2025 11:43 | R365854 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 05/22/2025 11:43 | R365854 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 05/22/2025 11:43 | R365854 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **22** | NTU | 1 | 05/22/2025 11:43 | R365854 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.9** | °F | 1 | 05/22/2025 11:43 | R365854 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.79** | | 1 | 05/22/2025 11:43 | R365854 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1560** | µmhos/cm @25C | 1 | 05/22/2025 11:43 | R365854 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1210** | mg/L | 5 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 19:40 | R365493 |
| Chloride | NELAP | 5.00 | | **29.9** | mg/L | 10 | 05/23/2025 19:40 | R365493 |
| Sulfate | NELAP | 10.0 | | **328** | mg/L | 10 | 05/23/2025 19:40 | R365493 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.641** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Boron | NELAP | 0.0200 | | **3.93** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Calcium | NELAP | 0.100 | | **185** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/30/2025 9:23 | 239588 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 16:40 | 239588 |
| Arsenic | NELAP | 0.0010 | | **0.0180** | mg/L | 5 | 05/27/2025 16:40 | 239588 |
| Lithium | * | 0.0030 | | **0.0070** | mg/L | 5 | 05/27/2025 16:40 | 239588 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 16:40 | 239588 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/27/2025 16:40 | 239588 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/27/2025 13:17 | 239623 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |

**Client:** City Water, Light & Power **Work Order:** 25051159

**Client Project:** FGDS Landfill **Report Date:** 03-Jul-25

**Lab ID:** 25051159-003 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 05/22/2025 12:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 05/22/2025 12:45 | R365854 |
| Depth to water | * | -5.00 | | **28.01** | ft | 1 | 05/22/2025 12:45 | R365854 |
| Depth to water from measuring point | * | 0 | | **29.75** | ft | 1 | 05/22/2025 12:45 | R365854 |
| Elevation of groundwater surface | * | 0 | | **524.65** | ft | 1 | 05/22/2025 12:45 | R365854 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 05/22/2025 12:45 | R365854 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 05/22/2025 12:45 | R365854 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.0** | NTU | 1 | 05/22/2025 12:45 | R365854 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.4** | °F | 1 | 05/22/2025 12:45 | R365854 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.74** | | 1 | 05/22/2025 12:45 | R365854 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1760** | µmhos/cm @25C | 1 | 05/22/2025 12:45 | R365854 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 200 | | **1480** | mg/L | 10 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 19:51 | R365493 |
| Chloride | NELAP | 5.00 | | **37.4** | mg/L | 10 | 05/23/2025 19:51 | R365493 |
| Sulfate | NELAP | 10.0 | | **526** | mg/L | 10 | 05/23/2025 19:51 | R365493 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.456** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Boron | NELAP | 0.0200 | | **11.1** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Calcium | NELAP | 0.100 | | **230** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/30/2025 9:24 | 239588 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 16:46 | 239588 |
| Arsenic | NELAP | 0.0010 | | **0.0027** | mg/L | 5 | 05/27/2025 16:46 | 239588 |
| Lithium | * | 0.0030 | | **0.0062** | mg/L | 5 | 05/27/2025 16:46 | 239588 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 16:46 | 239588 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/27/2025 16:46 | 239588 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/27/2025 13:19 | 239623 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |

**Client:** City Water, Light & Power
**Work Order:** 25051159
**Client Project:** FGDS Landfill
**Report Date:** 03-Jul-25
**Lab ID:** 25051159-004
**Client Sample ID:** AW-2
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 13:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 05/22/2025 13:44 | R365854 |
| Depth to water | * | -5.00 | | **1.62** | ft | 1 | 05/22/2025 13:44 | R365854 |
| Depth to water from measuring point | * | 0 | | **4.92** | ft | 1 | 05/22/2025 13:44 | R365854 |
| Elevation of groundwater surface | * | 0 | | **525.06** | ft | 1 | 05/22/2025 13:44 | R365854 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 05/22/2025 13:44 | R365854 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 05/22/2025 13:44 | R365854 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.5** | NTU | 1 | 05/22/2025 13:44 | R365854 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.3** | °F | 1 | 05/22/2025 13:44 | R365854 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.89** | | 1 | 05/22/2025 13:44 | R365854 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1110** | µmhos/cm @25C | 1 | 05/22/2025 13:44 | R365854 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **810** | mg/L | 5 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 20:03 | R365493 |
| Chloride | NELAP | 5.00 | | **29.5** | mg/L | 10 | 05/23/2025 20:03 | R365493 |
| Sulfate | NELAP | 10.0 | | **146** | mg/L | 10 | 05/23/2025 20:03 | R365493 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.647** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Beryllium | NELAP | 0.0005 | | **0.0006** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Boron | NELAP | 0.0200 | | **3.05** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Calcium | NELAP | 0.100 | | **148** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/30/2025 9:30 | 239588 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 17:14 | 239588 |
| Arsenic | NELAP | 0.0010 | | **0.0166** | mg/L | 5 | 05/27/2025 17:14 | 239588 |
| Lithium | * | 0.0030 | | **0.0062** | mg/L | 5 | 05/27/2025 17:14 | 239588 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 17:14 | 239588 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/27/2025 17:14 | 239588 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/27/2025 13:21 | 239623 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |

**Client:** City Water, Light & Power
**Work Order:** 25051159
**Client Project:** FGDS Landfill
**Report Date:** 03-Jul-25
**Lab ID:** 25051159-005
**Client Sample ID:** P07D
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 10:04

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **528.25** | ft | 1 | 05/27/2025 10:04 | R365854 |
| Depth to water | * | -5.00 | | **2.31** | ft | 1 | 05/27/2025 10:04 | R365854 |
| Depth to water from measuring point | * | 0 | | **5.31** | ft | 1 | 05/27/2025 10:04 | R365854 |
| Elevation of groundwater surface | * | 0 | | **522.94** | ft | 1 | 05/27/2025 10:04 | R365854 |
| Measuring Point Elevation | * | 0 | | **528.25** | ft | 1 | 05/27/2025 10:04 | R365854 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.00** | ft | 1 | 05/27/2025 10:04 | R365854 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.2** | NTU | 1 | 05/27/2025 10:04 | R365854 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.0** | °F | 1 | 05/27/2025 10:04 | R365854 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.72** | | 1 | 05/27/2025 10:04 | R365854 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1540** | µmhos/cm @25C | 1 | 05/27/2025 10:04 | R365854 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1110** | mg/L | 1 | 06/02/2025 17:03 | R365986 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 12:47 | R365685 |
| Chloride | NELAP | 5.00 | | **33.5** | mg/L | 10 | 05/28/2025 12:47 | R365685 |
| Sulfate | NELAP | 10.0 | | **307** | mg/L | 10 | 05/28/2025 12:47 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.827** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Boron | NELAP | 0.0200 | | **5.28** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Calcium | NELAP | 0.100 | | **187** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 19:18 | 239684 |
| *Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Contamination present in the CCB for Cr. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:38 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0324** | mg/L | 5 | 05/28/2025 16:38 | 239684 |
| Lithium | * | 0.0030 | | **0.0099** | mg/L | 5 | 05/28/2025 16:38 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:38 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 16:38 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 16:02 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 07/02/2025 0:00 | R367646 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25051159
**Report Date:** 03-Jul-25

**Carrier:** Daniel Crump
**Received By:** JMD

**Completed by:** Laura E Henson
**On:** 23-May-25

**Reviewed by:** Ellie Hopkins
**On:** 27-May-25

**Pages to follow:** Chain of custody 2 Extra pages included 23

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 4.5 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #101358. -JD/ lhenson - 5/23/2025 11:44:59 AM

Samples were received on 5/27/25 at 1535 on ice [13.1C - LTG#5]. Additional Nitric Acid (103505) was needed upon arrival at the laboratory for P07D. pH strip #101358. - EK/amberdilallo - 5/27/2025 4:06:13 PM

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 2505 1159

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 4.5 °C #9
Preserved in: [ ] LAB [X] FIELD
LAB NOTES: 101358

FOR LAB USE ONLY

JD 5/23/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2505 1159 001 | R101 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G121 | 5/22/25 1143 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | G122 | 5/22/25 1245 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AW-2 | 5/22/25 1344 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | P07D | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5-22/1545 | | 5/22/25 13:45 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 25051159

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 13.1 °C 5
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: pH✓ 101358 Added HNO3 (103505) to both 1 liter P07D samples. EK 5/27/25

Client Comments:
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| FGDS Landfill | Justin Colp |

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051159-001 | R101 | 5-27-25 1046 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | G121 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | G122 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AW-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | P07D | 5-27-25 1004 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
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| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |
| | | | Groundwater | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5-27 /535 | Emily Kosakoski | 5/27/25 @ 1535 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | R101 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 25051159 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 62 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 10:17

Static Water Level: 6.88 feet below TOC

Total Depth: 35.27 feet below TOC

Water Column: 28.39 feet

**Purging Activities**

Purged By: JC Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 28.39 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:18 | 0.0 | 250 | purge start time | | | | | | |
| 10:25 | 1.7 | ↓ | 6.96 | 1,328.90 | 12.73 | 5.18 | 88.40 | 11.76 | |
| 10:28 | 2.5 | | 6.90 | 1,328.50 | 12.68 | 4.72 | 88.50 | 9.21 | |
| 10:31 | 3.2 | | 6.86 | 1,329.10 | 12.65 | 4.39 | 88.30 | 6.05 | |
| 10:34 | 4.0 | | 6.83 | 1,329.90 | 12.65 | 4.13 | 88.30 | 6.27 | |
| 10:37 | 4.8 | | 6.82 | 1,329.90 | 12.66 | 3.93 | 88.00 | 6.82 | |
| 10:40 | 5.5 | | 6.81 | 1,330.10 | 12.65 | 3.77 | 87.70 | 8.03 | |
| 10:43 | 6.3 | | 6.80 | 1,329.60 | 12.66 | 3.64 | 87.40 | 9.04 | |
| 10:46 | 7.0 | | 6.79 | 1,330.40 | 12.72 | 3.53 | 87.30 | 10.24 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/27/2025 10:46

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.79 pH 1,330.40 Spec. Cond. 12.72 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 10.17 feet below TOC Drawdown: 3.29 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/27/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | G121 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 002 |
| **W.O. Number (s):** | 25051159 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 10:57

Static Water Level: 27.82 feet below TOC

Total Depth: 58.56 feet below TOC

Water Column: 30.74 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.74 ft. x 0.022 = 0.68 L x 3 Vol. = 2.04 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:16 | 0.0 | 222 | purge start time | | | | | | |
| 11:31 | 3.3 | ↓ | 6.81 | 1,556.30 | 14.05 | 4.51 | 87.60 | 43.15 | |
| 11:34 | 4.0 | | 6.80 | 1,555.90 | 14.11 | 4.21 | 89.10 | 41.96 | |
| 11:37 | 4.7 | | 6.79 | 1,555.10 | 14.17 | 3.96 | 90.20 | 31.18 | |
| 11:40 | 5.3 | | 6.79 | 1,557.20 | 14.34 | 3.75 | 90.90 | 26.58 | |
| 11:43 | 6.0 | | 6.79 | 1,555.80 | 14.37 | 3.60 | 91.20 | 21.79 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 11:43

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

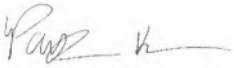
Sample Parameters: 6.79 pH 1,555.80 Spec. Cond. 14.37 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 28.12 feet below TOC Drawdown: 0.30 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:**  **Date:** 5/22/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051159
**Monitoring Point:** G122
**Sample ID:** 003
**Date (s):** 5/22/2025

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 12:12
Static Water Level: 29.75 feet below TOC
Total Depth: 49.29 feet below TOC
Water Column: 19.54 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 19.54 ft. x 0.022 = 0.43 L x 3 Vol. = 1.29 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:19 | 0.0 | 192 | purge start time | | | | | | |
| 12:33 | 2.7 | ↓ | 6.79 | 1,744.90 | 16.43 | 6.07 | 100.00 | 10.46 | |
| 12:36 | 3.3 | | 6.77 | 1,747.10 | 15.80 | 6.06 | 100.80 | 8.54 | |
| 12:39 | 3.8 | | 6.76 | 1,752.30 | 15.16 | 6.06 | 101.40 | 6.78 | |
| 12:42 | 4.4 | | 6.75 | 1,756.80 | 14.80 | 6.04 | 101.50 | 6.16 | |
| 12:45 | 5.0 | | 6.74 | 1,760.80 | 14.69 | 6.03 | 101.20 | 6.00 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 12:45
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.74 pH 1,760.80 Spec. Cond. 14.69 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 29.78 feet below TOC Drawdown: 0.03 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | AW-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 004 |
| **W.O. Number (s):** | 25051159 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 13:23

Static Water Level: 4.92 feet below TOC

Total Depth: 32.64 feet below TOC

Water Column: 27.72 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 27.72 ft. x 0.022 = 0.61 L x 3 Vol. = 1.83 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: Slight Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:20 | 0.0 | 250 | purge start time | | | | | | |
| 13:32 | 3.0 | ↓ | 6.92 | 1,111.00 | 13.52 | 4.93 | 91.00 | 8.14 | |
| 13:35 | 3.8 | | 6.90 | 1,110.90 | 13.53 | 4.50 | 91.70 | 8.53 | |
| 13:38 | 4.5 | | 6.90 | 1,110.60 | 13.55 | 4.17 | 92.00 | 8.27 | |
| 13:41 | 5.3 | | 6.89 | 1,110.80 | 13.51 | 3.92 | 92.10 | 8.36 | |
| 13:44 | 6.0 | | 6.89 | 1,110.70 | 13.52 | 3.71 | 91.90 | 9.46 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 13:44

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.89 pH 1,110.70 Spec. Cond. 13.52 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 5.05 feet below TOC Drawdown: 0.13 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K Date: 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | P07D |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 25051159 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 60 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 9:24

Static Water Level: 5.31 feet below TOC

Total Depth: 32.54 feet below TOC

Water Column: 27.23 feet

**Purging Activities**

Purged By: JC Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 27.23 ft. x 0.022 = 0.6 L x 3 Vol. = 1.8 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:24 | 0.0 | 125 | purge start time | | | | | | |
| 9:31 | 0.9 | ↓ | 6.74 | 1,512.10 | 13.29 | 6.24 | 84.60 | 141.77 | |
| 9:34 | 1.3 | | 6.68 | 1,532.30 | 13.26 | 5.52 | 86.50 | 94.37 | |
| 9:37 | 1.6 | | 6.67 | 1,537.60 | 13.25 | 5.00 | 87.50 | 66.78 | |
| 9:40 | 2.0 | | 6.67 | 1,539.00 | 13.18 | 4.60 | 88.00 | 40.75 | |
| 9:43 | 2.4 | | 6.68 | 1,538.70 | 13.18 | 4.29 | 88.30 | 31.60 | |
| 9:46 | 2.8 | | 6.68 | 1,539.00 | 13.19 | 4.04 | 88.60 | 23.85 | |
| 9:49 | 3.1 | | 6.69 | 1,538.00 | 13.18 | 3.83 | 88.90 | 16.62 | |
| 9:52 | 3.5 | | 6.70 | 1,538.40 | 13.18 | 3.65 | 89.20 | 12.54 | |
| 9:55 | 3.9 | | 6.71 | 1,538.40 | 13.25 | 3.50 | 89.40 | 11.54 | |
| 9:58 | 4.3 | | 6.71 | 1,538.30 | 13.26 | 3.39 | 89.60 | 9.94 | |
| 10:01 | 4.6 | | 6.72 | 1,537.50 | 13.34 | 3.28 | 89.80 | 9.82 | |
| 10:04 | 5.0 | | 6.72 | 1,538.40 | 13.36 | 3.19 | 89.90 | 8.15 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/27/2025 10:04

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.72 pH 1,538.40 Spec. Cond. 13.36 Temp

Field Filtered: No Filter Type:

Water Level: 5.50 feet below TOC Drawdown: 0.19 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Justin Colp **Date:** 5/27/2025

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25051159
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 44716 Technician(s): Brett Gillihan Date: 5/27/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/27/25 8:17 |
| 7.0 Buffer | WC25047A | 7.00 | 5/27/25 8:10 |
| 10.0 Buffer | WC240625A | 10.00 | 5/27/25 8:26 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1413 | 5/27/25 8:36 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.23 | 5/27/25 8:43 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-BG | LCS | 5/27/25 8:48 | 16.9 | 7.05 | 1,443 | 0.42 | | |
| CCV-3-BG | CCV | 5/27/25 14:12 | 18.6 | 7.03 | 1,464 | 0.54 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25051159
**Technician(s):** DC, JC, BG, PY

## Field Calibration Log(s)
## CWLP- 2Q 2025

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 5/21/25 9:19 |
| 7.0 Buffer | wc250407a | 7.00 | 5/21/25 9:14 |
| 10.0 Buffer | wc240625a | 10.00 | 5/21/25 9:24 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/21/25 9:29 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.12 | 5/21/25 9:30 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 5/21/25 9:34 | 18.9 | 6.98 | 1,410 | 1.08 | | |
| CCV-1-JC | CCV | 5/21/25 14:37 | 20 | 6.96 | 1,434 | 1.05 | | |

**Comments:**

Field Meter ID: Pine 210760 Technician(s): Payton Yoch Date: 5/22/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/22/25 9:14 |
| 7.0 Buffer | WC250407A | 7.00 | 5/22/25 9:09 |
| 10.0 Buffer | WC240625A | 10.00 | 5/22/25 9:20 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/22/25 9:23 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.07 | 5/22/25 9:31 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-PY | LCS | 5/22/25 9:38 | 17.3 | 7.05 | 1,412 | 1.07 | | |
| CCV-2-PY | CCV | 5/22/25 14:14 | 18.5 | 6.98 | 1,415 | 1.08 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25051159
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/27/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/27/25 8:56 |
| 7.0 Buffer | WC250407A | 7.00 | 5/27/25 8:50 |
| 10.0 Buffer | WC240625A | 10.00 | 5/27/25 9:01 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/27/25 9:07 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.21 | 5/27/25 9:08 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-JC | LCS | 5/27/25 9:11 | 19.2 | 6.96 | 1,407 | 1.24 | | |
| CCV-3-JC | CCV | 5/27/25 14:15 | 21.9 | 7.02 | 1,404 | 1.31 | | |

**Comments:**

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/28/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/28/25 8:47 |
| 7.0 Buffer | WC250407A | 7.00 | 5/28/25 8:43 |
| 10.0 Buffer | WC240625A | 10.00 | 5/28/25 8:51 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/28/25 8:57 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.12 | 5/28/25 8:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4-JC | LCS | 5/28/25 9:03 | 20.5 | 6.97 | 1,409 | 1.16 | | |
| CCV-4-JC | CCV | 5/28/25 12:20 | 20.8 | 6.93 | 1,400 | 1.57 | | |

**Comments:**

June 27, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10438 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 25051158

Dear Eric Staley:

TEKLAB, INC received 22 samples on 5/28/2025 1:50:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25051158
**Report Date:** 27-Jun-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 29 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25051158

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 27-Jun-25

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25051158
**Report Date:** 27-Jun-25

**Cooler Receipt Temp:** 5.9 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 & -228 analysis was performed by Eurofins St. Louis. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25051158

**Report Date:** 27-Jun-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10438 | NELAP | 7/31/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2026 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2026 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 10:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 05/21/2025 10:20 | R365853 |
| Depth to water | * | -5.00 | | **6.57** | ft | 1 | 05/21/2025 10:20 | R365853 |
| Depth to water from measuring point | * | 0 | | **9.27** | ft | 1 | 05/21/2025 10:20 | R365853 |
| Elevation of groundwater surface | * | 0 | | **530.23** | ft | 1 | 05/21/2025 10:20 | R365853 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 05/21/2025 10:20 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 05/21/2025 10:20 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.0** | NTU | 1 | 05/21/2025 10:20 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.6** | °F | 1 | 05/21/2025 10:20 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.03** | | 1 | 05/21/2025 10:20 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **650** | µmhos/cm @25C | 1 | 05/21/2025 10:20 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **385** | mg/L | 2.5 | 05/27/2025 15:58 | R365834 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 12:48 | R365418 |
| Chloride | NELAP | 5.00 | | **25.0** | mg/L | 10 | 05/22/2025 12:48 | R365418 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 05/22/2025 12:48 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.142** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Boron | NELAP | 0.0200 | | **0.153** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Calcium | NELAP | 0.100 | B | **64.9** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:05 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0808** | mg/L | 5 | 05/27/2025 21:20 | 239494 |
| Lithium | * | 0.0030 | | **0.0051** | mg/L | 5 | 05/27/2025 21:20 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:05 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:05 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:26 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-002
**Client Sample ID:** AP-1
**Matrix:** GROUNDWATER
**Collection Date:** 05/28/2025 9:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **504.29** | ft | 1 | 05/28/2025 9:56 | R365853 |
| Depth to water | * | -5.00 | | **7.52** | ft | 1 | 05/28/2025 9:56 | R365853 |
| Depth to water from measuring point | * | 0 | | **9.79** | ft | 1 | 05/28/2025 9:56 | R365853 |
| Elevation of groundwater surface | * | 0 | | **525.58** | ft | 1 | 05/28/2025 9:56 | R365853 |
| Measuring Point Elevation | * | 0 | | **535.37** | ft | 1 | 05/28/2025 9:56 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.27** | ft | 1 | 05/28/2025 9:56 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.7** | NTU | 1 | 05/28/2025 9:56 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.2** | °F | 1 | 05/28/2025 9:56 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.42** | | 1 | 05/28/2025 9:56 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2100** | µmhos/cm @25C | 1 | 05/28/2025 9:56 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1740** | mg/L | 1 | 06/04/2025 8:44 | R366213 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/29/2025 8:47 | R365636 |
| Chloride | NELAP | 5.00 | | **50.1** | mg/L | 10 | 05/29/2025 8:47 | R365636 |
| Sulfate | NELAP | 10.0 | | **858** | mg/L | 10 | 05/29/2025 8:47 | R365636 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.262** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Boron | NELAP | 0.200 | | **20.8** | mg/L | 10 | 06/04/2025 12:30 | 239769 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Calcium | NELAP | 0.100 | | **228** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 06/03/2025 12:47 | 239769 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/30/2025 13:09 | 239769 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 06/03/2025 0:45 | 239769 |
| Lithium | * | 0.0030 | | **0.0102** | mg/L | 5 | 05/30/2025 13:09 | 239769 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/30/2025 13:09 | 239769 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/30/2025 13:09 | 239769 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/30/2025 11:47 | 239778 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 13:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 05/21/2025 13:33 | R365853 |
| Depth to water | * | -5.00 | | **5.29** | ft | 1 | 05/21/2025 13:33 | R365853 |
| Depth to water from measuring point | * | 0 | | **7.79** | ft | 1 | 05/21/2025 13:33 | R365853 |
| Elevation of groundwater surface | * | 0 | | **528.31** | ft | 1 | 05/21/2025 13:33 | R365853 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 05/21/2025 13:33 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 05/21/2025 13:33 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **24** | NTU | 1 | 05/21/2025 13:33 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.4** | °F | 1 | 05/21/2025 13:33 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.45** | | 1 | 05/21/2025 13:33 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1180** | µmhos/cm @25C | 1 | 05/21/2025 13:33 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1100** | mg/L | 1 | 05/27/2025 15:58 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 13:01 | R365418 |
| Chloride | NELAP | 5.00 | | **36.2** | mg/L | 10 | 05/22/2025 13:01 | R365418 |
| Sulfate | NELAP | 10.0 | | **367** | mg/L | 10 | 05/22/2025 13:01 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0654** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Boron | NELAP | 0.0200 | | **3.12** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Calcium | NELAP | 0.100 | B | **183** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Cobalt | NELAP | 0.0050 | | **0.0095** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:50 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:11 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0013** | mg/L | 5 | 05/27/2025 21:26 | 239494 |
| Lithium | * | 0.0030 | | **0.0059** | mg/L | 5 | 05/27/2025 21:26 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:11 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:11 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:28 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 12:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 05/21/2025 12:56 | R365853 |
| Depth to water | * | -5.00 | | **5.12** | ft | 1 | 05/21/2025 12:56 | R365853 |
| Depth to water from measuring point | * | 0 | | **7.67** | ft | 1 | 05/21/2025 12:56 | R365853 |
| Elevation of groundwater surface | * | 0 | | **527.58** | ft | 1 | 05/21/2025 12:56 | R365853 |
| Measuring Point Elevation | * | 0 | | **535.25** | ft | 1 | 05/21/2025 12:56 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.55** | ft | 1 | 05/21/2025 12:56 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.2** | NTU | 1 | 05/21/2025 12:56 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.8** | °F | 1 | 05/21/2025 12:56 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.53** | | 1 | 05/21/2025 12:56 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1130** | µmhos/cm @25C | 1 | 05/21/2025 12:56 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1180** | mg/L | 5 | 05/27/2025 15:59 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 13:13 | R365418 |
| Chloride | NELAP | 5.00 | | **61.7** | mg/L | 10 | 05/22/2025 13:13 | R365418 |
| Sulfate | NELAP | 10.0 | | **505** | mg/L | 10 | 05/22/2025 13:13 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.106** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Boron | NELAP | 0.0200 | | **12.9** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Calcium | NELAP | 0.100 | B | **171** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Cobalt | NELAP | 0.0050 | | **0.0081** | mg/L | 1 | 05/30/2025 8:29 | 239494 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:51 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:17 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0103** | mg/L | 5 | 05/27/2025 21:31 | 239494 |
| Lithium | * | 0.0030 | | **0.0046** | mg/L | 5 | 05/27/2025 21:31 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:17 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:17 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:35 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-005
**Client Sample ID:** AP-4
**Matrix:** GROUNDWATER
**Collection Date:** 05/28/2025 11:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.19** | ft | 1 | 05/28/2025 11:31 | R365853 |
| Depth to water | * | -5.00 | | **7.24** | ft | 1 | 05/28/2025 11:31 | R365853 |
| Depth to water from measuring point | * | 0 | | **10.38** | ft | 1 | 05/28/2025 11:31 | R365853 |
| Elevation of groundwater surface | * | 0 | | **545.22** | ft | 1 | 05/28/2025 11:31 | R365853 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 05/28/2025 11:31 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.14** | ft | 1 | 05/28/2025 11:31 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **170** | NTU | 1 | 05/28/2025 11:31 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.6** | °F | 1 | 05/28/2025 11:31 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.69** | | 1 | 05/28/2025 11:31 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **979** | µmhos/cm @25C | 1 | 05/28/2025 11:31 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **528** | mg/L | 1 | 06/04/2025 8:44 | R366213 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/29/2025 9:00 | R365636 |
| Chloride | NELAP | 5.00 | | **12.1** | mg/L | 10 | 05/29/2025 9:00 | R365636 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 05/29/2025 9:00 | R365636 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.434** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Boron | NELAP | 0.0200 | | **0.0772** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Calcium | NELAP | 0.100 | | **113** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Chromium | NELAP | 0.0050 | | **0.0081** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Cobalt | NELAP | 0.0050 | | **0.0083** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 06/04/2025 12:31 | 239769 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 06/03/2025 12:48 | 239769 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/30/2025 13:15 | 239769 |
| Arsenic | NELAP | 0.0010 | | **0.0223** | mg/L | 5 | 06/03/2025 0:51 | 239769 |
| Lithium | * | 0.0030 | | **0.0117** | mg/L | 5 | 05/30/2025 13:15 | 239769 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/30/2025 13:15 | 239769 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/30/2025 13:15 | 239769 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/30/2025 11:49 | 239778 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/24/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-006
**Client Sample ID:** AP-5
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 10:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **552.63** | ft | 1 | 05/21/2025 10:31 | R365853 |
| Depth to water | * | -5.00 | | **12.11** | ft | 1 | 05/21/2025 10:31 | R365853 |
| Depth to water from measuring point | * | 0 | | **14.41** | ft | 1 | 05/21/2025 10:31 | R365853 |
| Elevation of groundwater surface | * | 0 | | **569.49** | ft | 1 | 05/21/2025 10:31 | R365853 |
| Measuring Point Elevation | * | 0 | | **583.90** | ft | 1 | 05/21/2025 10:31 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.30** | ft | 1 | 05/21/2025 10:31 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.3** | NTU | 1 | 05/21/2025 10:31 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.3** | °F | 1 | 05/21/2025 10:31 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.67** | | 1 | 05/21/2025 10:31 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **834** | µmhos/cm @25C | 1 | 05/21/2025 10:31 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **514** | mg/L | 1 | 05/27/2025 16:00 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 13:26 | R365418 |
| Chloride | NELAP | 5.00 | | **9.13** | mg/L | 10 | 05/22/2025 13:26 | R365418 |
| Sulfate | NELAP | 10.0 | | **63.6** | mg/L | 10 | 05/22/2025 13:26 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0571** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Boron | NELAP | 0.0200 | | **0.0521** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Calcium | NELAP | 0.100 | B | **97.6** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:52 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:23 | 239494 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 21:37 | 239494 |
| Lithium | * | 0.0030 | | **0.0044** | mg/L | 5 | 05/27/2025 21:37 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:23 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:23 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:42 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-007
**Client Sample ID:** AP-6
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 14:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.20** | ft | 1 | 05/21/2025 14:16 | R365853 |
| Depth to water | * | -5.00 | | **5.35** | ft | 1 | 05/21/2025 14:16 | R365853 |
| Depth to water from measuring point | * | 0 | | **7.77** | ft | 1 | 05/21/2025 14:16 | R365853 |
| Elevation of groundwater surface | * | 0 | | **530.05** | ft | 1 | 05/21/2025 14:16 | R365853 |
| Measuring Point Elevation | * | 0 | | **537.82** | ft | 1 | 05/21/2025 14:16 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.42** | ft | 1 | 05/21/2025 14:16 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.0** | NTU | 1 | 05/21/2025 14:16 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.7** | °F | 1 | 05/21/2025 14:16 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.00** | | 1 | 05/21/2025 14:16 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **684** | µmhos/cm @25C | 1 | 05/21/2025 14:16 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **432** | mg/L | 1 | 05/27/2025 16:00 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **0.58** | mg/L | 10 | 05/22/2025 13:39 | R365418 |
| Chloride | NELAP | 5.00 | | **32.6** | mg/L | 10 | 05/22/2025 13:39 | R365418 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 05/22/2025 13:39 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.154** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Boron | NELAP | 0.0200 | | **0.407** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Calcium | NELAP | 0.100 | B | **65.1** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Lead | NELAP | 0.0075 | | **0.0230** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:29 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0037** | mg/L | 5 | 05/27/2025 21:42 | 239494 |
| Lithium | * | 0.0030 | | **0.0073** | mg/L | 5 | 05/27/2025 21:42 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:29 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:29 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:44 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 11:57

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 05/27/2025 11:57 | R365853 |
| Depth to water | * | -5.00 | | **7.98** | ft | 1 | 05/27/2025 11:57 | R365853 |
| Depth to water from measuring point | * | 0 | | **10.64** | ft | 1 | 05/27/2025 11:57 | R365853 |
| Elevation of groundwater surface | * | 0 | | **528.38** | ft | 1 | 05/27/2025 11:57 | R365853 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 05/27/2025 11:57 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 05/27/2025 11:57 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.6** | NTU | 1 | 05/27/2025 11:57 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.4** | °F | 1 | 05/27/2025 11:57 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.14** | | 1 | 05/27/2025 11:57 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **770** | µmhos/cm @25C | 1 | 05/27/2025 11:57 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **652** | mg/L | 1 | 06/03/2025 6:58 | R366064 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **0.55** | mg/L | 10 | 05/28/2025 10:27 | R365685 |
| Chloride | NELAP | 5.00 | | **81.4** | mg/L | 10 | 05/28/2025 10:27 | R365685 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 05/28/2025 10:27 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.137** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Boron | NELAP | 0.0200 | | **0.393** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Calcium | NELAP | 0.100 | | **58.4** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 14:54 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 15:19 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0289** | mg/L | 5 | 05/28/2025 15:19 | 239684 |
| Lithium | * | 0.0030 | | **0.0106** | mg/L | 5 | 05/28/2025 15:19 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 15:19 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 15:19 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:37 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-009
**Client Sample ID:** AP-8
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 11:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 05/21/2025 11:12 | R365853 |
| Depth to water | * | -5.00 | | **1.11** | ft | 1 | 05/21/2025 11:12 | R365853 |
| Depth to water from measuring point | * | 0 | | **4.01** | ft | 1 | 05/21/2025 11:12 | R365853 |
| Elevation of groundwater surface | * | 0 | | **533.19** | ft | 1 | 05/21/2025 11:12 | R365853 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 05/21/2025 11:12 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 05/21/2025 11:12 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **37** | NTU | 1 | 05/21/2025 11:12 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.3** | °F | 1 | 05/21/2025 11:12 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.78** | | 1 | 05/21/2025 11:12 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **876** | µmhos/cm @25C | 1 | 05/21/2025 11:12 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **580** | mg/L | 5 | 05/27/2025 16:00 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 13:52 | R365418 |
| Chloride | NELAP | 5.00 | | **22.6** | mg/L | 10 | 05/22/2025 13:52 | R365418 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 05/22/2025 13:52 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.415** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Boron | NELAP | 0.0200 | | **0.963** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Calcium | NELAP | 0.100 | B | **97.7** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Lead | NELAP | 0.0075 | | **0.132** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:53 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:35 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0446** | mg/L | 5 | 05/27/2025 21:48 | 239494 |
| Lithium | * | 0.0030 | | **0.0072** | mg/L | 5 | 05/27/2025 21:48 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:35 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:35 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:47 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-010
**Client Sample ID:** AP-9
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 10:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.70** | ft | 1 | 05/27/2025 10:24 | R365853 |
| Depth to water | * | -5.00 | | **9.39** | ft | 1 | 05/27/2025 10:24 | R365853 |
| Depth to water from measuring point | * | 0 | | **12.49** | ft | 1 | 05/27/2025 10:24 | R365853 |
| Elevation of groundwater surface | * | 0 | | **527.81** | ft | 1 | 05/27/2025 10:24 | R365853 |
| Measuring Point Elevation | * | 0 | | **540.30** | ft | 1 | 05/27/2025 10:24 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 05/27/2025 10:24 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **45** | NTU | 1 | 05/27/2025 10:24 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.6** | °F | 1 | 05/27/2025 10:24 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.79** | | 1 | 05/27/2025 10:24 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **963** | µmhos/cm @25C | 1 | 05/27/2025 10:24 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **681** | mg/L | 1.67 | 06/03/2025 6:58 | R366064 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 10:38 | R365685 |
| Chloride | NELAP | 5.00 | | **27.0** | mg/L | 10 | 05/28/2025 10:38 | R365685 |
| Sulfate | NELAP | 10.0 | | **17.9** | mg/L | 10 | 05/28/2025 10:38 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.322** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Boron | NELAP | 0.0200 | | **0.0887** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Calcium | NELAP | 0.100 | S | **99.4** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 14:28 | 239684 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 15:25 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 05/28/2025 15:25 | 239684 |
| Lithium | * | 0.0030 | | **0.0064** | mg/L | 5 | 05/28/2025 15:25 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 15:25 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 15:25 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:39 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-011
**Client Sample ID:** AP-10
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 12:04

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **499.43** | ft | 1 | 05/21/2025 12:04 | R365853 |
| Depth to water | * | -5.00 | | **0.82** | ft | 1 | 05/21/2025 12:04 | R365853 |
| Depth to water from measuring point | * | 0 | | **3.92** | ft | 1 | 05/21/2025 12:04 | R365853 |
| Elevation of groundwater surface | * | 0 | | **533.58** | ft | 1 | 05/21/2025 12:04 | R365853 |
| Measuring Point Elevation | * | 0 | | **537.50** | ft | 1 | 05/21/2025 12:04 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 05/21/2025 12:04 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **140** | NTU | 1 | 05/21/2025 12:04 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.2** | °F | 1 | 05/21/2025 12:04 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.63** | | 1 | 05/21/2025 12:04 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1100** | µmhos/cm @25C | 1 | 05/21/2025 12:04 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **820** | mg/L | 5 | 05/27/2025 16:00 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 14:42 | R365418 |
| Chloride | NELAP | 5.00 | | **24.6** | mg/L | 10 | 05/22/2025 14:42 | R365418 |
| Sulfate | NELAP | 10.0 | | **94.9** | mg/L | 10 | 05/22/2025 14:42 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.765** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Boron | NELAP | 0.0200 | | **4.50** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Calcium | NELAP | 0.100 | B | **143** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Lead | NELAP | 0.0075 | | **0.0621** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 8:54 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 20:48 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0015** | mg/L | 5 | 05/27/2025 22:33 | 239494 |
| Lithium | * | 0.0030 | | **0.0107** | mg/L | 5 | 05/27/2025 22:33 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 20:48 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 20:48 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:49 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-012
**Client Sample ID:** AP-11
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 10:55

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.15** | ft | 1 | 05/22/2025 10:55 | R365853 |
| Depth to water | * | -5.00 | | **9.23** | ft | 1 | 05/22/2025 10:55 | R365853 |
| Depth to water from measuring point | * | 0 | | **12.03** | ft | 1 | 05/22/2025 10:55 | R365853 |
| Elevation of groundwater surface | * | 0 | | **526.07** | ft | 1 | 05/22/2025 10:55 | R365853 |
| Measuring Point Elevation | * | 0 | | **538.10** | ft | 1 | 05/22/2025 10:55 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 05/22/2025 10:55 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.9** | NTU | 1 | 05/22/2025 10:55 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **55.5** | °F | 1 | 05/22/2025 10:55 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.53** | | 1 | 05/22/2025 10:55 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1110** | µmhos/cm @25C | 1 | 05/22/2025 10:55 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **784** | mg/L | 1 | 05/27/2025 16:00 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 11:34 | R365491 |
| Chloride | NELAP | 5.00 | | **129** | mg/L | 10 | 05/23/2025 11:34 | R365491 |
| Sulfate | NELAP | 10.0 | | **84.6** | mg/L | 10 | 05/23/2025 11:34 | R365491 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.140** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Boron | NELAP | 0.0200 | | **0.273** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Calcium | NELAP | 0.100 | | **160** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 15:54 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 11:30 | 239543 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 11:30 | 239543 |
| Lithium | * | 0.0030 | | **0.0034** | mg/L | 5 | 05/27/2025 11:30 | 239543 |
| Selenium | NELAP | 0.0010 | | **0.0049** | mg/L | 5 | 05/27/2025 11:30 | 239543 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2025 13:35 | 239543 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2025 14:29 | 239545 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-013
**Client Sample ID:** AP-12
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 11:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **510.30** | ft | 1 | 05/22/2025 11:38 | R365853 |
| Depth to water | * | -5.00 | | **12.26** | ft | 1 | 05/22/2025 11:38 | R365853 |
| Depth to water from measuring point | * | 0 | | **15.16** | ft | 1 | 05/22/2025 11:38 | R365853 |
| Elevation of groundwater surface | * | 0 | | **525.54** | ft | 1 | 05/22/2025 11:38 | R365853 |
| Measuring Point Elevation | * | 0 | | **540.70** | ft | 1 | 05/22/2025 11:38 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 05/22/2025 11:38 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **98** | NTU | 1 | 05/22/2025 11:38 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.2** | °F | 1 | 05/22/2025 11:38 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.50** | | 1 | 05/22/2025 11:38 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1330** | µmhos/cm @25C | 1 | 05/22/2025 11:38 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 100 | | **1190** | mg/L | 5 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 12:12 | R365491 |
| Chloride | NELAP | 5.00 | | **113** | mg/L | 10 | 05/23/2025 12:12 | R365491 |
| Sulfate | NELAP | 10.0 | | **416** | mg/L | 10 | 05/23/2025 12:12 | R365491 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0575** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Boron | NELAP | 0.0200 | | **0.0205** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Calcium | NELAP | 0.100 | | **204** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 15:55 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 11:36 | 239543 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 11:36 | 239543 |
| Lithium | * | 0.0030 | | **0.0056** | mg/L | 5 | 05/27/2025 11:36 | 239543 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 11:36 | 239543 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2025 13:41 | 239543 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2025 14:31 | 239545 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-014
**Client Sample ID:** AP-13
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 13:07

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.00** | ft | 1 | 05/22/2025 13:07 | R365853 |
| Depth to water | * | -5.00 | | **11.33** | ft | 1 | 05/22/2025 13:07 | R365853 |
| Depth to water from measuring point | * | 0 | | **14.73** | ft | 1 | 05/22/2025 13:07 | R365853 |
| Elevation of groundwater surface | * | 0 | | **527.27** | ft | 1 | 05/22/2025 13:07 | R365853 |
| Measuring Point Elevation | * | 0 | | **542.00** | ft | 1 | 05/22/2025 13:07 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.40** | ft | 1 | 05/22/2025 13:07 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **25** | NTU | 1 | 05/22/2025 13:07 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.6** | °F | 1 | 05/22/2025 13:07 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.68** | | 1 | 05/22/2025 13:07 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **755** | µmhos/cm @25C | 1 | 05/22/2025 13:07 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **595** | mg/L | 2.5 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 13:03 | R365491 |
| Chloride | NELAP | 5.00 | | **24.7** | mg/L | 10 | 05/23/2025 13:03 | R365491 |
| Sulfate | NELAP | 10.0 | | **124** | mg/L | 10 | 05/23/2025 13:03 | R365491 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.127** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Boron | NELAP | 0.0200 | | **0.0276** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Calcium | NELAP | 0.100 | | **114** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:09 | 239543 |
| Arsenic | NELAP | 0.0010 | | **0.0032** | mg/L | 5 | 05/27/2025 12:09 | 239543 |
| Lithium | * | 0.0030 | | **0.0107** | mg/L | 5 | 05/27/2025 12:09 | 239543 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:09 | 239543 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2025 13:47 | 239543 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2025 14:38 | 239545 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-015
**Client Sample ID:** AP-14
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 13:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **508.40** | ft | 1 | 05/27/2025 13:44 | R365853 |
| Depth to water | * | -5.00 | | **-0.08** | ft | 1 | 05/27/2025 13:44 | R365853 |
| Depth to water from measuring point | * | 0 | | **2.72** | ft | 1 | 05/27/2025 13:44 | R365853 |
| Elevation of groundwater surface | * | 0 | | **536.88** | ft | 1 | 05/27/2025 13:44 | R365853 |
| Measuring Point Elevation | * | 0 | | **539.60** | ft | 1 | 05/27/2025 13:44 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 05/27/2025 13:44 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.2** | NTU | 1 | 05/27/2025 13:44 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.8** | °F | 1 | 05/27/2025 13:44 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.02** | | 1 | 05/27/2025 13:44 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2020** | µmhos/cm @25C | 1 | 05/27/2025 13:44 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1620** | mg/L | 1.67 | 06/03/2025 6:58 | R366064 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 11:25 | R365685 |
| Chloride | NELAP | 5.00 | | **105** | mg/L | 10 | 05/28/2025 11:25 | R365685 |
| Sulfate | NELAP | 10.0 | | **909** | mg/L | 10 | 05/28/2025 11:25 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0384** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Boron | NELAP | 0.200 | | **21.7** | mg/L | 10 | 06/02/2025 22:21 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Calcium | NELAP | 0.100 | | **276** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 14:55 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:08 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0017** | mg/L | 5 | 05/28/2025 16:08 | 239684 |
| Lithium | * | 0.0030 | | **0.0073** | mg/L | 5 | 05/28/2025 16:08 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:08 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 16:08 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:46 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-016
**Client Sample ID:** T-1
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 13:50

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **512.70** | ft | 1 | 05/22/2025 13:50 | R365853 |
| Depth to water | * | -5.00 | | **10.53** | ft | 1 | 05/22/2025 13:50 | R365853 |
| Depth to water from measuring point | * | 0 | | **10.86** | ft | 1 | 05/22/2025 13:50 | R365853 |
| Elevation of groundwater surface | * | 0 | | **524.79** | ft | 1 | 05/22/2025 13:50 | R365853 |
| Measuring Point Elevation | * | 0 | | **535.65** | ft | 1 | 05/22/2025 13:50 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **0.33** | ft | 1 | 05/22/2025 13:50 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **24** | NTU | 1 | 05/22/2025 13:50 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **54.1** | °F | 1 | 05/22/2025 13:50 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 05/22/2025 13:50 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1280** | µmhos/cm @25C | 1 | 05/22/2025 13:50 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **962** | mg/L | 1 | 05/27/2025 16:01 | R365834 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 13:16 | R365491 |
| Chloride | NELAP | 5.00 | | **232** | mg/L | 10 | 05/23/2025 13:16 | R365491 |
| Sulfate | NELAP | 10.0 | | **148** | mg/L | 10 | 05/23/2025 13:16 | R365491 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0586** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Boron | NELAP | 0.0200 | | **0.163** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Calcium | NELAP | 0.100 | | **165** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Cobalt | NELAP | 0.0050 | | **0.0055** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 15:56 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:14 | 239543 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:14 | 239543 |
| Lithium | * | 0.0030 | | **0.0142** | mg/L | 5 | 05/27/2025 12:14 | 239543 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:14 | 239543 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2025 14:17 | 239543 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2025 14:40 | 239545 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-017
**Client Sample ID:** T-2
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 12:19

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.18** | ft | 1 | 05/22/2025 12:19 | R365853 |
| Depth to water | * | -5.00 | | **21.43** | ft | 1 | 05/22/2025 12:19 | R365853 |
| Depth to water from measuring point | * | 0 | | **23.83** | ft | 1 | 05/22/2025 12:19 | R365853 |
| Elevation of groundwater surface | * | 0 | | **525.79** | ft | 1 | 05/22/2025 12:19 | R365853 |
| Measuring Point Elevation | * | 0 | | **549.62** | ft | 1 | 05/22/2025 12:19 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.40** | ft | 1 | 05/22/2025 12:19 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **17** | NTU | 1 | 05/22/2025 12:19 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.1** | °F | 1 | 05/22/2025 12:19 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.55** | | 1 | 05/22/2025 12:19 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1740** | µmhos/cm @25C | 1 | 05/22/2025 12:19 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **1550** | mg/L | 2.5 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 13:28 | R365491 |
| Chloride | NELAP | 5.00 | | **522** | mg/L | 10 | 05/23/2025 13:28 | R365491 |
| Sulfate | NELAP | 10.0 | | **143** | mg/L | 10 | 05/23/2025 13:28 | R365491 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.226** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Beryllium | NELAP | 0.0005 | | **0.0005** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Boron | NELAP | 0.0200 | | **0.0507** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Calcium | NELAP | 0.100 | | **231** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 06/03/2025 10:13 | 239543 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 16:02 | 239543 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:20 | 239543 |
| Arsenic | NELAP | 0.0010 | | **0.0056** | mg/L | 5 | 05/27/2025 12:20 | 239543 |
| Lithium | * | 0.0030 | | **0.0320** | mg/L | 5 | 05/27/2025 12:20 | 239543 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:20 | 239543 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2025 14:23 | 239543 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2025 14:43 | 239545 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-018
**Client Sample ID:** T-4
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 11:04

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **521.52** | ft | 1 | 05/27/2025 11:04 | R365853 |
| Depth to water | * | -5.00 | | **13.26** | ft | 1 | 05/27/2025 11:04 | R365853 |
| Depth to water from measuring point | * | 0 | | **15.64** | ft | 1 | 05/27/2025 11:04 | R365853 |
| Elevation of groundwater surface | * | 0 | | **533.30** | ft | 1 | 05/27/2025 11:04 | R365853 |
| Measuring Point Elevation | * | 0 | | **548.94** | ft | 1 | 05/27/2025 11:04 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.38** | ft | 1 | 05/27/2025 11:04 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **23** | NTU | 1 | 05/27/2025 11:04 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **56.2** | °F | 1 | 05/27/2025 11:04 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.63** | | 1 | 05/27/2025 11:04 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **641** | µmhos/cm @25C | 1 | 05/27/2025 11:04 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **478** | mg/L | 1.67 | 06/03/2025 6:59 | R366064 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 11:37 | R365685 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 05/28/2025 11:37 | R365685 |
| Sulfate | NELAP | 10.0 | | **101** | mg/L | 10 | 05/28/2025 11:37 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0345** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Boron | NELAP | 0.0200 | | **0.0577** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Calcium | NELAP | 0.100 | | **72.8** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 14:56 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:14 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0039** | mg/L | 5 | 05/28/2025 16:14 | 239684 |
| Lithium | * | 0.0030 | | **0.0158** | mg/L | 5 | 05/28/2025 16:14 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:14 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 16:14 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:48 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-019
**Client Sample ID:** T-5
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 13:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **518.32** | ft | 1 | 05/27/2025 13:23 | R365853 |
| Depth to water | * | -5.00 | | **6.06** | ft | 1 | 05/27/2025 13:23 | R365853 |
| Depth to water from measuring point | * | 0 | | **8.57** | ft | 1 | 05/27/2025 13:23 | R365853 |
| Elevation of groundwater surface | * | 0 | | **532.09** | ft | 1 | 05/27/2025 13:23 | R365853 |
| Measuring Point Elevation | * | 0 | | **540.66** | ft | 1 | 05/27/2025 13:23 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.51** | ft | 1 | 05/27/2025 13:23 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **9.9** | NTU | 1 | 05/27/2025 13:23 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.7** | °F | 1 | 05/27/2025 13:23 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.77** | | 1 | 05/27/2025 13:23 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **536** | µmhos/cm @25C | 1 | 05/27/2025 13:23 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **428** | mg/L | 1 | 06/03/2025 6:59 | R366064 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 11:48 | R365685 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 05/28/2025 11:48 | R365685 |
| Sulfate | NELAP | 10.0 | | **35.4** | mg/L | 10 | 05/28/2025 11:48 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0567** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Boron | NELAP | 0.0200 | | **0.0671** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Calcium | NELAP | 0.100 | | **72.4** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 15:17 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:20 | 239684 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:20 | 239684 |
| Lithium | * | 0.0030 | | **0.0089** | mg/L | 5 | 05/28/2025 16:20 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:20 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 16:20 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:55 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-020
**Client Sample ID:** T-6
**Matrix:** GROUNDWATER
**Collection Date:** 05/27/2025 12:38

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.70** | ft | 1 | 05/27/2025 12:38 | R365853 |
| Depth to water | * | -5.00 | | **6.47** | ft | 1 | 05/27/2025 12:38 | R365853 |
| Depth to water from measuring point | * | 0 | | **8.83** | ft | 1 | 05/27/2025 12:38 | R365853 |
| Elevation of groundwater surface | * | 0 | | **529.49** | ft | 1 | 05/27/2025 12:38 | R365853 |
| Measuring Point Elevation | * | 0 | | **538.32** | ft | 1 | 05/27/2025 12:38 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.36** | ft | 1 | 05/27/2025 12:38 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.8** | NTU | 1 | 05/27/2025 12:38 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.8** | °F | 1 | 05/27/2025 12:38 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.00** | | 1 | 05/27/2025 12:38 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **860** | µmhos/cm @25C | 1 | 05/27/2025 12:38 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 50 | | **570** | mg/L | 2.5 | 06/03/2025 6:59 | R366064 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/28/2025 12:23 | R365685 |
| Chloride | NELAP | 5.00 | | **20.8** | mg/L | 10 | 05/28/2025 12:23 | R365685 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 05/28/2025 12:23 | R365685 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.279** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Boron | NELAP | 0.0200 | | **0.200** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Calcium | NELAP | 0.100 | | **92.2** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 15:18 | 239684 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:26 | 239684 |
| Arsenic | NELAP | 0.0010 | | **0.0195** | mg/L | 5 | 05/28/2025 16:26 | 239684 |
| Lithium | * | 0.0030 | | **0.0138** | mg/L | 5 | 05/28/2025 16:26 | 239684 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 16:26 | 239684 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 16:26 | 239684 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/29/2025 15:57 | 239734 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-021
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 05/22/2025 10:24

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 05/22/2025 10:24 | R365853 |
| Depth to water | * | -5.00 | | **11.02** | ft | 1 | 05/22/2025 10:24 | R365853 |
| Depth to water from measuring point | * | 0 | | **13.77** | ft | 1 | 05/22/2025 10:24 | R365853 |
| Elevation of groundwater surface | * | 0 | | **541.83** | ft | 1 | 05/22/2025 10:24 | R365853 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 05/22/2025 10:24 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 05/22/2025 10:24 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.6** | NTU | 1 | 05/22/2025 10:24 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **58.4** | °F | 1 | 05/22/2025 10:24 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.96** | | 1 | 05/22/2025 10:24 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1480** | µmhos/cm @25C | 1 | 05/22/2025 10:24 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1190** | mg/L | 1 | 05/27/2025 16:01 | R365834 |
| *Stability in final weights could not be achieved after multiple drying, cooling, and weighing cycles.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/23/2025 14:06 | R365491 |
| Chloride | NELAP | 5.00 | | **36.8** | mg/L | 10 | 05/23/2025 14:06 | R365491 |
| Sulfate | NELAP | 10.0 | | **388** | mg/L | 10 | 05/23/2025 14:06 | R365491 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0790** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Boron | NELAP | 0.0200 | | **8.75** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Calcium | NELAP | 0.100 | S | **203** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 16:03 | 239543 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:41 | 239543 |
| Arsenic | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 05/27/2025 12:41 | 239543 |
| Lithium | * | 0.0030 | | **0.0101** | mg/L | 5 | 05/27/2025 12:41 | 239543 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/27/2025 12:41 | 239543 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/23/2025 14:48 | 239543 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/23/2025 14:45 | 239545 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

**Client:** City Water, Light & Power
**Work Order:** 25051158
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 27-Jun-25
**Lab ID:** 25051158-022
**Client Sample ID:** G120
**Matrix:** GROUNDWATER
**Collection Date:** 05/21/2025 13:58

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.73** | ft | 1 | 05/21/2025 13:58 | R365853 |
| Depth to water | * | -5.00 | | **16.18** | ft | 1 | 05/21/2025 13:58 | R365853 |
| Depth to water from measuring point | * | 0 | | **16.18** | ft | 1 | 05/21/2025 13:58 | R365853 |
| Elevation of groundwater surface | * | 0 | | **536.92** | ft | 1 | 05/21/2025 13:58 | R365853 |
| Measuring Point Elevation | * | 0 | | **553.10** | ft | 1 | 05/21/2025 13:58 | R365853 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 05/21/2025 13:58 | R365853 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 05/21/2025 13:58 | R365853 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.7** | °F | 1 | 05/21/2025 13:58 | R365853 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.57** | | 1 | 05/21/2025 13:58 | R365853 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1950** | µmhos/cm @25C | 1 | 05/21/2025 13:58 | R365853 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 200 | | **1340** | mg/L | 10 | 05/27/2025 15:59 | R365834 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 05/22/2025 14:55 | R365418 |
| Chloride | NELAP | 5.00 | | **35.5** | mg/L | 10 | 05/22/2025 14:55 | R365418 |
| Sulfate | NELAP | 10.0 | | **562** | mg/L | 10 | 05/22/2025 14:55 | R365418 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.842** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Beryllium | NELAP | 0.0005 | | **0.0009** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Boron | NELAP | 0.0200 | | **8.02** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Calcium | NELAP | 0.100 | B | **256** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Cobalt | NELAP | 0.0050 | | **0.0058** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Lead | NELAP | 0.0075 | | **0.0301** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/29/2025 9:00 | 239494 |
| *Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:41 | 239494 |
| Arsenic | NELAP | 0.0010 | | **0.0114** | mg/L | 5 | 05/27/2025 22:38 | 239494 |
| Lithium | * | 0.0030 | | **0.0084** | mg/L | 5 | 05/27/2025 22:38 | 239494 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 05/28/2025 19:41 | 239494 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/28/2025 19:41 | 239494 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/22/2025 17:51 | 239492 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 06/25/2025 0:00 | R367317 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25051158
**Report Date:** 27-Jun-25

**Carrier:** Daniel Crump

**Received By:** JMD

**Completed by:** Laura E Henson
**On:** 21-May-25

**Reviewed by:** Elizabeth A. Hurley
**On:** 28-May-25

**Pages to follow:** Chain of custody 7 Extra pages included 53

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 5.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

pH strip #101358. - EK/lhenson - 5/21/2025 5:22:34 PM

Additional nitric acid (103505) was needed in AP5, AP-10 and G120 upon arrival at the laboratory. - EK/lhenson - 5/21/2025 5:22:40 PM

Cooler #2 = 5.3C, Cooler #3 = 8.3C (LTG#9). EK/LH 5/21/25

Samples were received on 5/22/25 at 15:45 on ice [temp4.5C, 7.1C - LTG#9]. pH# 101358. Additional nitric acid (103505) was needed in AW-1 upon arrival at the laboratory. -JD/ lhenson - 5/22/2025 4:29:35 PM

Samples were received on 5/27/25 at 1535 on ice [16.3C - LTG#5]. pH strip #101358. - JD/amberdilallo - 5/27/2025 4:03:59 PM

Samples were received on 5/28/25 at 13:50 on ice [5.5C - LTG#9]. pH# 101358. Addional nitric acid (103505) was needed in AP-4 upon arrival at the laboratory. - JD/lhenson - 5/28/2025 4:38:37 PM

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 5.9/5.3 °C 8.3 9
Preserved in: ☑ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES: Add HNO3 (103505) 1 liter bottles for 1 AP5, 2 AP-10, and 2 G120. AC 5/21/25

Client Comments:
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: Daniel Crump

RESULTS REQUESTED: ☑ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other _____ ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

# and Type of Containers / INDICATE ANALYSIS REQUESTED

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051158 001 | RW-3 | 5-21-25 1020 | Groundwater | 1 | ~~2~~ 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 003 | AP-2 | 5-21-25 1333 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 004 | AP-3 | 5-21-25 1256 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 006 | AP-5 | 5/21/25 1031 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 007 | AP-6 | 5-21-25 1416 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 009 | AP-8 | 5-21-25 1112 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 011 | AP-10 | 5-21-25 1204 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

TE SAH 5/15/25

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5-21 / 1605 | Emily Kussakoski | 5/21/25 @ 1605 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [x] ICE [ ] BLUE ICE [ ] NO ICE 5.9/5.3 °C
Preserved in: [x] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [x] No
Are these samples known to be hazardous? [ ] Yes [x] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [x] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Daniel Crump

**RESULTS REQUESTED**
[x] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 (5/15/25) | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051158 012 | AP-11 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 016 | T-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| * 021 | AW-1 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| * 022 | 9120 | 5/21/25 1358 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| D-18 | 5-21/1605 | Emily Kessakoski | 5/21/25 @ 1605 |
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*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

7.1

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 4.5 °C 9
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: PH101358 ~~98858~~
Added HNO3 ~~1/2~~ ~~AW~~ TE JD 5/22/25 1/2 - AW-1 JD 5/22/25 (103505)

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051158 001 | RW-3 | | Groundwater | 1 | ~~2~~ 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | ~~BT 12-04~~ | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

TE SAK 5/15/25

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5-22/1545 | [signature] | 5/22/25 1548 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051158 012 | AP-11 | 5-22-25 1055 | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | 5-22-25 1130 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | 5-22-25 1307 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | 5-22-25 1350 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | 5-22-25 1219 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| ** 021 | AW-1 | 5/22/25 1024 | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ** 022 | 9120 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| DJS | 5-22/1545 | | 5/22/25 15:45 |
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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 16.3 °C 5
Preserved in: [ ] LAB [X] FIELD FOR LAB USE ONLY
LAB NOTES: PH 101358
JD 5/27/25

Client Comments:
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

PROJECT NAME/NUMBER: Ash Pond Monitoring Wells
SAMPLE COLLECTOR'S NAME: Brett Gillihan

RESULTS REQUESTED: [✓] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other _____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS:

# and Type of Containers / INDICATE ANALYSIS REQUESTED

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051158 001 | RW-3 | | Groundwater | 1 | ~~2~~ 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | 5-27-25 1157 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | 5-27-25 1024 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

TE SAM 5/15/25

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5-27/1535 | [signature] | 5/27/25 15:35 |
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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Brett Gillihan

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 5/15/25 | | | | | | | | | | | | | |
| 25051158 012 | AP-11 | | Groundwater | 1 | 3 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 013 | AP-12 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 014 | AP-13 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 015 | AP-14 | 5-27-25 1344 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 016 | T-1 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 017 | T-2 | | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 018 | T-4 | 5-27-25 1104 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 019 | T-5 | 5-27-25 1325 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 020 | T-6 | 5-27-25 1238 | Groundwater | 1 | 2 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| ** 021 | AW-1 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ** 022 | 9120 | | Groundwater | 1 | 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5-27-25 1535 | | 5/27/25 15:35 |

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25051158

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.5 °C 9
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (103505) 2/2 AP-4 Liters PH 101358 JD 2/28/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No
Are these samples known to be hazardous? [ ] Yes [✓] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Justin Cdp

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25051158 001 | RW-3 | | Groundwater | 1 | ~~2~~ 3 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | AP-1 | 5-28-25 956 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | AP-2 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | AP-3 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | AP-4 | 5-28-25 1131 | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 006 | AP-5 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 007 | AP-6 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | AP-7 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | AP-8 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | AP-9 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 011 | AP-10 | | Groundwater | 1 | 2 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

TE 5/15/25

Courier

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5-28 / 1350 | [signature] | 5/28/25 1350 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/21/2025 |

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.

Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 10:00

Static Water Level: 9.27 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 34.74 feet

**Purging Activities**

Purged By: DC Purge Date: 5/21/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.74 ft. x 0.022 = 0.76 L x 3 Vol. = 2.28 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 0.0 | 300 | purge start time | | | | | | |
| 10:08 | 2.4 | ↓ | 7.04 | 649.70 | 12.60 | 0.59 | -99.00 | 8.49 | |
| 10:11 | 3.3 | | 7.04 | 649.10 | 12.61 | 0.55 | -103.90 | 6.68 | |
| 10:14 | 4.2 | | 7.04 | 648.50 | 12.58 | 0.51 | -108.10 | 4.91 | |
| 10:17 | 5.1 | | 7.03 | 649.20 | 12.59 | 0.48 | -111.30 | 5.05 | |
| 10:20 | 6.0 | | 7.03 | 649.80 | 12.58 | 0.45 | -114.40 | 5.04 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 5/21/2025 10:20

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.03 pH 649.80 Spec. Cond. 12.58 Temp

Field Filtered: No Filter Type:

Water Level: 9.27 feet below TOC Drawdown: 0.00 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-1 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 002 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/28/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/28/2025 9:19

Static Water Level: 9.79 feet below TOC

Total Depth: 31.08 feet below TOC

Water Column: 21.29 feet

**Purging Activities**

Purged By: JC Purge Date: 5/28/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 21.29 ft. x 0.022 = 0.47 L x 3 Vol. = 1.41 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear Odor: Slight Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:20 | 0.0 | 222 | purge start time | | | | | | |
| 9:26 | 1.3 | ↓ | 6.57 | 1,846.80 | 14.01 | 6.18 | 86.00 | 50.33 | |
| 9:29 | 2.0 | | 6.44 | 1,922.20 | 14.03 | 5.37 | 88.70 | 39.69 | |
| 9:32 | 2.7 | | 6.40 | 1,969.40 | 14.06 | 4.80 | 89.00 | 36.83 | |
| 9:35 | 3.3 | | 6.39 | 2,000.20 | 14.01 | 4.39 | 88.60 | 33.74 | |
| 9:38 | 4.0 | | 6.39 | 2,046.10 | 14.01 | 4.06 | 88.30 | 26.01 | |
| 9:41 | 4.7 | | 6.39 | 2,068.70 | 14.01 | 3.81 | 87.80 | 23.84 | |
| 9:44 | 5.3 | | 6.40 | 2,082.70 | 14.08 | 3.59 | 87.30 | 23.90 | |
| 9:47 | 6.0 | | 6.41 | 2,091.30 | 14.05 | 3.41 | 86.80 | 16.86 | |
| 9:50 | 6.7 | | 6.41 | 2,094.80 | 14.03 | 3.26 | 86.40 | 13.60 | |
| 9:53 | 7.3 | | 6.42 | 2,096.20 | 14.02 | 3.13 | 85.90 | 9.55 | |
| 9:56 | 8.0 | | 6.42 | 2,095.90 | 14.02 | 3.01 | 85.40 | 9.71 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/28/2025 9:56

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.42 pH 2,095.90 Spec. Cond. 14.02 Temp

Field Filtered: No Filter Type:

Water Level: 10.20 feet below TOC Drawdown: 0.41 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/28/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-2
**Sample ID:** 003
**Date (s):** 5/21/2025

**Field Team Members**

Name: Danny Crump — Affiliation: TekLab, Inc.
Name: Brett Gillihan — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F — Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 13:07
Static Water Level: 7.79 feet below TOC
Total Depth: 21.33 feet below TOC
Water Column: 13.54 feet

**Purging Activities**

Purged By: DC — Purge Date: 5/21/2025
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 13.54 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Slightly cloudy — Odor: None — Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:07 | 0.0 | 231 | purge start time | | | | | | |
| 13:21 | 3.2 | ↓ | 6.45 | 1,177.50 | 13.41 | 0.38 | 8.80 | 70.62 | |
| 13:24 | 3.9 | | 6.44 | 1,179.20 | 13.58 | 0.35 | 8.70 | 52.86 | |
| 13:27 | 4.6 | | 6.44 | 1,184.60 | 13.87 | 0.32 | 8.80 | 40.66 | |
| 13:30 | 5.3 | | 6.45 | 1,182.50 | 13.43 | 0.30 | 9.10 | 31.33 | |
| 13:33 | 6.0 | | 6.45 | 1,180.90 | 13.58 | 0.29 | 9.20 | 24.47 | |

**Sampling Activities**

Sampled By: DC — Sample Date/Time: 5/21/2025 13:33
Sample Method: Low Flow — Sample Equipment: Bladder Pump
Sample Parameters: 6.45 pH — 1,180.90 Spec. Cond. — 13.58 Temp
Field Filtered: No — Filter Type:
Water Level: 7.80 feet below TOC — Drawdown: 0.01 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan — **Date:** 5/21/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-3
**Sample ID:** 004
**Date (s):** 5/21/2025

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.
Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 60 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 12:30
Static Water Level: 7.67 feet below TOC
Total Depth: 20.80 feet below TOC
Water Column: 13.13 feet

**Purging Activities**

Purged By: DC Purge Date: 5/21/2025
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 13.13 ft. x 0.022 = 0.29 L x 3 Vol. = 0.87 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:30 | 0.0 | 231 | purge start time | | | | | | |
| 12:44 | 3.2 | ↓ | 6.53 | 1,119.40 | 13.56 | 0.31 | -53.20 | 26.92 | |
| 12:47 | 3.9 | | 6.52 | 1,118.10 | 13.50 | 0.28 | -55.50 | 18.11 | |
| 12:50 | 4.6 | | 6.52 | 1,123.10 | 13.61 | 0.26 | -57.30 | 13.70 | |
| 12:53 | 5.3 | | 6.52 | 1,126.10 | 13.47 | 0.25 | -58.50 | 10.62 | |
| 12:56 | 6.0 | | 6.53 | 1,126.40 | 13.25 | 0.23 | -59.30 | 9.17 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 5/21/2025 12:56
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.53 pH 1,126.40 Spec. Cond. 13.25 Temp
Field Filtered: No Filter Type:
Water Level: 7.85 feet below TOC Drawdown: 0.18 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/28/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 62 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | **Locks** | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/28/2025 10:54

Static Water Level: 10.38 feet below TOC

Total Depth: 60.41 feet below TOC

Water Column: 50.03 feet

**Purging Activities**

Purged By: JC Purge Date: 5/28/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 50.03 ft. x 0.022 = 1.1 L x 3 Vol. = 3.3 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Cloudy Odor: None Color: greyish

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:55 | 0.0 | 194 | purge start time | | | | | | |
| 11:04 | 1.8 | ↓ | 6.73 | 964.00 | 15.95 | 4.59 | 68.80 | 140.86 | |
| 11:07 | 2.3 | | 6.71 | 968.70 | 15.99 | 4.08 | 68.80 | 195.05 | |
| 11:10 | 2.9 | | 6.70 | 972.90 | 15.97 | 3.70 | 68.40 | 212.04 | |
| 11:13 | 3.5 | | 6.69 | 975.00 | 15.91 | 3.41 | 67.70 | 229.67 | |
| 11:16 | 4.1 | | 6.69 | 976.10 | 15.99 | 3.17 | 66.70 | 232.48 | |
| 11:19 | 4.7 | | 6.69 | 976.70 | 16.07 | 2.98 | 65.40 | 217.94 | |
| 11:22 | 5.3 | | 6.69 | 977.50 | 16.13 | 2.82 | 64.00 | 212.96 | |
| 11:25 | 5.8 | | 6.68 | 977.90 | 16.26 | 2.69 | 62.30 | 196.53 | |
| 11:28 | 6.4 | | 6.69 | 978.90 | 16.35 | 2.58 | 60.60 | 168.32 | |
| 11:31 | 7.0 | | 6.69 | 978.70 | 16.43 | 2.48 | 58.70 | 170.33 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/28/2025 11:31

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.69 pH 978.70 Spec. Cond. 16.43 Temp

Field Filtered: No Filter Type:

Water Level: 10.53 feet below TOC Drawdown: 0.15 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/28/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 006 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/21/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 9:43

Static Water Level: 14.41 feet below TOC

Total Depth: 31.27 feet below TOC

Water Column: 16.86 feet

**Purging Activities**

Purged By: JC Purge Date: 5/21/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.86 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:47 | 0.0 | 182 | purge start time | | | | | | |
| 10:19 | 5.8 | ↓ | 6.65 | 835.40 | 12.91 | 3.23 | 41.90 | 1.79 | |
| 10:22 | 6.4 | | 6.65 | 834.90 | 12.90 | 3.15 | 41.30 | 1.80 | |
| 10:25 | 6.9 | | 6.66 | 834.60 | 12.93 | 3.08 | 40.80 | 2.00 | |
| 10:28 | 7.5 | | 6.66 | 834.30 | 12.95 | 3.01 | 40.40 | 2.10 | |
| 10:31 | 8.0 | | 6.67 | 834.20 | 12.95 | 2.95 | 40.00 | 2.33 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/21/2025 10:31

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.67 pH 834.20 Spec. Cond. 12.95 Temp

Field Filtered: No Filter Type:

Water Level: 15.69 feet below TOC Drawdown: 1.28 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/21/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-6
**Sample ID:** 007
**Date (s):** 5/21/2025

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.
Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 62 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 13:52
Static Water Level: 7.77 feet below TOC
Total Depth: 39.62 feet below TOC
Water Column: 31.85 feet

**Purging Activities**

Purged By: DC Purge Date: 5/21/2025
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 31.85 ft. x 0.022 = 0.7 L x 3 Vol. = 2.1 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:52 | 0.0 | 250 | purge start time | | | | | | |
| 14:04 | 3.0 | ↓ | 7.08 | 648.70 | 12.84 | 1.40 | 62.10 | 8.84 | |
| 14:07 | 3.8 | | 7.07 | 648.20 | 12.75 | 1.31 | 60.00 | 7.25 | |
| 14:10 | 4.5 | | 7.01 | 648.70 | 12.78 | 1.26 | 61.60 | 5.84 | |
| 14:13 | 5.3 | | 6.99 | 648.30 | 12.69 | 1.23 | 61.10 | 5.62 | |
| 14:16 | 6.0 | | 7.00 | 648.50 | 12.62 | 1.25 | 60.20 | 4.05 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 5/21/2025 14:16
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 7.00 pH 648.50 Spec. Cond. 12.62 Temp
Field Filtered: No Filter Type:
Water Level: 7.79 feet below TOC Drawdown: 0.02 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-7 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 008 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 64 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 11:27

Static Water Level: 10.64 feet below TOC

Total Depth: 42.52 feet below TOC

Water Column: 31.88 feet

**Purging Activities**

Purged By: JR Purge Date: 5/27/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 31.88 ft. x 0.022 = 0.7 L x 3 Vol. = 2.1 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:27 | 0.0 | 167 | purge start time | | | | | | |
| 11:44 | 2.8 | ↓ | 7.13 | 730.50 | 12.22 | 0.65 | -9.80 | 7.65 | |
| 11:47 | 3.3 | | 7.12 | 736.70 | 12.30 | 0.60 | -24.40 | 7.03 | |
| 11:50 | 3.8 | | 7.11 | 746.90 | 12.37 | 0.57 | -36.40 | 10.65 | |
| 11:53 | 4.3 | | 7.13 | 759.20 | 12.49 | 0.54 | -45.70 | 6.33 | |
| 11:56 | 4.8 | | 7.14 | 769.70 | 12.47 | 0.51 | -52.90 | 4.56 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 5/27/2025 11:57

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.14 pH 769.70 Spec. Cond. 12.47 Temp

Field Filtered: No Filter Type:

Water Level: 10.69 feet below TOC Drawdown: 0.05 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/27/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-8
**Sample ID:** 009
**Date (s):** 5/21/2025

**Field Team Members**

Name: Danny Crump — Affiliation: TekLab, Inc.
Name: Brett Gillihan — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F — Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 10:45
Static Water Level: 4.01 feet below TOC
Total Depth: 39.60 feet below TOC
Water Column: 35.59 feet

**Purging Activities**

Purged By: DC — Purge Date: 5/21/2025
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 35.59 ft. x 0.022 = 0.78 L x 3 Vol. = 2.34 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Slightly cloudy — Odor: None — Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:45 | 0.0 | 222 | purge start time | | | | | | |
| 11:00 | 3.3 | ↓ | 6.78 | 878.60 | 13.40 | 1.19 | -98.10 | 85.01 | |
| 11:03 | 4.0 | | 6.78 | 876.10 | 13.37 | 1.08 | -99.50 | 67.14 | |
| 11:06 | 4.7 | | 6.78 | 876.00 | 13.43 | 1.03 | -100.70 | 53.27 | |
| 11:09 | 5.3 | | 6.78 | 875.20 | 13.54 | 1.02 | -101.40 | 48.89 | |
| 11:12 | 6.0 | | 6.78 | 876.20 | 13.52 | 0.96 | -102.10 | 37.12 | |

**Sampling Activities**

Sampled By: BG — Sample Date/Time: 5/21/2025 11:12
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.78 pH — 876.20 Spec. Cond. — 13.52 Temp
Field Filtered: No — Filter Type:
Water Level: 4.32 feet below TOC — Drawdown: 0.31 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan — **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-9 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Brett Gillihan — Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 9:31

Static Water Level: 12.49 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 27.11 feet

**Purging Activities**

Purged By: BG — Purge Date: 5/27/2025

Purge Method: Submersible Pump — Well Diameter: 2"

Purge Volume Calculation (L): 27.11 ft. x 0.022 = 0.6 L x 3 Vol. = 1.8 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy — Odor: None — Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:31 | 0.0 | 94 | purge start time | | | | | | |
| 10:12 | 3.9 | ↓ | 6.77 | 982.90 | 13.57 | 2.08 | 265.00 | 47.03 | |
| 10:15 | 4.2 | | 6.78 | 975.30 | 13.76 | 2.10 | 262.90 | 41.45 | |
| 10:18 | 4.4 | | 6.78 | 973.40 | 13.70 | 1.96 | 258.40 | 41.67 | |
| 10:21 | 4.7 | | 6.78 | 966.30 | 13.72 | 1.80 | 250.10 | 43.68 | |
| 10:24 | 5.0 | | 6.79 | 963.40 | 13.68 | 1.71 | 239.20 | 45.24 | |

**Sampling Activities**

Sampled By: BG — Sample Date/Time: 5/27/2025 10:24

Sample Method: Low Flow — Sample Equipment: Submersible Pump

Sample Parameters: 6.79 pH — 963.40 Spec. Cond. — 13.68 Temp

Field Filtered: No — Filter Type:

Water Level: 12.62 feet below TOC — Drawdown: 0.13 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan — **Date:** 5/27/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-10
**Sample ID:** 011
**Date (s):** 5/21/2025

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.
Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 11:35
Static Water Level: 3.92 feet below TOC
Total Depth: 38.07 feet below TOC
Water Column: 34.15 feet

**Purging Activities**

Purged By: DC Purge Date: 5/21/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 34.15 ft. x 0.022 = 0.75 L x 3 Vol. = 2.25 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:35 | 0.0 | 207 | purge start time | | | | | | |
| 11:52 | 3.5 | ↓ | 6.62 | 1,101.10 | 13.82 | 0.91 | -82.30 | 55.50 | |
| 11:55 | 4.1 | | 6.62 | 1,099.50 | 13.83 | 0.86 | -84.10 | 87.61 | |
| 11:58 | 4.8 | | 6.62 | 1,102.00 | 14.05 | 0.84 | -85.70 | 179.00 | |
| 12:01 | 5.4 | | 6.63 | 1,103.20 | 14.02 | 0.83 | -86.90 | 162.87 | |
| 12:04 | 6.0 | | 6.63 | 1,102.80 | 13.99 | 0.81 | -87.60 | 136.71 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 5/21/2025 12:04
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.63 pH 1,102.80 Spec. Cond. 13.99 Temp
Field Filtered: No Filter Type:
Water Level: 4.21 feet below TOC Drawdown: 0.29 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/21/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-11 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 012 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.

Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 10:30

Static Water Level: 12.03 feet below TOC

Total Depth: 22.95 feet below TOC

Water Column: 10.92 feet

**Purging Activities**

Purged By: DC Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 10.92 ft. x 0.022 = 0.24 L x 3 Vol. = 0.72 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 0.0 | 160 | purge start time | | | | | | |
| 10:43 | 2.1 | ↓ | 6.55 | 1,117.80 | 13.61 | 1.51 | 167.70 | 22.69 | |
| 10:46 | 2.6 | | 6.54 | 1,106.60 | 13.79 | 1.35 | 168.40 | 13.78 | |
| 10:49 | 3.0 | | 6.54 | 1,110.80 | 13.51 | 1.16 | 167.80 | 9.56 | |
| 10:52 | 3.5 | | 6.53 | 1,105.70 | 13.30 | 1.13 | 167.10 | 9.02 | |
| 10:55 | 4.0 | | 6.53 | 1,107.80 | 13.03 | 1.09 | 166.10 | 8.90 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 5/22/2025 10:55

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.53 pH 1,107.80 Spec. Cond. 13.03 Temp

Field Filtered: No Filter Type:

Water Level: 12.05 feet below TOC Drawdown: 0.02 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/22/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-12
**Sample ID:** 013
**Date (s):** 5/22/2025

**Field Team Members**

Name: Danny Crump Affiliation: TekLab, Inc.
Name: Brett Gillihan Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 11:12
Static Water Level: 15.16 feet below TOC
Total Depth: 30.40 feet below TOC
Water Column: 15.24 feet

**Purging Activities**

Purged By: DC Purge Date: 5/22/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 15.24 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Cloudy Odor: None Color: Lt Orange

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:12 | 0.0 | 154 | purge start time | | | | | | |
| 11:25 | 2.0 | ↓ | 6.51 | 1,328.30 | 13.10 | 1.22 | 110.10 | 211.77 | |
| 11:28 | 2.5 | | 6.51 | 1,325.30 | 12.91 | 1.11 | 102.10 | 174.11 | |
| 11:31 | 2.9 | | 6.51 | 1,322.60 | 12.99 | 1.09 | 95.20 | 135.07 | |
| 11:34 | 3.4 | | 6.50 | 1,323.50 | 13.32 | 1.07 | 88.80 | 95.93 | |
| 11:37 | 3.8 | | 6.50 | 1,325.90 | 13.42 | 1.05 | 82.70 | 98.34 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 5/22/2025 11:38
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.50 pH 1,325.90 Spec. Cond. 13.42 Temp
Field Filtered: No Filter Type:
Water Level: 15.26 feet below TOC Drawdown: 0.10 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/22/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** AP-13
**Sample ID:** 014
**Date (s):** 5/22/2025

**Field Team Members**

Name: Danny Crump — Affiliation: TekLab, Inc.
Name: Brett Gillihan — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 59 °F — Wind Direction: ☐ N ☐ S ☐ E ☑ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 12:37
Static Water Level: 14.73 feet below TOC
Total Depth: 31.00 feet below TOC
Water Column: 16.27 feet

**Purging Activities**

Purged By: DC — Purge Date: 5/22/2025
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 16.27 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear — Odor: None — Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:37 | 0.0 | 167 | purge start time | | | | | | |
| 12:55 | 3.0 | ↓ | 6.70 | 758.80 | 12.97 | 1.02 | -46.10 | 22.00 | |
| 12:58 | 3.5 | | 6.69 | 756.60 | 12.69 | 0.99 | -46.90 | 17.69 | |
| 13:01 | 4.0 | | 6.69 | 755.70 | 12.62 | 0.97 | -47.60 | 16.88 | |
| 13:04 | 4.5 | | 6.68 | 755.30 | 12.56 | 0.94 | -47.90 | 12.02 | |
| 13:07 | 5.0 | | 6.68 | 754.60 | 12.56 | 0.93 | -48.10 | 25.44 | |

**Sampling Activities**

Sampled By: BG — Sample Date/Time: 5/22/2025 13:07
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.68 pH — 754.60 Spec. Cond. — 12.56 Temp
Field Filtered: No — Filter Type:
Water Level: 14.96 feet below TOC — Drawdown: 0.23 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan — **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-14 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 015 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 65 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 13:07

Static Water Level: 2.72 feet below TOC

Total Depth: 31.20 feet below TOC

Water Column: 28.48 feet

**Purging Activities**

Purged By: JC Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 28.48 ft. x 0.022 = 0.63 L x 3 Vol. = 1.89 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 9.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:06 | 0.0 | 237 | purge start time | | | | | | |
| 13:14 | 1.9 | ↓ | 7.16 | 2,023.70 | 14.74 | 5.78 | 111.10 | 16.61 | |
| 13:17 | 2.6 | | 7.11 | 2,023.20 | 14.71 | 5.30 | 110.80 | 7.27 | |
| 13:20 | 3.3 | | 7.08 | 2,021.40 | 14.44 | 4.94 | 110.30 | 5.26 | |
| 13:23 | 4.0 | | 7.06 | 2,022.40 | 14.39 | 4.63 | 109.60 | 2.83 | |
| 13:26 | 4.7 | | 7.05 | 2,023.00 | 14.34 | 4.37 | 108.80 | 6.82 | |
| 13:29 | 5.4 | | 7.04 | 2,023.20 | 14.33 | 4.15 | 107.90 | 5.66 | |
| 13:32 | 6.2 | | 7.03 | 2,025.90 | 14.57 | 3.94 | 106.90 | 14.55 | |
| 13:35 | 6.9 | | 7.03 | 2,026.70 | 14.56 | 3.76 | 105.80 | 9.22 | |
| 13:38 | 7.6 | | 7.03 | 2,026.10 | 14.52 | 3.59 | 105.00 | 3.49 | |
| 13:41 | 8.3 | | 7.03 | 2,023.50 | 14.40 | 3.45 | 104.30 | 2.62 | |
| 13:44 | 9.0 | | 7.02 | 2,021.50 | 14.34 | 3.33 | 103.50 | 3.23 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 5/27/2025 13:44

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.02 pH 2,021.50 Spec. Cond. 14.34 Temp

Field Filtered: No Filter Type:

Water Level: 3.09 feet below TOC Drawdown: 0.37 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Justin Colp **Date:** 5/27/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** T-1
**Sample ID:** 016
**Date (s):** 5/22/2025

**Field Team Members**

Name: Danny Crump — Affiliation: TekLab, Inc.
Name: Brett Gillihan — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 60 °F — Wind Direction: ☐ N ☐ S ☐ E ☑ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 13:23
Static Water Level: 10.86 feet below TOC
Total Depth: 22.95 feet below TOC
Water Column: 12.09 feet

**Purging Activities**

Purged By: DC — Purge Date: 5/22/2025
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 12.09 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear — Odor: None — Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:23 | 0.0 | 185 | purge start time | | | | | | |
| 13:38 | 2.8 | ↓ | 6.60 | 1,281.40 | 12.17 | 1.05 | 31.10 | 53.11 | |
| 13:41 | 3.3 | | 6.59 | 1,285.80 | 12.23 | 0.99 | 33.80 | 40.42 | |
| 13:44 | 3.9 | | 6.59 | 1,286.30 | 12.21 | 0.97 | 36.40 | 35.04 | |
| 13:47 | 4.4 | | 6.58 | 1,285.40 | 12.26 | 0.96 | 39.00 | 31.18 | |
| 13:50 | 5.0 | | 6.58 | 1,284.90 | 12.26 | 0.98 | 41.30 | 24.38 | |

**Sampling Activities**

Sampled By: BG — Sample Date/Time: 5/22/2025 13:50
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.58 pH — 1,284.90 Spec. Cond. — 12.26 Temp
Field Filtered: No — Filter Type:
Water Level: 11.25 feet below TOC — Drawdown: 0.39 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan — **Date:** 5/22/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** T-2
**Sample ID:** 017
**Date (s):** 5/22/2025

**Field Team Members**

Name: Danny Crump — Affiliation: TekLab, Inc.
Name: Brett Gillihan — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 58 °F — Wind Direction: ☐ N ☐ S ☐ E ☑ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 11:58
Static Water Level: 23.83 feet below TOC
Total Depth: 34.44 feet below TOC
Water Column: 10.61 feet

**Purging Activities**

Purged By: DC — Purge Date: 5/22/2025
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 10.61 ft. x 0.022 = 0.23 L x 3 Vol. = 0.69 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Slightly cloudy — Odor: None — Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:58 | 0.0 | 238 | purge start time | | | | | | |
| 12:07 | 2.1 | ↓ | 6.54 | 1,700.10 | 12.86 | 1.85 | -31.10 | 14.04 | |
| 12:10 | 2.9 | | 6.53 | 1,705.50 | 13.33 | 2.37 | -37.90 | 18.37 | |
| 12:13 | 3.6 | | 6.54 | 1,718.20 | 13.74 | 2.71 | -43.30 | 18.19 | |
| 12:16 | 4.3 | | 6.54 | 1,731.30 | 13.91 | 3.00 | -47.10 | 17.42 | |
| 12:19 | 5.0 | | 6.55 | 1,742.30 | 13.96 | 3.03 | -49.80 | 17.28 | |

**Sampling Activities**

Sampled By: BG — Sample Date/Time: 5/22/2025 12:19
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.55 pH — 1,742.30 Spec. Cond. — 13.96 Temp
Field Filtered: No — Filter Type:
Water Level: 23.98 feet below TOC — Drawdown: 0.15 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan — **Date:** 5/22/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 018 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 62 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 10:44

Static Water Level: 15.64 feet below TOC

Total Depth: 27.42 feet below TOC

Water Column: 11.78 feet

**Purging Activities**

Purged By: BG Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 11.78 ft. x 0.022 = 0.26 L x 3 Vol. = 0.78 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:44 | 0.0 | 250 | purge start time | | | | | | |
| 10:52 | 2.0 | ↓ | 6.68 | 650.50 | 13.27 | 1.64 | 190.40 | 21.71 | |
| 10:55 | 2.8 | | 6.65 | 647.50 | 13.59 | 1.72 | 194.10 | 26.95 | |
| 10:58 | 3.5 | | 6.63 | 645.50 | 13.45 | 1.70 | 196.90 | 23.73 | |
| 11:01 | 4.3 | | 6.63 | 642.60 | 13.50 | 1.63 | 199.00 | 26.12 | |
| 11:04 | 5.0 | | 6.63 | 641.30 | 13.46 | 1.58 | 200.60 | 22.74 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 5/27/2025 11:04

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.63 pH 641.30 Spec. Cond. 13.46 Temp

Field Filtered: No Filter Type:

Water Level: 15.80 feet below TOC Drawdown: 0.16 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/27/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 019 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 66 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 12:59

Static Water Level: 8.57 feet below TOC

Total Depth: 22.34 feet below TOC

Water Column: 13.77 feet

**Purging Activities**

Purged By: BG Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 13.77 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:59 | 0.0 | 167 | purge start time | | | | | | |
| 13:11 | 2.0 | ↓ | 6.78 | 543.10 | 16.36 | 1.21 | 28.70 | 11.50 | |
| 13:14 | 2.5 | | 6.77 | 540.30 | 16.12 | 1.17 | 32.60 | 10.59 | |
| 13:17 | 3.0 | | 6.77 | 539.10 | 16.07 | 1.15 | 36.50 | 9.76 | |
| 13:20 | 3.5 | | 6.77 | 537.20 | 16.00 | 1.13 | 40.10 | 10.74 | |
| 13:23 | 4.0 | | 6.77 | 536.50 | 15.94 | 1.13 | 43.80 | 9.87 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 5/27/2025 13:23

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.77 pH 536.50 Spec. Cond. 15.94 Temp

Field Filtered: No Filter Type:

Water Level: 9.14 feet below TOC Drawdown: 0.57 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/27/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-6 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 020 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/27/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 65 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/27/2025 12:15

Static Water Level: 8.83 feet below TOC

Total Depth: 43.62 feet below TOC

Water Column: 34.79 feet

**Purging Activities**

Purged By: JR Purge Date: 5/27/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.79 ft. x 0.022 = 0.77 L x 3 Vol. = 2.31 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:15 | 0.0 | 217 | purge start time | | | | | | |
| 12:26 | 2.4 | ↓ | 6.99 | 858.40 | 16.17 | 1.46 | -87.50 | 4.90 | |
| 12:29 | 3.0 | | 6.99 | 862.80 | 15.83 | 1.30 | -95.50 | 6.02 | |
| 12:32 | 3.7 | | 6.99 | 857.20 | 15.83 | 1.16 | -101.10 | 8.20 | |
| 12:35 | 4.3 | | 6.99 | 855.90 | 15.95 | 1.19 | -104.50 | 6.31 | |
| 12:38 | 5.0 | | 7.00 | 859.60 | 16.00 | 1.14 | -107.10 | 8.81 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 5/27/2025 12:38

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.00 pH 859.60 Spec. Cond. 16.00 Temp

Field Filtered: No Filter Type:

Water Level: 9.05 feet below TOC Drawdown: 0.22 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44716

**Form Completed By:** Brett Gillihan **Date:** 5/27/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AW-1 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 021 |
| **W.O. Number (s):** | 25051158 | **Date (s):** | 5/22/2025 |

**Field Team Members**

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Justin Colp Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 57 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 5/22/2025 9:50

Static Water Level: 13.77 feet below TOC

Total Depth: 54.81 feet below TOC

Water Column: 41.04 feet

**Purging Activities**

Purged By: PY Purge Date: 5/22/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 41.04 ft. x 0.022 = 0.9 L x 3 Vol. = 2.7 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:55 | 0.0 | 172 | purge start time | | | | | | |
| 10:12 | 2.9 | ↓ | 6.89 | 1,482.50 | 13.66 | 7.29 | 70.00 | 4.06 | |
| 10:15 | 3.4 | | 6.90 | 1,480.20 | 13.86 | 7.16 | 70.40 | 4.64 | |
| 10:18 | 4.0 | | 6.92 | 1,478.90 | 14.31 | 7.08 | 70.70 | 4.12 | |
| 10:21 | 4.5 | | 6.94 | 1,478.80 | 14.50 | 7.10 | 71.00 | 3.38 | |
| 10:24 | 5.0 | | 6.96 | 1,477.40 | 14.65 | 7.19 | 71.50 | 3.55 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 5/22/2025 10:24

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.96 pH 1,477.40 Spec. Cond. 14.65 Temp

Field Filtered: Yes Filter Type: Inline Disposable

Water Level: 15.72 feet below TOC Drawdown: 1.95 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:** Payton K **Date:** 5/22/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25051158
**Monitoring Point:** G120
**Sample ID:** 022
**Date (s):** 5/21/2025

**Field Team Members**

Name: Payton Yoch — Affiliation: TekLab, Inc.
Name: Justin Colp — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 61 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 5/21/2025 13:34
Static Water Level: 16.18 feet below TOC
Total Depth: 50.37 feet below TOC
Water Column: 34.19 feet

**Purging Activities**

Purged By: PY — Purge Date: 5/21/2025
Purge Method: Submersible Pump — Well Diameter: 2"
Purge Volume Calculation (L): 34.19 ft. x 0.022 = 0.75 L x 3 Vol. = 2.25 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 7.00 L
Physical appearance of purge water: Slightly cloudy — Odor: Slight — Color: None

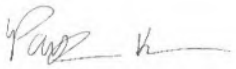
| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:25 | 0.0 | 212 | purge start time | | | | | | |
| 13:43 | 3.8 | ↓ | 6.59 | 1,943.40 | 15.75 | 3.59 | 77.90 | 15.49 | |
| 13:46 | 4.5 | | 6.58 | 1,946.40 | 15.82 | 3.31 | 73.60 | 15.45 | |
| 13:49 | 5.1 | | 6.58 | 1,947.80 | 15.70 | 3.11 | 68.80 | 20.89 | |
| 13:52 | 5.7 | | 6.57 | 1,946.60 | 15.86 | 2.95 | 63.60 | 18.90 | |
| 13:55 | 6.4 | | 6.57 | 1,949.50 | 15.88 | 2.82 | 58.10 | 13.31 | |
| 13:58 | 7.0 | | 6.57 | 1,948.40 | 15.95 | 2.71 | 52.50 | 13.58 | |

**Sampling Activities**

Sampled By: PY — Sample Date/Time: 5/21/2025 13:58
Sample Method: Low Flow — Sample Equipment: Submersible Pump
Sample Parameters: 6.57 pH — 1,948.40 Spec. Cond. — 15.95 Temp
Field Filtered: Yes — Filter Type: Inline Disposable
Water Level: 16.30 feet below TOC — Drawdown: 0.12 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

**Form Completed By:**  **Date:** 5/21/2025

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25051158
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 44716 Technician(s): Brett Gillihan Date: 5/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/21/25 9:19 |
| 7.0 Buffer | WC250407A | 7.00 | 5/21/25 9:12 |
| 10.0 Buffer | WC240625A | 10.00 | 5/21/25 9:25 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/21/25 9:31 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.23 | 5/21/25 9:37 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-BG | LCS | 5/21/25 9:41 | 17 | 7.01 | 1,447 | 0.63 | | |
| CCV-1-BG | CCV | 5/21/25 16:03 | 17.8 | 7.04 | 1,422 | 0.66 | | |

**Comments:**

Field Meter ID: Pine 44716 Technician(s): Brett Gillihan Date: 5/22/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/22/25 9:40 |
| 7.0 Buffer | WC250407A | 7.00 | 5/22/25 9:35 |
| 10.0 Buffer | WC240625A | 10.00 | 5/22/25 9:50 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1418 | 5/22/25 9:53 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.17 | 5/22/25 9:56 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-BG | LCS | 5/22/25 10:30 | 18.1 | 6.94 | 1,436 | 0.45 | | |
| CCV-2-BG | CCV | 5/22/25 14:19 | 17.1 | 7.02 | 1,439 | 0.66 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25051158
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 44716 Technician(s): Brett Gillihan Date: 5/27/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/27/25 8:17 |
| 7.0 Buffer | WC25047A | 7.00 | 5/27/25 8:10 |
| 10.0 Buffer | WC240625A | 10.00 | 5/27/25 8:26 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1413 | 5/27/25 8:36 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.23 | 5/27/25 8:43 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-BG | LCS | 5/27/25 8:48 | 16.9 | 7.05 | 1,443 | 0.42 | | |
| CCV-3-BG | CCV | 5/27/25 14:12 | 18.6 | 7.03 | 1,464 | 0.54 | | |

**Comments:**

Field Meter ID: Pine 44716 Technician(s): Brett Gillihan Date: 5/28/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/28/25 8:37 |
| 7.0 Buffer | WC25047A | 7.00 | 5/28/25 8:28 |
| 10.0 Buffer | WC240625A | 10.00 | 5/28/25 8:43 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1418 | 5/28/25 8:49 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.19 | 5/28/25 8:52 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4-BG | LCS | 5/28/25 8:55 | 17.1 | 6.99 | 1,446 | 0.35 | | |
| CCV-4-BG | CCV | 5/28/25 12:08 | 18.4 | 7.02 | 1,425 | 0.48 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25051158
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/21/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 5/21/25 9:19 |
| 7.0 Buffer | wc250407a | 7.00 | 5/21/25 9:14 |
| 10.0 Buffer | wc240625a | 10.00 | 5/21/25 9:24 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/21/25 9:29 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.12 | 5/21/25 9:30 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 5/21/25 9:34 | 18.9 | 6.98 | 1,410 | 1.08 | | |
| CCV-1-JC | CCV | 5/21/25 14:37 | 20 | 6.96 | 1,434 | 1.05 | | |

**Comments:**

Field Meter ID: Pine 210760 Technician(s): Payton Yoch Date: 5/22/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/22/25 9:14 |
| 7.0 Buffer | WC250407A | 7.00 | 5/22/25 9:09 |
| 10.0 Buffer | WC240625A | 10.00 | 5/22/25 9:20 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/22/25 9:23 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.07 | 5/22/25 9:31 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-PY | LCS | 5/22/25 9:38 | 17.3 | 7.05 | 1,412 | 1.07 | | |
| CCV-2-PY | CCV | 5/22/25 14:14 | 18.5 | 6.98 | 1,415 | 1.08 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25051158
**Technician(s):** DC, JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/27/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/27/25 8:56 |
| 7.0 Buffer | WC250407A | 7.00 | 5/27/25 8:50 |
| 10.0 Buffer | WC240625A | 10.00 | 5/27/25 9:01 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/27/25 9:07 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.21 | 5/27/25 9:08 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-JC | LCS | 5/27/25 9:11 | 19.2 | 6.96 | 1,407 | 1.24 | | |
| CCV-3-JC | CCV | 5/27/25 14:15 | 21.9 | 7.02 | 1,404 | 1.31 | | |

**Comments:**

Field Meter ID: Pine 210760 Technician(s): justin colp Date: 5/28/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 5/28/25 8:47 |
| 7.0 Buffer | WC250407A | 7.00 | 5/28/25 8:43 |
| 10.0 Buffer | WC240625A | 10.00 | 5/28/25 8:51 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 5/28/25 8:57 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.12 | 5/28/25 8:58 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-4-JC | LCS | 5/28/25 9:03 | 20.5 | 6.97 | 1,409 | 1.16 | | |
| CCV-4-JC | CCV | 5/28/25 12:20 | 20.8 | 6.93 | 1,400 | 1.57 | | |

**Comments:**

May 09, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 25041334

Dear Eric Staley:

TEKLAB, INC received 5 samples on 4/24/2025 12:27:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 25041334
**Client Project:** FGDS Landfill
**Report Date:** 09-May-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 12 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25041334

**Client Project:** FGDS Landfill **Report Date:** 09-May-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25041334
**Client Project:** FGDS Landfill
**Report Date:** 09-May-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25041334
**Report Date:** 09-May-25

**Cooler Receipt Temp:** 10.5 °C

An employee of Teklab, Inc. collected the sample(s).

Radium 226/228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 25041334

**Client Project:** FGDS Landfill

**Report Date:** 09-May-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 25041334

**Client Project:** FGDS Landfill **Report Date:** 09-May-25

**Lab ID:** 25041334-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 04/24/2025 10:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 04/24/2025 10:29 | R363926 |
| Depth to water | * | -5.00 | | **2.39** | ft | 1 | 04/24/2025 10:29 | R363926 |
| Depth to water from measuring point | * | 0 | | **5.19** | ft | 1 | 04/24/2025 10:29 | R363926 |
| Elevation of groundwater surface | * | 0 | | **541.61** | ft | 1 | 04/24/2025 10:29 | R363926 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 04/24/2025 10:29 | R363926 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 04/24/2025 10:29 | R363926 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.1** | NTU | 1 | 04/24/2025 10:29 | R363926 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.9** | °F | 1 | 04/24/2025 10:29 | R363926 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.86** | | 1 | 04/24/2025 10:29 | R363926 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1340** | µmhos/cm @25C | 1 | 04/24/2025 10:29 | R363926 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **956** | mg/L | 1 | 04/29/2025 14:48 | R364192 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 04/25/2025 18:04 | R363968 |
| Chloride | NELAP | 5.00 | | **103** | mg/L | 10 | 04/25/2025 18:04 | R363968 |
| Sulfate | NELAP | 10.0 | | **256** | mg/L | 10 | 04/25/2025 18:04 | R363968 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0101** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Boron | NELAP | 0.0200 | | **0.124** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Calcium | NELAP | 0.100 | | **152** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/25/2025 9:13 | 238084 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:38 | 238084 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:38 | 238084 |
| Lithium | * | 0.0030 | | **0.0156** | mg/L | 5 | 04/25/2025 15:38 | 238084 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:38 | 238084 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/25/2025 15:38 | 238084 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/28/2025 17:14 | 238209 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |

**Client:** City Water, Light & Power
**Work Order:** 25041334
**Client Project:** FGDS Landfill
**Report Date:** 09-May-25
**Lab ID:** 25041334-002
**Client Sample ID:** P07D
**Matrix:** GROUNDWATER
**Collection Date:** 04/24/2025 10:02

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **528.25** | ft | 1 | 04/24/2025 10:02 | R363926 |
| Depth to water | * | -5.00 | | **0.99** | ft | 1 | 04/24/2025 10:02 | R363926 |
| Depth to water from measuring point | * | 0 | | **3.99** | ft | 1 | 04/24/2025 10:02 | R363926 |
| Elevation of groundwater surface | * | 0 | | **524.26** | ft | 1 | 04/24/2025 10:02 | R363926 |
| Measuring Point Elevation | * | 0 | | **528.25** | ft | 1 | 04/24/2025 10:02 | R363926 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.00** | ft | 1 | 04/24/2025 10:02 | R363926 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **11** | NTU | 1 | 04/24/2025 10:02 | R363926 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.1** | °F | 1 | 04/24/2025 10:02 | R363926 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.70** | | 1 | 04/24/2025 10:02 | R363926 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1550** | µmhos/cm @25C | 1 | 04/24/2025 10:02 | R363926 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1160** | mg/L | 1.67 | 04/29/2025 14:47 | R364192 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 04/25/2025 18:16 | R363968 |
| Chloride | NELAP | 5.00 | | **31.9** | mg/L | 10 | 04/25/2025 18:16 | R363968 |
| Sulfate | NELAP | 10.0 | | **283** | mg/L | 10 | 04/25/2025 18:16 | R363968 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.847** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Boron | NELAP | 0.0200 | | **5.22** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Calcium | NELAP | 0.100 | | **175** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/25/2025 9:14 | 238084 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:44 | 238084 |
| Arsenic | NELAP | 0.0010 | | **0.0262** | mg/L | 5 | 04/25/2025 15:44 | 238084 |
| Lithium | * | 0.0030 | | **0.0076** | mg/L | 5 | 04/25/2025 15:44 | 238084 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:44 | 238084 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/25/2025 15:44 | 238084 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/28/2025 17:16 | 238209 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |

**Client:** City Water, Light & Power **Work Order:** 25041334

**Client Project:** FGDS Landfill **Report Date:** 09-May-25

**Lab ID:** 25041334-003 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 04/24/2025 9:29

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 04/24/2025 9:29 | R363926 |
| Depth to water | * | -5.00 | | **0.49** | ft | 1 | 04/24/2025 9:29 | R363926 |
| Depth to water from measuring point | * | 0 | | **3.79** | ft | 1 | 04/24/2025 9:29 | R363926 |
| Elevation of groundwater surface | * | 0 | | **526.19** | ft | 1 | 04/24/2025 9:29 | R363926 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 04/24/2025 9:29 | R363926 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 04/24/2025 9:29 | R363926 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **6.0** | NTU | 1 | 04/24/2025 9:29 | R363926 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.0** | °F | 1 | 04/24/2025 9:29 | R363926 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.81** | | 1 | 04/24/2025 9:29 | R363926 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1060** | µmhos/cm @25C | 1 | 04/24/2025 9:29 | R363926 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **650** | mg/L | 1 | 04/29/2025 14:45 | R364192 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 04/25/2025 18:27 | R363968 |
| Chloride | NELAP | 5.00 | | **21.2** | mg/L | 10 | 04/25/2025 18:27 | R363968 |
| Sulfate | NELAP | 10.0 | | **65.8** | mg/L | 10 | 04/25/2025 18:27 | R363968 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.299** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Boron | NELAP | 0.0200 | | **1.77** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Calcium | NELAP | 0.100 | | **115** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:49 | 238084 |
| Arsenic | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 04/25/2025 15:49 | 238084 |
| Lithium | * | 0.0030 | | **0.0054** | mg/L | 5 | 04/25/2025 15:49 | 238084 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:49 | 238084 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/25/2025 15:49 | 238084 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/28/2025 17:19 | 238209 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |

**Client:** City Water, Light & Power **Work Order:** 25041334

**Client Project:** FGDS Landfill **Report Date:** 09-May-25

**Lab ID:** 25041334-004 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 04/24/2025 10:36

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 04/24/2025 10:36 | R363926 |
| Depth to water | * | -5.00 | | **25.26** | ft | 1 | 04/24/2025 10:36 | R363926 |
| Depth to water from measuring point | * | 0 | | **27.13** | ft | 1 | 04/24/2025 10:36 | R363926 |
| Elevation of groundwater surface | * | 0 | | **528.47** | ft | 1 | 04/24/2025 10:36 | R363926 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 04/24/2025 10:36 | R363926 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 04/24/2025 10:36 | R363926 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **78** | NTU | 1 | 04/24/2025 10:36 | R363926 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.0** | °F | 1 | 04/24/2025 10:36 | R363926 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.65** | | 1 | 04/24/2025 10:36 | R363926 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1500** | µmhos/cm @25C | 1 | 04/24/2025 10:36 | R363926 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 25 | | **1240** | mg/L | 1.25 | 04/29/2025 14:44 | R364192 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 04/25/2025 18:39 | R363968 |
| Chloride | NELAP | 5.00 | | **28.1** | mg/L | 10 | 04/25/2025 18:39 | R363968 |
| Sulfate | NELAP | 10.0 | | **310** | mg/L | 10 | 04/25/2025 18:39 | R363968 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.573** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Boron | NELAP | 0.0200 | | **3.65** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Calcium | NELAP | 0.100 | | **173** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/25/2025 9:15 | 238084 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:55 | 238084 |
| Arsenic | NELAP | 0.0010 | | **0.0145** | mg/L | 5 | 04/25/2025 15:55 | 238084 |
| Lithium | * | 0.0030 | | **0.0068** | mg/L | 5 | 04/25/2025 15:55 | 238084 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 15:55 | 238084 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/25/2025 15:55 | 238084 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/28/2025 17:21 | 238209 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |

**Client:** City Water, Light & Power **Work Order:** 25041334

**Client Project:** FGDS Landfill **Report Date:** 09-May-25

**Lab ID:** 25041334-005 **Client Sample ID:** G122

**Matrix:** GROUNDWATER **Collection Date:** 04/24/2025 10:03

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 04/24/2025 10:03 | R363926 |
| Depth to water | * | -5.00 | | **27.05** | ft | 1 | 04/24/2025 10:03 | R363926 |
| Depth to water from measuring point | * | 0 | | **28.79** | ft | 1 | 04/24/2025 10:03 | R363926 |
| Elevation of groundwater surface | * | 0 | | **525.61** | ft | 1 | 04/24/2025 10:03 | R363926 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 04/24/2025 10:03 | R363926 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 04/24/2025 10:03 | R363926 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **52** | NTU | 1 | 04/24/2025 10:03 | R363926 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **57.2** | °F | 1 | 04/24/2025 10:03 | R363926 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.54** | | 1 | 04/24/2025 10:03 | R363926 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1770** | µmhos/cm @25C | 1 | 04/24/2025 10:03 | R363926 |
| **STANDARD METHODS 2540 C (TOTAL) 1997, 2011** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1200** | mg/L | 1.67 | 04/29/2025 14:38 | R364192 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 04/25/2025 19:26 | R363968 |
| Chloride | NELAP | 5.00 | | **36.4** | mg/L | 10 | 04/25/2025 19:26 | R363968 |
| Sulfate | NELAP | 10.0 | | **537** | mg/L | 10 | 04/25/2025 19:26 | R363968 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.491** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Boron | NELAP | 0.0200 | | **12.0** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Calcium | NELAP | 0.100 | | **241** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 04/25/2025 10:09 | 238084 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 16:41 | 238084 |
| Arsenic | NELAP | 0.0010 | | **0.0032** | mg/L | 5 | 04/25/2025 16:41 | 238084 |
| Lithium | * | 0.0030 | | **0.0062** | mg/L | 5 | 04/25/2025 16:41 | 238084 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 04/25/2025 16:41 | 238084 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 04/25/2025 16:41 | 238084 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 04/28/2025 17:23 | 238209 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 05/07/2025 0:00 | R364677 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 25041334
**Client Project:** FGDS Landfill
**Report Date:** 09-May-25

**Carrier:** Brett Gillihan
**Received By:** JMD

**Completed by:** Amber Dilallo
**On:** 24-Apr-25

**Reviewed by:** Ellie Hopkins
**On:** 24-Apr-25

**Pages to follow:** Chain of custody 1 Extra pages included 23

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 10.5 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Additional Nitric Acid (103505) was needed for R101, P07D, AW-2, G121 and G122 upon arrival at the laboratory. - JD/amberdilallo - 4/24/2025 2:30:20 PM

pH strip #101358. - JD/amberdilallo - 4/24/2025 2:30:23 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

# CHAIN OF CUSTODY

pg. 1 of 1 Work order # 25041334

**TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004**

| | | | |
|---|---|---|---|
| **Client:** | City Water, Light & Power | | |
| **Address:** | 3100 Stevenson Drive | | |
| **City / State / Zip** | Springfield, IL 62712 | | |
| **Contact:** | Eric Staley | **Phone:** | (217) 757-8610 |
| **E-Mail:** | eric.staley@cwlp.com | **Fax:** | |

**Samples on:** ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.5 °C LTG# 5

**Preserved in:** ☐ LAB ☒ FIELD

**FOR LAB USE ONLY**

**Lab Notes:** PH 101358 Added HNO3(103505) 2/2 1-Liter R101, P07D AW-2, G121, G122 JD 4/24/25

**Client Comments** Report QC LVL:___

*Elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Mo Hg

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No On file

**Project Name/Number:** FGDS Landfill

**Sample Collector's Name:** Justin Gip

**Results Requested** (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ___ ☐ 3 Day (50% Surcharge)

**Billing/PO#**

| Lab Use Only | Sample Identification | Date/Time Sampled | # and Type of Containers: UNP | HNO3 | MATRIX: Groundwater | INDICATE ANALYSIS REQUESTED: Cl SO4 TDS F (T) | Field parameters* | Field Turbidity | Metals (T)** | Radium-226/228 |
|---|---|---|---|---|---|---|---|---|---|---|
| 25041334-001 | R101 | 4-24-25 / 1029 | 1 | 3 | X | X | X | X | X | X |
| 002 | P07D | 1002 | 1 | 3 | X | X | X | X | X | X |
| 003 | AW-2 | 929 | 1 | 3 | X | X | X | X | X | X |
| 004 | G121 | 1036 | 1 | 3 | X | X | X | X | X | X |
| 005 | G122 | 1003 | 1 | 3 | X | X | X | X | X | X |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Justin Gip | 4-24-25 1227 | [signature] | 4/24/25 12:27 |
| | | | |
| | | | |
| | | | |

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 99065

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25041334
**Monitoring Point:** R101
**Sample ID:** 001
**Date (s):** 4/24/2025

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

**Weather Conditions**

Temp: 73 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 4/24/2025 10:16
Static Water Level: 5.19 feet below TOC
Total Depth: 35.27 feet below TOC
Water Column: 30.08 feet

**Purging Activities**

Purged By: JC Purge Date: 4/24/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 30.08 ft. x 0.022 = 0.66 L x 3 Vol. = 1.98 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.50 L
Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:17 | 0.0 | 292 | purge start time | | | | | | |
| 10:20 | 0.9 | ↓ | 6.95 | 1,341.60 | 14.47 | 3.79 | 64.10 | 5.57 | |
| 10:23 | 1.8 | | 6.89 | 1,339.30 | 14.74 | 3.52 | 63.30 | 5.16 | |
| 10:26 | 2.6 | | 6.87 | 1,339.60 | 14.68 | 3.46 | 62.50 | 5.68 | |
| 10:29 | 3.5 | | 6.86 | 1,341.50 | 14.38 | 3.42 | 61.90 | 5.07 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 4/24/2025 10:29
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.86 pH 1,341.50 Spec. Cond. 14.38 Temp
Field Filtered: No Filter Type:
Water Level: 7.03 feet below TOC Drawdown: 1.84 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Justin Colp **Date:** 4/24/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | P07D |
| **Project Location:** | Springfield, IL | **Sample ID:** | 002 |
| **W.O. Number (s):** | 25041334 | **Date (s):** | 4/24/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 71 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 4/24/2025 9:40

Static Water Level: 3.99 feet below TOC

Total Depth: 32.54 feet below TOC

Water Column: 28.55 feet

**Purging Activities**

Purged By: JC Purge Date: 4/24/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 28.55 ft. x 0.022 = 0.63 L x 3 Vol. = 1.89 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:40 | 0.0 | 273 | purge start time | | | | | | |
| 9:44 | 1.1 | ↓ | 6.79 | 1,525.50 | 14.11 | 1.49 | 84.50 | 268.11 | |
| 9:47 | 1.9 | | 6.74 | 1,530.00 | 14.19 | 1.06 | 83.40 | 56.68 | |
| 9:50 | 2.7 | | 6.72 | 1,543.10 | 14.07 | 0.93 | 82.40 | 28.59 | |
| 9:53 | 3.5 | | 6.71 | 1,545.90 | 14.09 | 0.85 | 81.00 | 21.49 | |
| 9:56 | 4.4 | | 6.71 | 1,548.80 | 14.17 | 0.82 | 79.40 | 14.70 | |
| 9:59 | 5.2 | | 6.70 | 1,552.50 | 14.09 | 0.81 | 77.80 | 11.92 | |
| 10:02 | 6.0 | | 6.70 | 1,551.60 | 13.94 | 0.79 | 76.20 | 10.97 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 4/24/2025 10:02

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.70 pH 1,551.60 Spec. Cond. 13.94 Temp

Field Filtered: No Filter Type:

Water Level: 4.25 feet below TOC Drawdown: 0.26 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Justin Colp **Date:** 4/24/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | AW-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 25041334 | **Date (s):** | 4/24/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: — Affiliation:

**Weather Conditions**

Temp: 68 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 4/24/2025 9:11

Static Water Level: 3.79 feet below TOC

Total Depth: 32.64 feet below TOC

Water Column: 28.85 feet

**Purging Activities**

Purged By: JC — Purge Date: 4/24/2025

Purge Method: Peristaltic Pump — Well Diameter: 2"

Purge Volume Calculation (L): 28.85 ft. x 0.022 = 0.63 L x 3 Vol. = 1.89 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:11 | 0.0 | 250 | purge start time | | | | | | |
| 9:14 | 0.8 | ↓ | 6.78 | 1,056.00 | 13.91 | 1.75 | 65.60 | 17.13 | |
| 9:17 | 1.5 | | 6.78 | 1,057.20 | 13.94 | 1.34 | 63.90 | 10.67 | |
| 9:20 | 2.3 | | 6.78 | 1,051.80 | 14.95 | 1.43 | 63.00 | 10.36 | |
| 9:23 | 3.0 | | 6.80 | 1,058.80 | 15.22 | 1.52 | 62.90 | 7.70 | |
| 9:26 | 3.8 | | 6.80 | 1,060.40 | 15.19 | 1.39 | 63.10 | 7.79 | |
| 9:29 | 4.5 | | 6.81 | 1,060.10 | 15.02 | 1.32 | 63.50 | 5.98 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 4/24/2025 9:29

Sample Method: Low Flow — Sample Equipment: Peristaltic Pump

Sample Parameters: 6.81 pH — 1,060.10 Spec. Cond. — 15.02 Temp

Field Filtered: No — Filter Type:

Water Level: 3.86 feet below TOC — Drawdown: 0.07 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Justin Colp — **Date:** 4/24/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25041334
**Monitoring Point:** G121
**Sample ID:** 004
**Date (s):** 4/24/2025

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 73 °F Wind Direction: ☐ N ☐ S ☐ E ☑ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 4/24/2025 9:31
Static Water Level: 27.13 feet below TOC
Total Depth: 58.56 feet below TOC
Water Column: 31.43 feet

**Purging Activities**

Purged By: BG Purge Date: 4/24/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 31.43 ft. x 0.022 = 0.69 L x 3 Vol. = 2.07 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 7.50 L
Physical appearance of purge water: Clear Odor: Slight Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:19 | 0.0 | 441 | purge start time | | | | | | |
| 10:24 | 2.2 | ↓ | 6.64 | 1,513.80 | 13.75 | 0.61 | -127.80 | 14.06 | |
| 10:27 | 3.5 | | 6.64 | 1,511.60 | 13.82 | 0.51 | -132.50 | 15.64 | |
| 10:30 | 4.9 | | 6.64 | 1,508.70 | 13.83 | 0.45 | -135.40 | 18.78 | |
| 10:33 | 6.2 | | 6.64 | 1,506.00 | 13.85 | 0.42 | -138.00 | 29.33 | |
| 10:36 | 7.5 | | 6.65 | 1,503.40 | 13.89 | 0.39 | -140.00 | 77.86 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 4/24/2025 10:36
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.65 pH 1,503.40 Spec. Cond. 13.89 Temp
Field Filtered: No Filter Type:
Water Level: 27.67 feet below TOC Drawdown: 0.54 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

**Form Completed By:** Payton K **Date:** 4/24/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25041334
**Monitoring Point:** G122
**Sample ID:** 005
**Date (s):** 4/24/2025

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 68 °F Wind Direction: ☐ N ☐ S ☐ E ☑ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 4/24/2025 9:28
Static Water Level: 28.79 feet below TOC
Total Depth: 49.29 feet below TOC
Water Column: 20.50 feet

**Purging Activities**

Purged By: BG Purge Date: 4/24/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 20.5 ft. x 0.022 = 0.45 L x 3 Vol. = 1.35 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 11.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:39 | 0.0 | 458 | purge start time | | | | | | |
| 9:51 | 5.5 | ↓ | 6.54 | 1,776.30 | 13.76 | 0.63 | -124.80 | 37.94 | |
| 9:54 | 6.9 | | 6.55 | 1,777.40 | 13.87 | 0.53 | -127.80 | 41.97 | |
| 9:57 | 8.3 | | 6.55 | 1,774.50 | 13.91 | 0.50 | -129.50 | 45.09 | |
| 10:00 | 9.6 | | 6.54 | 1,771.90 | 13.92 | 0.47 | -130.40 | 48.42 | |
| 10:03 | 11.0 | | 6.54 | 1,769.50 | 13.98 | 0.44 | -131.40 | 52.50 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 4/24/2025 10:03
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.54 pH 1,769.50 Spec. Cond. 13.98 Temp
Field Filtered: No Filter Type:
Water Level: 28.99 feet below TOC Drawdown: 0.20 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

**Form Completed By:** Payton K **Date:** 4/24/2025

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25041334
**Technician(s):** JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210756 Technician(s): justin colp Date: 4/24/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 4/24/25 8:39 |
| 7.0 Buffer | wc240913b | 7.00 | 4/24/25 8:34 |
| 10.0 Buffer | wc240625a | 10.00 | 4/24/25 8:43 |
| LCS/CCV (7.0 Buffer) | wc240913c | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 103743 | 1412 | 4/24/25 8:50 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.13 | 4/24/25 8:51 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 4/24/25 8:53 | 19.2 | 7.03 | 1,396 | 0.15 | | |
| CCV-1-JC | CCV | 4/24/25 10:54 | 24 | 7.06 | 1,388 | 0.07 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25041334
**Technician(s):** JC, BG, PY

**Field Calibration Log(s)**
**CWLP- 2Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45280 Technician(s): Payton Yoch Date: 4/24/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 4/24/25 9:05 |
| 7.0 Buffer | WC240913B | 7.00 | 4/24/25 9:04 |
| 10.0 Buffer | WC240625A | 10.00 | 4/24/25 9:08 |
| LCS/CCV (7.0 Buffer) | WC240913C | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 10374 | 1412 | 4/24/25 9:11 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.34 | 4/24/25 9:15 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-PY | LCS | 4/24/25 9:16 | 20.3 | 7.07 | 1,412 | 0.34 | | |
| CCV-1-PY | CCV | 4/24/25 10:44 | 20.9 | 7.07 | 1,426 | 0.43 | | |

**Comments:**

Third Quarter 2025

August 25, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10438 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** Ash Pond Monitoring Wells **WorkOrder:** 25080110

Dear Eric Staley:

TEKLAB, INC received 22 samples on 8/13/2025 2:36:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25080110
**Report Date:** 25-Aug-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 29 |
| Chain of Custody | Appended |


PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power **Work Order:** 25080110

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 25-Aug-25

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

PRELIMINARY REPORT

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**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

PRELIMINARY REPORT

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# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25080110
**Report Date:** 25-Aug-25

**Cooler Receipt Temp:** 4.3 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com



PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10438 | NELAP | 7/31/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2026 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2026 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-001
**Client Sample ID:** RW-3
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 13:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.49** | ft | 1 | 08/12/2025 13:32 | R369783 |
| Depth to water | * | -5.00 | | **7.87** | ft | 1 | 08/12/2025 13:32 | R369783 |
| Depth to water from measuring point | * | 0 | | **10.57** | ft | 1 | 08/12/2025 13:32 | R369783 |
| Elevation of groundwater surface | * | 0 | | **528.93** | ft | 1 | 08/12/2025 13:32 | R369783 |
| Measuring Point Elevation | * | 0 | | **539.50** | ft | 1 | 08/12/2025 13:32 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.70** | ft | 1 | 08/12/2025 13:32 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 08/12/2025 13:32 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.3** | °F | 1 | 08/12/2025 13:32 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.92** | | 1 | 08/12/2025 13:32 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **794** | µmhos/cm @25C | 1 | 08/12/2025 13:32 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **440** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 12:51 | R369781 |
| Chloride | NELAP | 5.00 | | **26.4** | mg/L | 10 | 08/13/2025 12:51 | R369781 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 08/13/2025 12:51 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.169** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Boron | NELAP | 0.0200 | | **0.160** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Calcium | NELAP | 0.100 | | **73.9** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:11 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:36 | 243344 |
| Arsenic | NELAP | 0.0010 | | **0.103** | mg/L | 5 | 08/15/2025 3:45 | 243344 |
| Lithium | * | 0.0030 | | **0.0080** | mg/L | 5 | 08/16/2025 0:00 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:36 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 14:36 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 14:55 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-002
**Client Sample ID:** AP-1
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 11:55

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **504.29** | ft | 1 | 08/12/2025 11:55 | R369783 |
| Depth to water | * | -5.00 | | **8.95** | ft | 1 | 08/12/2025 11:55 | R369783 |
| Depth to water from measuring point | * | 0 | | **11.22** | ft | 1 | 08/12/2025 11:55 | R369783 |
| Elevation of groundwater surface | * | 0 | | **524.15** | ft | 1 | 08/12/2025 11:55 | R369783 |
| Measuring Point Elevation | * | 0 | | **535.37** | ft | 1 | 08/12/2025 11:55 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.27** | ft | 1 | 08/12/2025 11:55 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **11** | NTU | 1 | 08/12/2025 11:55 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.5** | °F | 1 | 08/12/2025 11:55 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.42** | | 1 | 08/12/2025 11:55 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2100** | µmhos/cm @25C | 1 | 08/12/2025 11:55 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1870** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| *Stable weight could not be achieved after multiple drying, cooling, and weighing. Lowest final weight reported.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 13:26 | R369781 |
| Chloride | NELAP | 5.00 | | **51.8** | mg/L | 10 | 08/13/2025 13:26 | R369781 |
| Sulfate | NELAP | 10.0 | | **884** | mg/L | 10 | 08/13/2025 13:26 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.276** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Boron | NELAP | 0.200 | | **23.0** | mg/L | 10 | 08/18/2025 13:19 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Calcium | NELAP | 0.100 | | **259** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:42 | 243344 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 3:51 | 243344 |
| Lithium | * | 0.0030 | | **0.0114** | mg/L | 5 | 08/16/2025 0:06 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:42 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 14:42 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 14:57 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-003
**Client Sample ID:** AP-2
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 12:26

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.77** | ft | 1 | 08/12/2025 12:26 | R369783 |
| Depth to water | * | -5.00 | | **6.10** | ft | 1 | 08/12/2025 12:26 | R369783 |
| Depth to water from measuring point | * | 0 | | **8.60** | ft | 1 | 08/12/2025 12:26 | R369783 |
| Elevation of groundwater surface | * | 0 | | **527.50** | ft | 1 | 08/12/2025 12:26 | R369783 |
| Measuring Point Elevation | * | 0 | | **536.10** | ft | 1 | 08/12/2025 12:26 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.50** | ft | 1 | 08/12/2025 12:26 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **8.4** | NTU | 1 | 08/12/2025 12:26 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **62.0** | °F | 1 | 08/12/2025 12:26 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.30** | | 1 | 08/12/2025 12:26 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1610** | µmhos/cm @25C | 1 | 08/12/2025 12:26 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1280** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| *Stable weight could not be achieved after multiple drying, cooling, and weighing. Lowest final weight reported.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 13:37 | R369781 |
| Chloride | NELAP | 5.00 | | **36.0** | mg/L | 10 | 08/13/2025 13:37 | R369781 |
| Sulfate | NELAP | 10.0 | | **422** | mg/L | 10 | 08/13/2025 13:37 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0736** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Boron | NELAP | 0.0200 | | **3.43** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Calcium | NELAP | 0.100 | | **216** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Cobalt | NELAP | 0.0050 | | **0.0127** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:12 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:49 | 243344 |
| Arsenic | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 08/15/2025 3:57 | 243344 |
| Lithium | * | 0.0030 | | **0.0087** | mg/L | 5 | 08/16/2025 0:12 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:49 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 14:49 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:00 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-004
**Client Sample ID:** AP-3
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 12:58

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **514.45** | ft | 1 | 08/12/2025 12:58 | R369783 |
| Depth to water | * | -5.00 | | **6.18** | ft | 1 | 08/12/2025 12:58 | R369783 |
| Depth to water from measuring point | * | 0 | | **8.73** | ft | 1 | 08/12/2025 12:58 | R369783 |
| Elevation of groundwater surface | * | 0 | | **526.52** | ft | 1 | 08/12/2025 12:58 | R369783 |
| Measuring Point Elevation | * | 0 | | **535.25** | ft | 1 | 08/12/2025 12:58 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.55** | ft | 1 | 08/12/2025 12:58 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **2.9** | NTU | 1 | 08/12/2025 12:58 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.2** | °F | 1 | 08/12/2025 12:58 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.36** | | 1 | 08/12/2025 12:58 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1620** | µmhos/cm @25C | 1 | 08/12/2025 12:58 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1400** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 13:49 | R369781 |
| Chloride | NELAP | 5.00 | | **71.2** | mg/L | 10 | 08/13/2025 13:49 | R369781 |
| Sulfate | NELAP | 10.0 | | **609** | mg/L | 10 | 08/13/2025 13:49 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.121** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Boron | NELAP | 0.0200 | | **16.5** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Calcium | NELAP | 0.100 | | **205** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Cobalt | NELAP | 0.0050 | | **0.0076** | mg/L | 1 | 08/20/2025 13:09 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:13 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:55 | 243344 |
| Arsenic | NELAP | 0.0010 | | **0.0160** | mg/L | 5 | 08/15/2025 4:04 | 243344 |
| Lithium | * | 0.0030 | | **0.0078** | mg/L | 5 | 08/16/2025 1:03 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 14:55 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 14:55 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:02 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-005
**Client Sample ID:** AP-4
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 10:40

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.19** | ft | 1 | 08/12/2025 10:40 | R369783 |
| Depth to water | * | -5.00 | | **7.72** | ft | 1 | 08/12/2025 10:40 | R369783 |
| Depth to water from measuring point | * | 0 | | **10.86** | ft | 1 | 08/12/2025 10:40 | R369783 |
| Elevation of groundwater surface | * | 0 | | **544.74** | ft | 1 | 08/12/2025 10:40 | R369783 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 08/12/2025 10:40 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.14** | ft | 1 | 08/12/2025 10:40 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **120** | NTU | 1 | 08/12/2025 10:40 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **67.5** | °F | 1 | 08/12/2025 10:40 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 08/12/2025 10:40 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1000** | µmhos/cm @25C | 1 | 08/12/2025 10:40 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **574** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 14:36 | R369781 |
| Chloride | NELAP | 5.00 | | **12.4** | mg/L | 10 | 08/13/2025 14:36 | R369781 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 08/13/2025 14:36 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.413** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Boron | NELAP | 0.0200 | | **0.0940** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Calcium | NELAP | 0.100 | | **124** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Chromium | NELAP | 0.0050 | | **0.0051** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Cobalt | NELAP | 0.0050 | | **0.0075** | mg/L | 1 | 08/18/2025 13:20 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:14 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 15:01 | 243344 |
| Arsenic | NELAP | 0.0010 | | **0.0248** | mg/L | 5 | 08/15/2025 4:10 | 243344 |
| Lithium | * | 0.0030 | | **0.0127** | mg/L | 5 | 08/16/2025 1:09 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 15:01 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 15:01 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:04 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-006
**Client Sample ID:** AP-5
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 9:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **552.63** | ft | 1 | 08/12/2025 9:56 | R369783 |
| Depth to water | * | -5.00 | | **13.64** | ft | 1 | 08/12/2025 9:56 | R369783 |
| Depth to water from measuring point | * | 0 | | **15.94** | ft | 1 | 08/12/2025 9:56 | R369783 |
| Elevation of groundwater surface | * | 0 | | **567.96** | ft | 1 | 08/12/2025 9:56 | R369783 |
| Measuring Point Elevation | * | 0 | | **583.90** | ft | 1 | 08/12/2025 9:56 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.30** | ft | 1 | 08/12/2025 9:56 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **25** | NTU | 1 | 08/12/2025 9:56 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.3** | °F | 1 | 08/12/2025 9:56 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.64** | | 1 | 08/12/2025 9:56 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **868** | µmhos/cm @25C | 1 | 08/12/2025 9:56 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **568** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 14:48 | R369781 |
| Chloride | NELAP | 5.00 | | **9.50** | mg/L | 10 | 08/13/2025 14:48 | R369781 |
| Sulfate | NELAP | 10.0 | | **69.1** | mg/L | 10 | 08/13/2025 14:48 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0595** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Beryllium | NELAP | 0.0005 | | **0.0006** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Boron | NELAP | 0.0200 | | **0.0351** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Calcium | NELAP | 0.100 | | **108** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:18 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 15:07 | 243344 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 4:16 | 243344 |
| Lithium | * | 0.0030 | | **0.0061** | mg/L | 5 | 08/16/2025 1:15 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 15:07 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 15:07 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:07 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-007
**Client Sample ID:** AP-6
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 11:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **498.20** | ft | 1 | 08/12/2025 11:20 | R369783 |
| Depth to water | * | -5.00 | | **5.71** | ft | 1 | 08/12/2025 11:20 | R369783 |
| Depth to water from measuring point | * | 0 | | **8.13** | ft | 1 | 08/12/2025 11:20 | R369783 |
| Elevation of groundwater surface | * | 0 | | **529.69** | ft | 1 | 08/12/2025 11:20 | R369783 |
| Measuring Point Elevation | * | 0 | | **537.82** | ft | 1 | 08/12/2025 11:20 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.42** | ft | 1 | 08/12/2025 11:20 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **7.1** | NTU | 1 | 08/12/2025 11:20 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **59.7** | °F | 1 | 08/12/2025 11:20 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.89** | | 1 | 08/12/2025 11:20 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **819** | µmhos/cm @25C | 1 | 08/12/2025 11:20 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **482** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **0.53** | mg/L | 10 | 08/13/2025 14:59 | R369781 |
| Chloride | NELAP | 5.00 | | **37.5** | mg/L | 10 | 08/13/2025 14:59 | R369781 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 08/13/2025 14:59 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.168** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Boron | NELAP | 0.0200 | | **0.278** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Calcium | NELAP | 0.100 | | **67.3** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 18:19 | 243344 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 15:39 | 243344 |
| Arsenic | NELAP | 0.0010 | | **0.0068** | mg/L | 5 | 08/15/2025 5:07 | 243344 |
| Lithium | * | 0.0030 | | **0.0092** | mg/L | 5 | 08/16/2025 1:22 | 243344 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 15:39 | 243344 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 15:39 | 243344 |
| *Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:09 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-008
**Client Sample ID:** AP-7
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 9:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **496.50** | ft | 1 | 08/13/2025 10:07 | R369783 |
| Depth to water | * | -5.00 | | **9.05** | ft | 1 | 08/13/2025 10:07 | R369783 |
| Depth to water from measuring point | * | 0 | | **11.71** | ft | 1 | 08/13/2025 10:07 | R369783 |
| Elevation of groundwater surface | * | 0 | | **527.31** | ft | 1 | 08/13/2025 10:07 | R369783 |
| Measuring Point Elevation | * | 0 | | **539.02** | ft | 1 | 08/13/2025 10:07 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.66** | ft | 1 | 08/13/2025 10:07 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **98** | NTU | 1 | 08/13/2025 10:07 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **60.2** | °F | 1 | 08/13/2025 10:07 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.12** | | 1 | 08/13/2025 10:07 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **908** | µmhos/cm @25C | 1 | 08/13/2025 10:07 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **514** | mg/L | 1 | 08/15/2025 13:31 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 15:41 | R369837 |
| Chloride | NELAP | 5.00 | | **69.8** | mg/L | 10 | 08/14/2025 15:41 | R369837 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 08/14/2025 15:41 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.143** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Boron | NELAP | 0.0200 | | **0.390** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Calcium | NELAP | 0.100 | S | **60.9** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:18 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 16:02 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0289** | mg/L | 5 | 08/19/2025 17:37 | 243563 |
| Lithium | * | 0.0030 | | **0.0091** | mg/L | 5 | 08/15/2025 12:27 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 12:27 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 12:27 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:12 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power **Work Order:** 25080110

**Client Project:** Ash Pond Monitoring Wells **Report Date:** 25-Aug-25

**Lab ID:** 25080110-009 **Client Sample ID:** AP-8

**Matrix:** GROUNDWATER **Collection Date:** 08/13/2025 12:14

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.60** | ft | 1 | 08/13/2025 12:14 | R369783 |
| Depth to water | * | -5.00 | | **3.06** | ft | 1 | 08/13/2025 12:14 | R369783 |
| Depth to water from measuring point | * | 0 | | **5.96** | ft | 1 | 08/13/2025 12:14 | R369783 |
| Elevation of groundwater surface | * | 0 | | **531.24** | ft | 1 | 08/13/2025 12:14 | R369783 |
| Measuring Point Elevation | * | 0 | | **537.20** | ft | 1 | 08/13/2025 12:14 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 08/13/2025 12:14 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **21** | NTU | 1 | 08/13/2025 12:14 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.7** | °F | 1 | 08/13/2025 12:14 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.71** | | 1 | 08/13/2025 12:14 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1070** | µmhos/cm @25C | 1 | 08/13/2025 12:14 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **580** | mg/L | 1 | 08/15/2025 13:41 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 16:16 | R369837 |
| Chloride | NELAP | 5.00 | | **23.3** | mg/L | 10 | 08/14/2025 16:16 | R369837 |
| Sulfate | NELAP | 10.0 | | **ND** | mg/L | 10 | 08/14/2025 16:16 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.394** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Boron | NELAP | 0.0200 | | **0.0840** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Calcium | NELAP | 0.100 | | **102** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:23 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 15:45 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0389** | mg/L | 5 | 08/19/2025 17:26 | 243563 |
| Lithium | * | 0.0030 | | **0.0066** | mg/L | 5 | 08/15/2025 13:18 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:18 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:18 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:15 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-010
**Client Sample ID:** AP-9
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 10:31

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.70** | ft | 1 | 08/13/2025 10:31 | R369783 |
| Depth to water | * | -5.00 | | **10.54** | ft | 1 | 08/13/2025 10:31 | R369783 |
| Depth to water from measuring point | * | 0 | | **13.64** | ft | 1 | 08/13/2025 10:31 | R369783 |
| Elevation of groundwater surface | * | 0 | | **526.66** | ft | 1 | 08/13/2025 10:31 | R369783 |
| Measuring Point Elevation | * | 0 | | **540.30** | ft | 1 | 08/13/2025 10:31 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 08/13/2025 10:31 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **18** | NTU | 1 | 08/13/2025 10:31 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **61.1** | °F | 1 | 08/13/2025 10:31 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.57** | | 1 | 08/13/2025 10:31 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1150** | µmhos/cm @25C | 1 | 08/13/2025 10:31 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **638** | mg/L | 1 | 08/15/2025 13:41 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 19:00 | R369837 |
| Chloride | NELAP | 5.00 | | **24.4** | mg/L | 10 | 08/14/2025 19:00 | R369837 |
| Sulfate | NELAP | 10.0 | | **15.9** | mg/L | 10 | 08/14/2025 19:00 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.492** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Boron | NELAP | 0.0200 | | **0.0990** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Calcium | NELAP | 0.100 | | **112** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:24 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 15:51 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0013** | mg/L | 5 | 08/19/2025 17:32 | 243563 |
| Lithium | * | 0.0030 | | **0.0057** | mg/L | 5 | 08/15/2025 13:23 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:23 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:23 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:22 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-011
**Client Sample ID:** AP-10
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 11:32

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **499.43** | ft | 1 | 08/13/2025 11:32 | R369783 |
| Depth to water | * | -5.00 | | **1.79** | ft | 1 | 08/13/2025 11:32 | R369783 |
| Depth to water from measuring point | * | 0 | | **4.89** | ft | 1 | 08/13/2025 11:32 | R369783 |
| Elevation of groundwater surface | * | 0 | | **532.61** | ft | 1 | 08/13/2025 11:32 | R369783 |
| Measuring Point Elevation | * | 0 | | **537.50** | ft | 1 | 08/13/2025 11:32 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.10** | ft | 1 | 08/13/2025 11:32 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 08/13/2025 11:32 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.6** | °F | 1 | 08/13/2025 11:32 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.52** | | 1 | 08/13/2025 11:32 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1390** | µmhos/cm @25C | 1 | 08/13/2025 11:32 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **834** | mg/L | 1 | 08/15/2025 13:41 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 16:28 | R369837 |
| Chloride | NELAP | 5.00 | | **25.4** | mg/L | 10 | 08/14/2025 16:28 | R369837 |
| Sulfate | NELAP | 10.0 | | **96.7** | mg/L | 10 | 08/14/2025 16:28 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.675** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Boron | NELAP | 0.0200 | | **4.25** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Calcium | NELAP | 0.100 | | **158** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:26 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 15:56 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0012** | mg/L | 5 | 08/20/2025 8:27 | 243563 |
| Lithium | * | 0.0030 | | **0.0092** | mg/L | 5 | 08/15/2025 13:29 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:29 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:29 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:24 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-012
**Client Sample ID:** AP-11
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 10:44

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.15** | ft | 1 | 08/12/2025 10:44 | R369783 |
| Depth to water | * | -5.00 | | **12.89** | ft | 1 | 08/12/2025 10:44 | R369783 |
| Depth to water from measuring point | * | 0 | | **15.69** | ft | 1 | 08/12/2025 10:44 | R369783 |
| Elevation of groundwater surface | * | 0 | | **522.41** | ft | 1 | 08/12/2025 10:44 | R369783 |
| Measuring Point Elevation | * | 0 | | **538.10** | ft | 1 | 08/12/2025 10:44 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 08/12/2025 10:44 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 08/12/2025 10:44 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **77.7** | °F | 1 | 08/12/2025 10:44 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.34** | | 1 | 08/12/2025 10:44 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1010** | µmhos/cm @25C | 1 | 08/12/2025 10:44 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **756** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 15:11 | R369781 |
| Chloride | NELAP | 5.00 | | **127** | mg/L | 10 | 08/13/2025 15:11 | R369781 |
| Sulfate | NELAP | 10.0 | | **85.7** | mg/L | 10 | 08/13/2025 15:11 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.152** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Boron | NELAP | 0.0200 | | **0.228** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Calcium | NELAP | 0.100 | | **153** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:25 | 243361 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:37 | 243361 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 1:45 | 243361 |
| Lithium | * | 0.0030 | | **0.0057** | mg/L | 5 | 08/18/2025 12:37 | 243361 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:37 | 243361 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 12:37 | 243361 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:16 | 243378 |

PRELIMINARY REPORT

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**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-013
**Client Sample ID:** AP-12
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 11:27

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **510.30** | ft | 1 | 08/12/2025 11:27 | R369783 |
| Depth to water | * | -5.00 | | **15.13** | ft | 1 | 08/12/2025 11:27 | R369783 |
| Depth to water from measuring point | * | 0 | | **18.03** | ft | 1 | 08/12/2025 11:27 | R369783 |
| Elevation of groundwater surface | * | 0 | | **522.67** | ft | 1 | 08/12/2025 11:27 | R369783 |
| Measuring Point Elevation | * | 0 | | **540.70** | ft | 1 | 08/12/2025 11:27 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.90** | ft | 1 | 08/12/2025 11:27 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **82** | NTU | 1 | 08/12/2025 11:27 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **73.9** | °F | 1 | 08/12/2025 11:27 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.38** | | 1 | 08/12/2025 11:27 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **951** | µmhos/cm @25C | 1 | 08/12/2025 11:27 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1380** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 15:23 | R369781 |
| Chloride | NELAP | 5.00 | | **119** | mg/L | 10 | 08/13/2025 15:23 | R369781 |
| Sulfate | NELAP | 10.0 | | **488** | mg/L | 10 | 08/13/2025 15:23 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0561** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Boron | NELAP | 0.0200 | | **0.0255** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Calcium | NELAP | 0.100 | | **226** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/15/2025 18:15 | 243361 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:40 | 243361 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:43 | 243361 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:43 | 243361 |
| Lithium | * | 0.0030 | | **0.0060** | mg/L | 5 | 08/18/2025 12:43 | 243361 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:43 | 243361 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 12:43 | 243361 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:18 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-014
**Client Sample ID:** AP-13
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 9:53

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.00** | ft | 1 | 08/13/2025 9:53 | R369783 |
| Depth to water | * | -5.00 | | **15.25** | ft | 1 | 08/13/2025 9:53 | R369783 |
| Depth to water from measuring point | * | 0 | | **18.65** | ft | 1 | 08/13/2025 9:53 | R369783 |
| Elevation of groundwater surface | * | 0 | | **523.35** | ft | 1 | 08/13/2025 9:53 | R369783 |
| Measuring Point Elevation | * | 0 | | **542.00** | ft | 1 | 08/13/2025 9:53 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.40** | ft | 1 | 08/13/2025 9:53 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **37** | NTU | 1 | 08/13/2025 9:53 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **74.3** | °F | 1 | 08/13/2025 9:53 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.43** | | 1 | 08/13/2025 9:53 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **763** | µmhos/cm @25C | 1 | 08/13/2025 9:53 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **630** | mg/L | 1 | 08/15/2025 13:42 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 16:40 | R369837 |
| Chloride | NELAP | 5.00 | | **29.4** | mg/L | 10 | 08/14/2025 16:40 | R369837 |
| Sulfate | NELAP | 10.0 | | **104** | mg/L | 10 | 08/14/2025 16:40 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.142** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Boron | NELAP | 0.0200 | | **0.0566** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Calcium | NELAP | 0.100 | | **109** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:35 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 16:52 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0020** | mg/L | 5 | 08/19/2025 18:29 | 243563 |
| Lithium | * | 0.0030 | | **0.0110** | mg/L | 5 | 08/15/2025 13:34 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:34 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:34 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:26 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-015
**Client Sample ID:** AP-14
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 10:54

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **508.40** | ft | 1 | 08/13/2025 10:54 | R369783 |
| Depth to water | * | -5.00 | | **0.42** | ft | 1 | 08/13/2025 10:54 | R369783 |
| Depth to water from measuring point | * | 0 | | **3.22** | ft | 1 | 08/13/2025 10:54 | R369783 |
| Elevation of groundwater surface | * | 0 | | **536.38** | ft | 1 | 08/13/2025 10:54 | R369783 |
| Measuring Point Elevation | * | 0 | | **539.60** | ft | 1 | 08/13/2025 10:54 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 08/13/2025 10:54 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 08/13/2025 10:54 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **84.7** | °F | 1 | 08/13/2025 10:54 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.71** | | 1 | 08/13/2025 10:54 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1120** | µmhos/cm @25C | 1 | 08/13/2025 10:54 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1940** | mg/L | 1 | 08/15/2025 13:42 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 16:51 | R369837 |
| Chloride | NELAP | 5.00 | | **105** | mg/L | 10 | 08/14/2025 16:51 | R369837 |
| Sulfate | NELAP | 10.0 | | **926** | mg/L | 10 | 08/14/2025 16:51 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.0463** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Boron | NELAP | 0.200 | | **21.9** | mg/L | 10 | 08/20/2025 12:39 | 243563 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Calcium | NELAP | 0.100 | | **277** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:37 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 16:58 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0011** | mg/L | 5 | 08/20/2025 8:32 | 243563 |
| Lithium | * | 0.0030 | | **0.0068** | mg/L | 5 | 08/15/2025 13:40 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:40 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:40 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:29 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-016
**Client Sample ID:** T-1
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 13:16

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **512.70** | ft | 1 | 08/12/2025 13:16 | R369783 |
| Depth to water | * | -5.00 | | **14.30** | ft | 1 | 08/12/2025 13:16 | R369783 |
| Depth to water from measuring point | * | 0 | | **14.63** | ft | 1 | 08/12/2025 13:16 | R369783 |
| Elevation of groundwater surface | * | 0 | | **521.02** | ft | 1 | 08/12/2025 13:16 | R369783 |
| Measuring Point Elevation | * | 0 | | **535.65** | ft | 1 | 08/12/2025 13:16 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **0.33** | ft | 1 | 08/12/2025 13:16 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **36** | NTU | 1 | 08/12/2025 13:16 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **75.6** | °F | 1 | 08/12/2025 13:16 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.46** | | 1 | 08/12/2025 13:16 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1070** | µmhos/cm @25C | 1 | 08/12/2025 13:16 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **950** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 15:34 | R369781 |
| Chloride | NELAP | 5.00 | | **233** | mg/L | 10 | 08/13/2025 15:34 | R369781 |
| Sulfate | NELAP | 10.0 | | **151** | mg/L | 10 | 08/13/2025 15:34 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0747** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Boron | NELAP | 0.0200 | | **0.173** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Calcium | NELAP | 0.100 | | **172** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Cobalt | NELAP | 0.0050 | | **0.0063** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:41 | 243361 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 1:07 | 243361 |
| Arsenic | NELAP | 0.0010 | | **0.0016** | mg/L | 5 | 08/18/2025 12:49 | 243361 |
| Lithium | * | 0.0030 | | **0.0177** | mg/L | 5 | 08/18/2025 12:49 | 243361 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:49 | 243361 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 12:49 | 243361 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:26 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-017
**Client Sample ID:** T-2
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 12:20

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **515.18** | ft | 1 | 08/12/2025 12:20 | R369783 |
| Depth to water | * | -5.00 | | **23.32** | ft | 1 | 08/12/2025 12:20 | R369783 |
| Depth to water from measuring point | * | 0 | | **25.72** | ft | 1 | 08/12/2025 12:20 | R369783 |
| Elevation of groundwater surface | * | 0 | | **523.90** | ft | 1 | 08/12/2025 12:20 | R369783 |
| Measuring Point Elevation | * | 0 | | **549.62** | ft | 1 | 08/12/2025 12:20 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.40** | ft | 1 | 08/12/2025 12:20 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.4** | NTU | 1 | 08/12/2025 12:20 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **72.7** | °F | 1 | 08/12/2025 12:20 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.51** | | 1 | 08/12/2025 12:20 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **905** | µmhos/cm @25C | 1 | 08/12/2025 12:20 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1490** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| *Stable weight could not be achieved after multiple drying, cooling, and weighing. Lowest final weight reported.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 15:46 | R369781 |
| Chloride | NELAP | 5.00 | | **509** | mg/L | 10 | 08/13/2025 15:46 | R369781 |
| Sulfate | NELAP | 10.0 | | **136** | mg/L | 10 | 08/13/2025 15:46 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.232** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Boron | NELAP | 0.0200 | | **0.0504** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Calcium | NELAP | 0.100 | | **231** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Cobalt | NELAP | 0.0050 | | **0.0062** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:56 | 243361 |
| Arsenic | NELAP | 0.0010 | | **0.0068** | mg/L | 5 | 08/15/2025 1:39 | 243361 |
| Lithium | * | 0.0030 | | **0.0342** | mg/L | 5 | 08/18/2025 12:56 | 243361 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 12:56 | 243361 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 12:56 | 243361 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:28 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-018
**Client Sample ID:** T-4
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 11:54

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **521.52** | ft | 1 | 08/13/2025 11:54 | R369783 |
| Depth to water | * | -5.00 | | **15.87** | ft | 1 | 08/13/2025 11:54 | R369783 |
| Depth to water from measuring point | * | 0 | | **18.25** | ft | 1 | 08/13/2025 11:54 | R369783 |
| Elevation of groundwater surface | * | 0 | | **530.69** | ft | 1 | 08/13/2025 11:54 | R369783 |
| Measuring Point Elevation | * | 0 | | **548.94** | ft | 1 | 08/13/2025 11:54 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.38** | ft | 1 | 08/13/2025 11:54 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **32** | NTU | 1 | 08/13/2025 11:54 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **63.4** | °F | 1 | 08/13/2025 11:54 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.60** | | 1 | 08/13/2025 11:54 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **607** | µmhos/cm @25C | 1 | 08/13/2025 11:54 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **370** | mg/L | 1 | 08/15/2025 13:42 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 17:03 | R369837 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 08/14/2025 17:03 | R369837 |
| Sulfate | NELAP | 10.0 | | **76.7** | mg/L | 10 | 08/14/2025 17:03 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.0456** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Boron | NELAP | 0.0200 | | **0.0504** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Calcium | NELAP | 0.100 | | **61.9** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:38 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 17:03 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0038** | mg/L | 5 | 08/19/2025 18:40 | 243563 |
| Lithium | * | 0.0030 | | **0.0130** | mg/L | 5 | 08/15/2025 13:45 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:45 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:45 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:31 | 243437 |

PRELIMINARY REPORT

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**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-019
**Client Sample ID:** T-5
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 11:19

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **518.32** | ft | 1 | 08/13/2025 11:19 | R369783 |
| Depth to water | * | -5.00 | | **7.81** | ft | 1 | 08/13/2025 11:19 | R369783 |
| Depth to water from measuring point | * | 0 | | **10.32** | ft | 1 | 08/13/2025 11:19 | R369783 |
| Elevation of groundwater surface | * | 0 | | **530.34** | ft | 1 | 08/13/2025 11:19 | R369783 |
| Measuring Point Elevation | * | 0 | | **540.66** | ft | 1 | 08/13/2025 11:19 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.51** | ft | 1 | 08/13/2025 11:19 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **13** | NTU | 1 | 08/13/2025 11:19 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **65.9** | °F | 1 | 08/13/2025 11:19 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.80** | | 1 | 08/13/2025 11:19 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **616** | µmhos/cm @25C | 1 | 08/13/2025 11:19 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **392** | mg/L | 1 | 08/15/2025 13:52 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 17:15 | R369837 |
| Chloride | NELAP | 5.00 | | **ND** | mg/L | 10 | 08/14/2025 17:15 | R369837 |
| Sulfate | NELAP | 10.0 | | **31.3** | mg/L | 10 | 08/14/2025 17:15 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.0658** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Boron | NELAP | 0.0200 | | **0.0917** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Calcium | NELAP | 0.100 | | **73.3** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:40 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 17:09 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0014** | mg/L | 5 | 08/19/2025 18:46 | 243563 |
| Lithium | * | 0.0030 | | **0.0103** | mg/L | 5 | 08/15/2025 13:51 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:51 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:51 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:33 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-020
**Client Sample ID:** T-6
**Matrix:** GROUNDWATER
**Collection Date:** 08/13/2025 10:42

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.70** | ft | 1 | 08/13/2025 10:42 | R369783 |
| Depth to water | * | -5.00 | | **5.79** | ft | 1 | 08/13/2025 10:42 | R369783 |
| Depth to water from measuring point | * | 0 | | **8.15** | ft | 1 | 08/13/2025 10:42 | R369783 |
| Elevation of groundwater surface | * | 0 | | **530.17** | ft | 1 | 08/13/2025 10:42 | R369783 |
| Measuring Point Elevation | * | 0 | | **538.32** | ft | 1 | 08/13/2025 10:42 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.36** | ft | 1 | 08/13/2025 10:42 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **37** | NTU | 1 | 08/13/2025 10:42 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **73.0** | °F | 1 | 08/13/2025 10:42 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.16** | | 1 | 08/13/2025 10:42 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **760** | µmhos/cm @25C | 1 | 08/13/2025 10:42 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **412** | mg/L | 1 | 08/15/2025 13:52 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/14/2025 18:01 | R369837 |
| Chloride | NELAP | 5.00 | | **11.8** | mg/L | 10 | 08/14/2025 18:01 | R369837 |
| Sulfate | NELAP | 10.0 | | **15.5** | mg/L | 10 | 08/14/2025 18:01 | R369837 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | B | **0.116** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Boron | NELAP | 0.0200 | | **0.0428** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Calcium | NELAP | 0.100 | | **86.7** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/19/2025 15:42 | 243426 |
| *Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | B | **< 0.0010** | mg/L | 5 | 08/18/2025 17:14 | 243426 |
| Arsenic | NELAP | 0.0010 | | **0.0086** | mg/L | 5 | 08/19/2025 18:52 | 243563 |
| Lithium | * | 0.0030 | | **0.0066** | mg/L | 5 | 08/15/2025 13:56 | 243426 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/15/2025 13:56 | 243426 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/15/2025 13:56 | 243426 |
| *Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 16:40 | 243437 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-021
**Client Sample ID:** AW-1
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 11:02

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **500.79** | ft | 1 | 08/12/2025 11:02 | R369783 |
| Depth to water | * | -5.00 | | **12.26** | ft | 1 | 08/12/2025 11:02 | R369783 |
| Depth to water from measuring point | * | 0 | | **15.01** | ft | 1 | 08/12/2025 11:02 | R369783 |
| Elevation of groundwater surface | * | 0 | | **540.59** | ft | 1 | 08/12/2025 11:02 | R369783 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 08/12/2025 11:02 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.75** | ft | 1 | 08/12/2025 11:02 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **71** | NTU | 1 | 08/12/2025 11:02 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **66.1** | °F | 1 | 08/12/2025 11:02 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.58** | | 1 | 08/12/2025 11:02 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1600** | µmhos/cm @25C | 1 | 08/12/2025 11:02 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1250** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| *Stable weight could not be achieved after multiple drying, cooling, and weighing. Lowest final weight reported.* | | | | | | | | |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 15:58 | R369781 |
| Chloride | NELAP | 5.00 | | **37.2** | mg/L | 10 | 08/13/2025 15:58 | R369781 |
| Sulfate | NELAP | 10.0 | | **408** | mg/L | 10 | 08/13/2025 15:58 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.105** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Boron | NELAP | 0.0200 | S | **9.61** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Calcium | NELAP | 0.100 | S | **205** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:42 | 243361 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| *Matrix spike control limits for Ca & B are not applicable due to high sample/spike ratio.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 13:21 | 243361 |
| Arsenic | NELAP | 0.0010 | | **0.0098** | mg/L | 5 | 08/15/2025 2:04 | 243361 |
| Lithium | * | 0.0030 | | **0.0112** | mg/L | 5 | 08/18/2025 13:21 | 243361 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 13:21 | 243361 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 13:21 | 243361 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:30 | 243378 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080110
**Client Project:** Ash Pond Monitoring Wells
**Report Date:** 25-Aug-25
**Lab ID:** 25080110-022
**Client Sample ID:** G120
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 11:52

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.73** | ft | 1 | 08/12/2025 11:52 | R369783 |
| Depth to water | * | -5.00 | | **18.10** | ft | 1 | 08/12/2025 11:52 | R369783 |
| Depth to water from measuring point | * | 0 | | **18.10** | ft | 1 | 08/12/2025 11:52 | R369783 |
| Elevation of groundwater surface | * | 0 | | **535.00** | ft | 1 | 08/12/2025 11:52 | R369783 |
| Measuring Point Elevation | * | 0 | | **553.10** | ft | 1 | 08/12/2025 11:52 | R369783 |
| Measuring Point Height Above Land Surface | * | 0 | | **0** | ft | 1 | 08/12/2025 11:52 | R369783 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **3.7** | NTU | 1 | 08/12/2025 11:52 | R369783 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **74.4** | °F | 1 | 08/12/2025 11:52 | R369783 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.67** | | 1 | 08/12/2025 11:52 | R369783 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **2000** | µmhos/cm @25C | 1 | 08/12/2025 11:52 | R369783 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1640** | mg/L | 1 | 08/14/2025 16:05 | R369886 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/13/2025 16:09 | R369781 |
| Chloride | NELAP | 5.00 | | **36.8** | mg/L | 10 | 08/13/2025 16:09 | R369781 |
| Sulfate | NELAP | 10.0 | | **569** | mg/L | 10 | 08/13/2025 16:09 | R369781 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.769** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Boron | NELAP | 0.0200 | | **7.95** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Calcium | NELAP | 0.100 | | **272** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:45 | 243361 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 13:02 | 243361 |
| Arsenic | NELAP | 0.0010 | | **0.0115** | mg/L | 5 | 08/15/2025 1:58 | 243361 |
| Lithium | * | 0.0030 | | **0.0073** | mg/L | 5 | 08/18/2025 13:02 | 243361 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/18/2025 13:02 | 243361 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/18/2025 13:02 | 243361 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/14/2025 15:33 | 243378 |

PRELIMINARY REPORT

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# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** Ash Pond Monitoring Wells

**Work Order:** 25080110
**Report Date:** 25-Aug-25

**Carrier:** Daniel Crump

**Received By:** LEH

**Completed by:** Laura E Henson
**On:** 13-Aug-25

**Reviewed by:** Ellie Hopkins
**On:** 14-Aug-25

**Pages to follow:** Chain of custody 4 Extra pages included 0

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 4.3 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

pH strip #104524. - lhenson - 8/13/2025 8:47:33 AM

Additional nitric acid (104844) was needed in RW-3 and G120 upon arrival at the laboratory. - lhenson - 8/13/2025 8:47:35 AM

Cooler #2 = 5.3C, Cooler #3 = 4.7, and Cooler #4 = 3.7C (LTG #5). - LH 8/13/25

Samples were received on 8/13/25 at 1436 on ice [12.7, 11.9 and 15.3C - LTG#5]. pH strip #104524. - amberdilallo - 8/14/2025 7:41:56 AM

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25080110

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

5.3, 4.7, 3.7

Client: City Water, Light & Power

Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building

City/State/Zip: Springfield IL 62712

Contact: Eric Staley Phone: (217) 757-8610

Email: eric.staley@cwlp.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 4.3 °C 5

Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY

LAB NOTES: PM 104524

added HNO3 (104544) to RW3 and G120 LH 8/13/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [✓] No

Are these samples known to be hazardous? [ ] Yes [✓] No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [✓] Yes [ ] No Permit on file

**Client Comments:**

*elevations, pH, conductivity, temperature

**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo

Quarterly monitoring

**PROJECT NAME/NUMBER**

Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**

Justin Colp

**RESULTS REQUESTED**

[✓] Standard [ ] 1-2 Day (100% Surcharge)

[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25080110-001 | RW-3 | 8-12-25 / 1332 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -002 | AP-1 | 1155 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -003 | AP-2 | 1226 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -004 | AP-3 | 1258 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -005 | AP-4 | 1040 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -006 | AP-5 | 956 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -007 | AP-6 | 1120 | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -008 | AP-7 | | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -009 | AP-8 | | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -010 | AP-9 | | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -011 | AP-10 | | Groundwater | 1 | 4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-12 / 1540 | | 8/12/25 1540 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 2 of 2 Workorder # 25080110

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Bret Gillihan/Partech

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | | | | | | | | |
| 25080110-012 | AP-11 | 8-12-25 1044 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -013 | AP-12 | 8-12-25 1127 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -014 | AP-13 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -015 | AP-14 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -016 | T-1 | 8-12-25 1316 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -017 | T-2 | 8-12-25 1220 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -018 | T-4 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -019 | T-5 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -020 | T-6 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -021 | AW-1 | 8/12/25 1102 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |
| -022 | G120 | 8/12/25 1157 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-12/1540 | | 8/12/25 1540 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 2 Workorder # 25080110

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

12.7, 11.9

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 15.3 °C 5
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: 104524 [illegible] 8/14/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Li Se Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Allison Lampe

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25080110-001 | RW-3 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -002 | AP-1 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -003 | AP-2 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -004 | AP-3 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -005 | AP-4 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -006 | AP-5 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -007 | AP-6 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -008 | AP-7 | 8-13-25 956 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -009 | AP-8 | 8-13-25 1214 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -010 | AP-9 | 8-13-25 1031 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -011 | AP-10 | 8-13-25 1132 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [illegible] | 8-13-25 236 | [illegible] | 8/13/25 1436 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

Print PDF

# CHAIN OF CUSTODY

 Workorder # 25080110

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 15.3 °C 5
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:
**corrected collection times: T-4 11:54, T-5 11:19, T-6 10:42. SAH 8/18/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo
Quarterly monitoring

**PROJECT NAME/NUMBER**
Ash Pond Monitoring Wells

**SAMPLE COLLECTOR'S NAME**
Brett Gillihan

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25080110-012 | AP-11 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -013 | AP-12 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -014 | AP-13 | 8-13-25 953 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -015 | AP-14 | 8-13-25 1054 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -016 | T-1 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -017 | T-2 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -018 | T-4 ** | 8-13-25 1135 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -019 | T-5 ** | 8-13-25 1100 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -020 | T-6 ** | 8-13-25 1026 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -021 | AW-1 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| -022 | G120 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 8-13-25 236 | [signature] | 8/13/25 1436 |
| | | | |
| | | | |
| | | | |
| | | | |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | RW-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 001 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Danny Crump — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 87 °F — Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 1:11 PM

Static Water Level: 10.57 feet below TOC

Total Depth: 44.01 feet below TOC

Water Column: 33.44 feet

**Purging Activities**

Purged By: JC — Purge Date: 8/12/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 33.44 ft. x 0.022 = 0.74 L x 3 Vol. = 2.22 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:12 | 0.0 | 250 | purge start time | | | | | | |
| 13:17 | 1.3 | ↓ | 7.07 | 798.90 | 15.60 | 2.83 | 50.20 | 19.30 | |
| 13:20 | 2.0 | | 7.00 | 790.90 | 15.50 | 1.83 | 32.90 | 20.87 | |
| 13:23 | 2.8 | | 6.97 | 790.00 | 15.29 | 1.42 | 19.30 | 8.51 | |
| 13:26 | 3.5 | | 6.94 | 789.40 | 15.35 | 1.18 | 8.40 | 8.14 | |
| 13:29 | 4.3 | | 6.93 | 792.30 | 15.36 | 1.04 | -1.60 | 11.57 | |
| 13:32 | 5.0 | | 6.92 | 794.40 | 15.17 | 0.94 | -10.80 | 13.43 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 8/12/2025 13:32

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.92 pH — 794.40 Spec. Cond. — 15.17 Temp

Field Filtered: Yes — Filter Type: Inline Disposable

Water Level: 17.62 feet below TOC — Drawdown: 7.05 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp — **Date:** 8/12/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** AP-1
**Sample ID:** 002
**Date (s):** 8/12/2025

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: Danny Crump — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 86 °F — Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | No |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 11:34 AM
Static Water Level: 11.22 feet below TOC
Total Depth: 31.08 feet below TOC
Water Column: 19.86 feet

**Purging Activities**

Purged By: JC — Purge Date: 8/12/2025
Purge Method: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 19.86 ft. x 0.022 = 0.44 L x 3 Vol. = 1.32 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:35 | 0.0 | 250 | purge start time | | | | | | |
| 11:40 | 1.3 | ↓ | 6.46 | 1,809.80 | 16.79 | 2.44 | 103.50 | 16.48 | |
| 11:43 | 2.0 | | 6.44 | 1,883.30 | 16.76 | 1.63 | 76.10 | 17.05 | |
| 11:46 | 2.8 | | 6.43 | 1,970.00 | 16.58 | 1.29 | 48.10 | 19.77 | |
| 11:49 | 3.5 | | 6.42 | 2,021.40 | 16.60 | 1.09 | 26.30 | 22.55 | |
| 11:52 | 4.3 | | 6.43 | 2,076.80 | 16.55 | 0.97 | 11.20 | 7.96 | |
| 11:55 | 5.0 | | 6.42 | 2,104.50 | 16.41 | 0.88 | 0.50 | 10.98 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 8/12/2025 11:55
Sample Method: Low Flow — Sample Equipment: Bladder Pump
Sample Parameters: 6.42 pH — 2,104.50 Spec. Cond. — 16.41 Temp
Field Filtered: No — Filter Type:
Water Level: 11.55 feet below TOC — Drawdown: 0.33 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp — **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 003 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 12:06 PM

Static Water Level: 8.60 feet below TOC

Total Depth: 21.33 feet below TOC

Water Column: 12.73 feet

**Purging Activities**

Purged By: JC Purge Date: 8/12/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.73 ft. x 0.022 = 0.28 L x 3 Vol. = 0.84 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:07 | 0.0 | 263 | purge start time | | | | | | |
| 12:14 | 1.8 | ↓ | 6.39 | 1,602.30 | 17.04 | 1.92 | 78.10 | 17.42 | |
| 12:17 | 2.6 | | 6.35 | 1,603.90 | 16.92 | 1.43 | 75.60 | 17.06 | |
| 12:20 | 3.4 | | 6.33 | 1,603.30 | 16.56 | 1.18 | 73.70 | 19.29 | |
| 12:23 | 4.2 | | 6.32 | 1,603.10 | 16.48 | 1.03 | 72.20 | 6.81 | |
| 12:26 | 5.0 | | 6.30 | 1,606.10 | 16.68 | 0.93 | 70.80 | 8.43 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 8/12/2025 12:26

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.30 pH 1,606.10 Spec. Cond. 16.68 Temp

Field Filtered: No Filter Type:

Water Level: 8.80 feet below TOC Drawdown: 0.20 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-3 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 004 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Danny Crump — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 87 °F — Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 12:34 PM

Static Water Level: 8.73 feet below TOC

Total Depth: 20.80 feet below TOC

Water Column: 12.07 feet

**Purging Activities**

Purged By: JC — Purge Date: 8/12/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 12.07 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.50 L

Physical appearance of purge water: Clear — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:36 | 0.0 | 250 | purge start time | | | | | | |
| 12:43 | 1.8 | ↓ | 6.42 | 1,622.60 | 17.60 | 2.04 | 96.00 | 5.57 | |
| 12:46 | 2.5 | | 6.39 | 1,624.00 | 17.43 | 1.51 | 80.40 | 4.97 | |
| 12:49 | 3.3 | | 6.38 | 1,625.40 | 17.53 | 1.22 | 64.50 | 4.11 | |
| 12:52 | 4.0 | | 6.38 | 1,625.50 | 17.31 | 1.05 | 50.40 | 3.26 | |
| 12:55 | 4.8 | | 6.37 | 1,625.40 | 17.24 | 0.94 | 38.90 | 3.14 | |
| 12:58 | 5.5 | | 6.36 | 1,624.50 | 17.32 | 0.86 | 29.80 | 2.90 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 8/12/2025 12:58

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.36 pH — 1,624.50 Spec. Cond. — 17.32 Temp

Field Filtered: No — Filter Type:

Water Level: 9.71 feet below TOC — Drawdown: 0.98 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp — **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-4 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 005 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Danny Crump — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 82 °F — Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 10:12 AM

Static Water Level: 10.86 feet below TOC

Total Depth: 60.41 feet below TOC

Water Column: 49.55 feet

**Purging Activities**

Purged By: JC — Purge Date: 8/12/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 49.55 ft. x 0.022 = 1.09 L x 3 Vol. = 3.27 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.50 L

Physical appearance of purge water: Cloudy — Odor: None — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:13 | 0.0 | 241 | purge start time | | | | | | |
| 10:22 | 2.2 | ↓ | 6.66 | 992.60 | 19.67 | 2.38 | 136.80 | 133.52 | |
| 10:25 | 2.9 | | 6.65 | 995.50 | 19.62 | 1.78 | 89.50 | 167.82 | |
| 10:28 | 3.6 | | 6.65 | 997.50 | 19.65 | 1.41 | 49.20 | 164.04 | |
| 10:31 | 4.3 | | 6.65 | 999.30 | 19.62 | 1.19 | 21.50 | 168.64 | |
| 10:34 | 5.1 | | 6.65 | 999.40 | 19.55 | 1.06 | 2.80 | 119.36 | |
| 10:37 | 5.8 | | 6.65 | 999.70 | 19.60 | 0.96 | -10.60 | 119.27 | |
| 10:40 | 6.5 | | 6.64 | 999.90 | 19.70 | 0.90 | -20.80 | 115.89 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 8/12/2025 10:40

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.64 pH — 999.90 Spec. Cond. — 19.70 Temp

Field Filtered: No — Filter Type:

Water Level: 12.10 feet below TOC — Drawdown: 1.24 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp — **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-5 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 006 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 81 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 9:28 AM

Static Water Level: 15.94 feet below TOC

Total Depth: 31.27 feet below TOC

Water Column: 15.33 feet

**Purging Activities**

Purged By: JC Purge Date: 8/12/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 15.33 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:29 | 0.0 | 296 | purge start time | | | | | | |
| 9:32 | 0.9 | ↓ | 6.61 | 854.60 | 15.72 | 4.28 | 192.80 | 7.48 | |
| 9:35 | 1.8 | | 6.55 | 857.20 | 15.53 | 2.72 | 196.90 | 6.29 | |
| 9:38 | 2.7 | | 6.55 | 861.90 | 15.34 | 2.12 | 199.20 | 6.06 | |
| 9:41 | 3.6 | | 6.57 | 864.70 | 15.26 | 1.84 | 200.70 | 7.92 | |
| 9:44 | 4.4 | | 6.59 | 865.30 | 15.30 | 1.67 | 201.20 | 10.44 | |
| 9:47 | 5.3 | | 6.61 | 867.30 | 15.31 | 1.55 | 201.40 | 15.13 | |
| 9:50 | 6.2 | | 6.62 | 867.50 | 15.22 | 1.47 | 202.40 | 33.56 | |
| 9:53 | 7.1 | | 6.63 | 868.30 | 15.19 | 1.41 | 203.70 | 11.51 | |
| 9:56 | 8.0 | | 6.64 | 867.70 | 15.16 | 1.37 | 204.60 | 24.57 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 8/12/2025 9:56

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.64 pH 867.70 Spec. Cond. 15.16 Temp

Field Filtered: No Filter Type:

Water Level: 18.27 feet below TOC Drawdown: 2.33 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864
- Lid on protective cover won't close.

**Form Completed By:** Justin Colp **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-6 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 007 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 10:57 AM

Static Water Level: 8.13 feet below TOC

Total Depth: 39.62 feet below TOC

Water Column: 31.49 feet

**Purging Activities**

Purged By: JC Purge Date: 8/12/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 31.49 ft. x 0.022 = 0.69 L x 3 Vol. = 2.07 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:58 | 0.0 | 227 | purge start time | | | | | | |
| 11:05 | 1.6 | ↓ | 7.05 | 814.60 | 15.62 | 1.87 | 64.10 | 18.67 | |
| 11:08 | 2.3 | | 6.99 | 817.10 | 15.59 | 1.44 | 62.10 | 22.34 | |
| 11:11 | 3.0 | | 6.95 | 817.50 | 15.52 | 1.21 | 60.10 | 17.42 | |
| 11:14 | 3.6 | | 6.92 | 818.40 | 15.47 | 1.07 | 58.00 | 16.04 | |
| 11:17 | 4.3 | | 6.91 | 817.30 | 15.45 | 0.97 | 55.40 | 9.09 | |
| 11:20 | 5.0 | | 6.89 | 818.90 | 15.39 | 0.90 | 52.50 | 7.08 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 8/12/2025 11:20

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.89 pH 818.90 Spec. Cond. 15.39 Temp

Field Filtered: No Filter Type:

Water Level: 17.81 feet below TOC Drawdown: 9.68 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-7 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 008 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/13/2025 |

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 82 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 9:56 AM

Static Water Level: 11.71 feet below TOC

Total Depth: 42.52 feet below TOC

Water Column: 30.81 feet

**Purging Activities**

Purged By: AL Purge Date: 8/13/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 30.81 ft. x 0.022 = 0.68 L x 3 Vol. = 2.04 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: Moderate Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:56 | 0.0 | 364 | purge start time | | | | | | |
| 9:58 | 0.7 | ↓ | 7.10 | 897.80 | 15.70 | 0.44 | -121.80 | 73.22 | |
| 10:01 | 1.8 | | 7.11 | 900.40 | 15.65 | 0.42 | -126.10 | 78.01 | |
| 10:04 | 2.9 | | 7.12 | 903.20 | 15.82 | 0.40 | -129.10 | 65.72 | |
| 10:07 | 4.0 | | 7.12 | 908.30 | 15.68 | 0.39 | -131.50 | 98.20 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/13/2025 10:07

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 7.12 pH 908.30 Spec. Cond. 15.68 Temp

Field Filtered: No Filter Type:

Water Level: 16.35 feet below TOC Drawdown: 4.64 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/13/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-8 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 009 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/13/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 82 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 11:47 AM

Static Water Level: 5.96 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 33.64 feet

**Purging Activities**

Purged By: JC Purge Date: 8/13/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 33.64 ft. x 0.022 = 0.74 L x 3 Vol. = 2.22 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear Odor: Moderate Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:48 | 0.0 | 308 | purge start time | | | | | | |
| 11:56 | 2.5 | ↓ | 6.78 | 1,072.50 | 17.37 | 2.36 | 47.10 | 27.64 | |
| 11:59 | 3.4 | | 6.75 | 1,072.40 | 17.48 | 1.91 | 28.10 | 35.01 | |
| 12:02 | 4.3 | | 6.74 | 1,073.20 | 17.31 | 1.67 | 13.70 | 27.08 | |
| 12:05 | 5.2 | | 6.73 | 1,071.90 | 17.39 | 1.50 | 2.00 | 17.07 | |
| 12:08 | 6.2 | | 6.72 | 1,072.50 | 17.50 | 1.39 | -6.80 | 28.74 | |
| 12:11 | 7.1 | | 6.72 | 1,073.40 | 17.37 | 1.30 | -13.60 | 24.21 | |
| 12:14 | 8.0 | | 6.71 | 1,074.30 | 17.59 | 1.23 | -19.10 | 21.21 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 8/13/2025 12:14

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.71 pH 1,074.30 Spec. Cond. 17.59 Temp

Field Filtered: No Filter Type:

Water Level: 6.38 feet below TOC Drawdown: 0.42 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp **Date:** 8/13/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-9 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/13/2025 |

**Field Team Members**

Name: Justin Colp Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 77 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 9:38 AM

Static Water Level: 13.64 feet below TOC

Total Depth: 39.60 feet below TOC

Water Column: 25.96 feet

**Purging Activities**

Purged By: JC Purge Date: 8/13/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 25.96 ft. x 0.022 = 0.57 L x 3 Vol. = 1.71 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 12.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:40 | 0.0 | 235 | purge start time | | | | | | |
| 9:46 | 1.4 | ↓ | 6.58 | 1,143.50 | 18.23 | 3.47 | 154.00 | 61.09 | |
| 9:49 | 2.1 | | 6.55 | 1,143.40 | 18.12 | 2.90 | 149.00 | 93.19 | |
| 9:52 | 2.8 | | 6.55 | 1,148.00 | 17.86 | 2.54 | 138.20 | 43.74 | |
| 9:55 | 3.5 | | 6.60 | 1,159.10 | 18.90 | 4.34 | 123.00 | 6.68 | |
| 9:58 | 4.2 | | 6.59 | 1,161.00 | 17.02 | 3.46 | 106.30 | 14.03 | |
| 10:01 | 4.9 | | 6.56 | 1,160.30 | 17.16 | 2.32 | 88.20 | 28.72 | |
| 10:04 | 5.6 | | 6.58 | 1,159.50 | 17.76 | 3.20 | 74.30 | 3.11 | |
| 10:07 | 6.4 | | 6.63 | 1,159.30 | 17.88 | 4.29 | 66.50 | 9.13 | |
| 10:10 | 7.1 | | 6.82 | 1,153.60 | 18.14 | 6.08 | 62.30 | 8.03 | |
| 10:13 | 7.8 | | 6.65 | 1,162.20 | 16.48 | 4.13 | 51.70 | 33.73 | |
| 10:16 | 8.5 | | 6.60 | 1,155.00 | 16.09 | 2.53 | 39.50 | 22.64 | |
| 10:19 | 9.2 | | 6.58 | 1,155.40 | 16.12 | 1.98 | 28.90 | 22.90 | |
| 10:22 | 9.9 | | 6.58 | 1,152.40 | 16.11 | 1.71 | 20.00 | 22.52 | |
| 10:25 | 10.6 | | 6.57 | 1,154.20 | 16.04 | 1.55 | 12.60 | 23.71 | |
| 10:28 | 11.3 | | 6.57 | 1,155.10 | 16.11 | 1.44 | 6.70 | 23.15 | |
| 10:31 | 12.0 | | 6.57 | 1,153.30 | 16.14 | 1.37 | 1.20 | 18.43 | |

**Sampling Activities**

Sampled By: JC Sample Date/Time: 8/13/2025 10:31

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.57 pH 1,153.30 Spec. Cond. 16.14 Temp

Field Filtered: No Filter Type:

Water Level: 18.81 feet below TOC Drawdown: 5.17 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp **Date:** 8/13/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-10 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 011 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/13/2025 |

**Field Team Members**

Name: Justin Colp — Affiliation: TekLab, Inc.

Name: Danny Crump — Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 79 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 11:06 AM

Static Water Level: 4.89 feet below TOC

Total Depth: 38.07 feet below TOC

Water Column: 33.18 feet

**Purging Activities**

Purged By: JC — Purge Date: 8/13/2025

Purge Method: Peristaltic Pump — Well Diameter: 2"

Purge Volume Calculation (L): 33.18 ft. x 0.022 = 0.73 L x 3 Vol. = 2.19 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear — Odor: Slight — Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:07 | 0.0 | 280 | purge start time | | | | | | |
| 11:14 | 2.0 | ↓ | 6.62 | 1,382.40 | 18.51 | 2.74 | 100.30 | 6.70 | |
| 11:17 | 2.8 | | 6.57 | 1,386.30 | 18.03 | 2.21 | 85.50 | 6.47 | |
| 11:20 | 3.6 | | 6.54 | 1,380.40 | 17.98 | 1.91 | 70.90 | 8.95 | |
| 11:23 | 4.5 | | 6.53 | 1,383.90 | 17.90 | 1.71 | 57.20 | 9.13 | |
| 11:26 | 5.3 | | 6.52 | 1,385.80 | 17.97 | 1.58 | 45.10 | 8.34 | |
| 11:29 | 6.2 | | 6.52 | 1,382.70 | 17.74 | 1.48 | 34.80 | 8.63 | |
| 11:32 | 7.0 | | 6.52 | 1,386.40 | 17.54 | 1.41 | 26.50 | 11.76 | |

**Sampling Activities**

Sampled By: JC — Sample Date/Time: 8/13/2025 11:32

Sample Method: Low Flow — Sample Equipment: Peristaltic Pump

Sample Parameters: 6.52 pH — 1,386.40 Spec. Cond. — 17.54 Temp

Field Filtered: No — Filter Type:

Water Level: 5.09 feet below TOC — Drawdown: 0.20 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

**Form Completed By:** Justin Colp — **Date:** 8/13/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-11 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 012 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 84 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 10:24 AM

Static Water Level: 15.69 feet below TOC

Total Depth: 22.95 feet below TOC

Water Column: 7.26 feet

**Purging Activities**

Purged By: JR Purge Date: 8/12/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 7.26 ft. x 0.022 = 0.16 L x 3 Vol. = 0.48 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: Slight Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:24 | 0.0 | 200 | purge start time | | | | | | |
| 10:32 | 1.6 | ↓ | 6.22 | 1,056.40 | 23.96 | 2.24 | 94.90 | 10.24 | |
| 10:35 | 2.2 | | 6.26 | 1,038.10 | 24.41 | 2.18 | 89.80 | 10.34 | |
| 10:38 | 2.8 | | 6.31 | 1,026.00 | 24.76 | 2.17 | 84.40 | 10.81 | |
| 10:41 | 3.4 | | 6.33 | 1,016.40 | 25.07 | 2.17 | 80.40 | 11.94 | |
| 10:44 | 4.0 | | 6.34 | 1,009.40 | 25.37 | 2.18 | 77.80 | 12.85 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 8/12/2025 10:44

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.34 pH 1,009.40 Spec. Cond. 25.37 Temp

Field Filtered: No Filter Type:

Water Level: 15.94 feet below TOC Drawdown: 0.25 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-12 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 013 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 86 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 11:03 AM

Static Water Level: 18.03 feet below TOC

Total Depth: 30.40 feet below TOC

Water Column: 12.37 feet

**Purging Activities**

Purged By: JR Purge Date: 8/12/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.37 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Lt Gray

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:03 | 0.0 | 167 | purge start time | | | | | | |
| 11:15 | 2.0 | ↓ | 6.38 | 919.10 | 21.63 | 1.57 | 46.50 | 57.46 | |
| 11:18 | 2.5 | | 6.37 | 935.60 | 22.73 | 1.59 | 43.00 | 66.31 | |
| 11:21 | 3.0 | | 6.38 | 947.90 | 23.18 | 1.62 | 39.70 | 75.89 | |
| 11:24 | 3.5 | | 6.38 | 950.20 | 23.04 | 1.64 | 37.30 | 78.00 | |
| 11:27 | 4.0 | | 6.38 | 951.40 | 23.26 | 1.63 | 35.30 | 82.48 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 8/12/2025 11:27

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.38 pH 951.40 Spec. Cond. 23.26 Temp

Field Filtered: No Filter Type:

Water Level: 19.01 feet below TOC Drawdown: 0.98 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-13 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 014 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/13/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 77 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 9:30 AM

Static Water Level: 18.65 feet below TOC

Total Depth: 31.00 feet below TOC

Water Column: 12.35 feet

**Purging Activities**

Purged By: JR Purge Date: 8/13/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.35 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Slightly cloudy Odor: Slight Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 0.0 | 261 | purge start time | | | | | | |
| 9:41 | 2.9 | ↓ | 6.39 | 806.30 | 22.60 | 2.47 | 71.70 | 23.29 | |
| 9:44 | 3.7 | | 6.42 | 792.60 | 22.86 | 2.42 | 59.70 | 28.67 | |
| 9:47 | 4.4 | | 6.43 | 781.40 | 23.25 | 2.32 | 49.60 | 30.32 | |
| 9:50 | 5.2 | | 6.43 | 772.20 | 23.49 | 2.24 | 41.50 | 34.50 | |
| 9:53 | 6.0 | | 6.43 | 762.80 | 23.52 | 2.15 | 34.80 | 37.20 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 8/13/2025 9:53

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.43 pH 762.80 Spec. Cond. 23.52 Temp

Field Filtered: No Filter Type:

Water Level: 19.76 feet below TOC Drawdown: 1.11 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/13/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | AP-14 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 015 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/13/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 79 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 10:34 AM

Static Water Level: 3.22 feet below TOC

Total Depth: 31.20 feet below TOC

Water Column: 27.98 feet

**Purging Activities**

Purged By: JR Purge Date: 8/13/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 27.98 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:34 | 0.0 | 250 | purge start time | | | | | | |
| 10:42 | 2.0 | ↓ | 6.79 | 1,095.20 | 29.34 | 3.69 | 71.40 | 11.59 | |
| 10:45 | 2.8 | | 6.74 | 1,105.50 | 29.05 | 2.66 | 69.60 | 16.94 | |
| 10:48 | 3.5 | | 6.72 | 1,097.90 | 28.88 | 1.99 | 68.00 | 18.64 | |
| 10:51 | 4.3 | | 6.71 | 1,108.40 | 28.98 | 1.70 | 65.30 | 21.89 | |
| 10:54 | 5.0 | | 6.71 | 1,115.40 | 29.26 | 1.59 | 61.50 | 11.84 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 8/13/2025 10:54

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.71 pH 1,115.40 Spec. Cond. 29.26 Temp

Field Filtered: No Filter Type:

Water Level: 3.47 feet below TOC Drawdown: 0.25 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/13/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** T-1
**Sample ID:** 016
**Date (s):** 8/12/2025

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 12:49 PM
Static Water Level: 14.63 feet below TOC
Total Depth: 22.95 feet below TOC
Water Column: 8.32 feet

**Purging Activities**

Purged By: JR Purge Date: 8/12/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 8.32 ft. x 0.022 = 0.18 L x 3 Vol. = 0.54 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Slightly cloudy Odor: Slight Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:49 | 0.0 | 222 | purge start time | | | | | | |
| 13:04 | 3.3 | ↓ | 6.48 | 1,032.00 | 23.62 | 1.96 | 37.20 | 31.78 | |
| 13:07 | 4.0 | | 6.47 | 1,044.50 | 23.81 | 1.95 | 36.30 | 33.26 | |
| 13:10 | 4.7 | | 6.47 | 1,051.90 | 24.03 | 1.94 | 35.50 | 29.37 | |
| 13:13 | 5.3 | | 6.46 | 1,061.40 | 24.06 | 1.93 | 35.00 | 32.12 | |
| 13:16 | 6.0 | | 6.46 | 1,069.60 | 24.24 | 1.91 | 34.70 | 35.67 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 8/12/2025 13:16
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.46 pH 1,069.60 Spec. Cond. 24.24 Temp
Field Filtered: No Filter Type:
Water Level: 15.23 feet below TOC Drawdown: 0.60 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | Ash Pond Monitoring Wells | **Monitoring Point:** | T-2 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 017 |
| **W.O. Number (s):** | 25080110 | **Date (s):** | 8/12/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Jeremy Rodriguez Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 12:03 PM

Static Water Level: 25.72 feet below TOC

Total Depth: 34.44 feet below TOC

Water Column: 8.72 feet

**Purging Activities**

Purged By: JR Purge Date: 8/12/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 8.72 ft. x 0.022 = 0.19 L x 3 Vol. = 0.57 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: Strong Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:03 | 0.0 | 235 | purge start time | | | | | | |
| 12:08 | 1.2 | ↓ | 6.62 | 807.50 | 20.46 | 2.29 | -36.80 | 6.96 | |
| 12:11 | 1.9 | | 6.54 | 849.50 | 21.69 | 2.25 | -47.90 | 6.27 | |
| 12:14 | 2.6 | | 6.52 | 868.30 | 22.19 | 2.15 | -56.90 | 5.17 | |
| 12:17 | 3.3 | | 6.51 | 883.40 | 22.48 | 2.03 | -64.10 | 4.74 | |
| 12:20 | 4.0 | | 6.51 | 905.10 | 22.61 | 1.95 | -70.00 | 4.37 | |

**Sampling Activities**

Sampled By: JR Sample Date/Time: 8/12/2025 12:20

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.51 pH 905.10 Spec. Cond. 22.61 Temp

Field Filtered: No Filter Type:

Water Level: 26.12 feet below TOC Drawdown: 0.40 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/12/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** T-4
**Sample ID:** 018
**Date (s):** 8/13/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 82 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 11:35 AM
Static Water Level: 18.25 feet below TOC
Total Depth: 27.42 feet below TOC
Water Column: 9.17 feet

**Purging Activities**

Purged By: AL Purge Date: 8/13/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 9.17 ft. x 0.022 = 0.2 L x 3 Vol. = 0.6 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 9.00 L
Physical appearance of purge water: Slightly cloudy Odor: Slight Color: gray

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:35 | 0.0 | 474 | purge start time | | | | | | |
| 11:45 | 4.7 | ↓ | 6.62 | 673.60 | 17.40 | 0.65 | -2.30 | 66.72 | |
| 11:48 | 6.2 | | 6.63 | 661.70 | 17.15 | 0.53 | -6.10 | 38.28 | |
| 11:51 | 7.6 | | 6.62 | 636.80 | 17.55 | 0.49 | -7.70 | 33.95 | |
| 11:54 | 9.0 | | 6.60 | 607.40 | 17.46 | 0.47 | -7.60 | 31.69 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/13/2025 11:54
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.60 pH 607.40 Spec. Cond. 17.46 Temp
Field Filtered: No Filter Type:
Water Level: 20.10 feet below TOC Drawdown: 1.85 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/13/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** T-5
**Sample ID:** 019
**Date (s):** 8/13/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 82 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 11:00 AM
Static Water Level: 10.32 feet below TOC
Total Depth: 22.34 feet below TOC
Water Column: 12.02 feet

**Purging Activities**

Purged By: AL Purge Date: 8/13/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 12.02 ft. x 0.022 = 0.26 L x 3 Vol. = 0.78 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 0.0 | 158 | purge start time | | | | | | |
| 11:10 | 1.6 | ↓ | 6.80 | 636.30 | 19.39 | 0.79 | -7.80 | 27.89 | |
| 11:13 | 2.1 | | 6.79 | 634.60 | 19.12 | 0.66 | -9.80 | 20.48 | |
| 11:16 | 2.5 | | 6.79 | 624.10 | 19.58 | 0.64 | -10.10 | 15.44 | |
| 11:19 | 3.0 | | 6.80 | 615.80 | 18.84 | 0.65 | -8.80 | 13.45 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/13/2025 11:19
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.80 pH 615.80 Spec. Cond. 18.84 Temp
Field Filtered: No Filter Type:
Water Level: 15.08 feet below TOC Drawdown: 4.76 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/13/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** T-6
**Sample ID:** 020
**Date (s):** 8/13/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 82 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/13/25 10:26 AM
Static Water Level: 8.15 feet below TOC
Total Depth: 43.62 feet below TOC
Water Column: 35.47 feet

**Purging Activities**

Purged By: AL Purge Date: 8/13/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 35.47 ft. x 0.022 = 0.78 L x 3 Vol. = 2.34 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Slightly cloudy Odor: Strong Color: gray

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:26 | 0.0 | 375 | purge start time | | | | | | |
| 10:33 | 2.6 | ↓ | 7.17 | 769.30 | 20.52 | 0.44 | -147.00 | 70.17 | |
| 10:36 | 3.8 | | 7.17 | 758.20 | 21.22 | 0.40 | -149.20 | 61.90 | |
| 10:39 | 4.9 | | 7.17 | 757.90 | 22.21 | 0.38 | -150.90 | 50.89 | |
| 10:42 | 6.0 | | 7.16 | 759.90 | 22.80 | 0.37 | -152.20 | 37.05 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/13/2025 10:42
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.16 pH 759.90 Spec. Cond. 22.80 Temp
Field Filtered: No Filter Type:
Water Level: 11.61 feet below TOC Drawdown: 3.46 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe Date: 8/13/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** AW-1
**Sample ID:** 021
**Date (s):** 8/12/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 10:46 AM
Static Water Level: 15.01 feet below TOC
Total Depth: 54.81 feet below TOC
Water Column: 39.80 feet

**Purging Activities**

Purged By: AL Purge Date: 8/12/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 39.8 ft. x 0.022 = 0.88 L x 3 Vol. = 2.64 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:46 | 0.0 | 281 | purge start time | | | | | | |
| 10:53 | 2.0 | ↓ | 6.57 | 1,602.50 | 18.89 | 1.13 | -70.70 | 52.46 | |
| 10:56 | 2.8 | | 6.57 | 1,598.90 | 18.79 | 1.03 | -70.90 | 48.78 | |
| 10:59 | 3.7 | | 6.58 | 1,600.70 | 18.80 | 0.97 | -70.90 | 53.77 | |
| 11:02 | 4.5 | | 6.58 | 1,599.30 | 18.97 | 0.93 | -70.90 | 70.99 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/12/2025 11:02
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.58 pH 1,599.30 Spec. Cond. 18.97 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 17.02 feet below TOC Drawdown: 2.01 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/12/2025

# Field Data Sheet

**Project Name:** Ash Pond Monitoring Wells
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080110
**Monitoring Point:** G120
**Sample ID:** 022
**Date (s):** 8/12/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 11:28 AM
Static Water Level: 18.10 feet below TOC
Total Depth: 50.37 feet below TOC
Water Column: 32.27 feet

**Purging Activities**

Purged By: AL Purge Date: 8/12/2025
Purge Method: Submersible Pump Well Diameter: 2"
Purge Volume Calculation (L): 32.27 ft. x 0.022 = 0.71 L x 3 Vol. = 2.13 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Slightly cloudy Odor: Slight Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:28 | 0.0 | 125 | purge start time | | | | | | |
| 11:43 | 1.9 | ↓ | 6.67 | 1,995.10 | 24.23 | 0.83 | -123.60 | 3.47 | |
| 11:46 | 2.3 | | 6.66 | 2,010.50 | 25.64 | 0.65 | -129.30 | 2.92 | |
| 11:49 | 2.6 | | 6.66 | 2,014.80 | 24.46 | 0.57 | -131.50 | 3.05 | |
| 11:52 | 3.0 | | 6.67 | 2,003.10 | 23.53 | 0.51 | -132.40 | 3.67 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/12/2025 11:52
Sample Method: Low Flow Sample Equipment: Submersible Pump
Sample Parameters: 6.67 pH 2,003.10 Spec. Cond. 23.53 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 18.21 feet below TOC Drawdown: 0.11 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe Date: 8/12/2025

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25080110
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46868 Technician(s): B. Gillihan Date: 8/11/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 8/11/25 10:09 |
| 7.0 Buffer | WC240918A | 7.00 | 8/11/25 9:59 |
| 10.0 Buffer | WC240625A | 10.00 | 8/11/25 10:15 |
| LCS/CCV (7.0 Buffer) | WC250407A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1411 | 8/11/25 10:26 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.31 | 8/11/25 10:28 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-BG | LCS | 8/11/25 10:28 | 21.7 | 7.02 | 1,414 | 0.34 | | |
| CCV-1-BG | CCV | 8/11/25 15:01 | 23.3 | 7.02 | 1,417 | 0.39 | | |

**Comments:**

Field Meter ID: Pine 46868 Technician(s): B. Gillihan Date: 8/12/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | |
| 7.0 Buffer | WC240918A | 7.00 | 8/12/25 8:49 |
| 10.0 Buffer | WC240625A | 10.00 | 8/12/25 8:55 |
| LCS/CCV (7.0 Buffer) | WC250407A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1415 | 8/12/25 9:01 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.17 | 8/12/25 9:06 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-BG | LCS | 8/12/25 9:08 | 22.6 | 7.02 | 1,418 | 0.2 | | |
| CCV-2-BG | CCV | 8/12/25 14:07 | 24.3 | 7.03 | 1,422 | 0.29 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25080110
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46868 B. Gillihan Date: 8/13/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 8/13/25 9:04 |
| 7.0 Buffer | WC240918A | 7.00 | 8/13/25 8:58 |
| 10.0 Buffer | WC240625A | 10.00 | 8/13/25 9:13 |
| LCS/CCV (7.0 Buffer) | WC250407A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1415 | 8/13/25 9:18 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.37 | 8/13/25 9:19 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. bb |
|---|---|---|---|---|---|---|---|---|
| LCS-3-BG | LCS | 8/13/25 9:28 | 23.4 | 7.01 | 1,435 | 0.63 | | |
| CCV-3-BG | CCV | 8/13/25 12:39 | 24.7 | 7.03 | 1,444 | 0.55 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25080110
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46864 Technician(s): justin colp Date: 8/12/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 8/12/25 9:03 |
| 7.0 Buffer | wc250407a | 7.00 | 8/12/25 9:00 |
| 10.0 Buffer | wc240625a | 10.00 | 8/12/25 9:06 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/12/25 9:11 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.91 | 8/12/25 9:12 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 8/12/25 9:12 | 23.8 | 7.01 | 1,397 | 1.87 | | |
| CCV-1-JC | CCV | 8/12/25 13:41 | 26.4 | 7.04 | 1,382 | 2.03 | | |

**Comments:**

Field Meter ID: Pine 46864 Technician(s): justin colp Date: 8/13/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 8/13/25 8:54 |
| 7.0 Buffer | wc250407a | 7.00 | 8/13/25 8:49 |
| 10.0 Buffer | wc240625a | 10.00 | 8/13/25 8:58 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/13/25 9:04 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.95 | 8/13/25 9:04 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-JC | LCS | 8/13/25 9:06 | 23.6 | 7.03 | 1,410 | 1.92 | | |
| CCV-2-JC | CCV | 8/13/25 13:00 | 24.2 | 6.97 | 1,388 | 2.03 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25080110
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45612 Technician(s): A.Lampe Date: 8/11/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250429L | 4.00 | 8/11/25 10:09 |
| 7.0 Buffer | WC250407A | 7.00 | 8/11/25 10:11 |
| 10.0 Buffer | Wc240625A | 10.00 | 8/11/25 10:15 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/11/25 10:19 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.13 | 8/11/25 10:19 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-AL | LCS | 8/11/25 10:21 | 21.9 | 7.07 | 1,416 | 0.13 | | |
| CCV-1-AL | CCV | 8/11/25 14:16 | 25.7 | 7.09 | 1,412 | 0.23 | | |

**Comments:**

Field Meter ID: Pine 45612 Technician(s): A.Lampe Date: 8/12/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250429L | 4.00 | 8/12/25 9:11 |
| 7.0 Buffer | WC250407A | 7.00 | 8/12/25 9:15 |
| 10.0 Buffer | Wc240625A | 10.00 | 8/12/25 9:20 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/12/25 9:25 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.24 | 8/12/25 9:25 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-AL | LCS | 8/12/25 9:31 | 25.8 | 7.09 | 1,418 | 0.24 | | |
| CCV-2-AL | CCV | 8/12/25 14:14 | 27.5 | 7.09 | 1,420 | 0.21 | | |

**Comments:**

**Site Samping Event:** Ash Pond Monitoring Wells
**LIMS Workorder:** 25080110
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45612 Technician(s): A.Lampe Date: 8/13/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250429L | 4.00 | 8/13/25 9:06 |
| 7.0 Buffer | WC250407A | 7.00 | 8/13/25 9:10 |
| 10.0 Buffer | Wc240625A | 10.00 | 8/13/25 9:13 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/13/25 9:16 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.12 | 8/13/25 9:17 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-AL | LCS | 8/13/25 9:16 | 25.3 | 7.09 | 1,413 | 0.12 | | |
| CCV-3-AL | CCV | 8/13/25 12:35 | 27.6 | 7.09 | 1,406 | 0.14 | | |

**Comments:**

September 10, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10438 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 25080111

Dear Eric Staley:

TEKLAB, INC received 10 samples on 8/12/2025 3:40:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 17 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25080111

**Client Project:** FGDS Landfill **Report Date:** 10-Sep-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25080111
**Report Date:** 10-Sep-25

**Cooler Receipt Temp:** 11.1 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226 and Radium-228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power **Work Order:** 25080111

**Client Project:** FGDS Landfill **Report Date:** 10-Sep-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10438 | NELAP | 7/31/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2026 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2026 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power **Work Order:** 25080111

**Client Project:** FGDS Landfill **Report Date:** 10-Sep-25

**Lab ID:** 25080111-001 **Client Sample ID:** R101

**Matrix:** GROUNDWATER **Collection Date:** 08/11/2025 12:18

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **511.53** | ft | 1 | 08/11/2025 12:18 | R369784 |
| Depth to water | * | -5.00 | | **4.69** | ft | 1 | 08/11/2025 12:18 | R369784 |
| Depth to water from measuring point | * | 0 | | **7.49** | ft | 1 | 08/11/2025 12:18 | R369784 |
| Elevation of groundwater surface | * | 0 | | **539.31** | ft | 1 | 08/11/2025 12:18 | R369784 |
| Measuring Point Elevation | * | 0 | | **546.80** | ft | 1 | 08/11/2025 12:18 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.80** | ft | 1 | 08/11/2025 12:18 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **23** | NTU | 1 | 08/11/2025 12:18 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.0** | °F | 1 | 08/11/2025 12:18 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.69** | | 1 | 08/11/2025 12:18 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **834** | µmhos/cm @25C | 1 | 08/11/2025 12:18 | R369784 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **866** | mg/L | 1 | 08/12/2025 15:23 | R369703 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/12/2025 17:02 | R369661 |
| Chloride | NELAP | 5.00 | | **105** | mg/L | 10 | 08/12/2025 17:02 | R369661 |
| Sulfate | NELAP | 10.0 | | **264** | mg/L | 10 | 08/12/2025 17:02 | R369661 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.0156** | mg/L | 1 | 08/14/2025 17:31 | 243289 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Boron | NELAP | 0.0200 | | **0.127** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Calcium | NELAP | 0.100 | | **159** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/13/2025 19:16 | 243289 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:08 | 243289 |
| Arsenic | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/19/2025 12:02 | 243589 |
| Lithium | * | 0.0030 | | **0.0167** | mg/L | 5 | 08/14/2025 3:08 | 243289 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:08 | 243289 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2025 3:08 | 243289 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/12/2025 16:17 | 243283 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |

**Client:** City Water, Light & Power **Work Order:** 25080111

**Client Project:** FGDS Landfill **Report Date:** 10-Sep-25

**Lab ID:** 25080111-002 **Client Sample ID:** G121

**Matrix:** GROUNDWATER **Collection Date:** 08/11/2025 11:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.04** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Depth to water | * | -5.00 | | **26.98** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Depth to water from measuring point | * | 0 | | **28.85** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Elevation of groundwater surface | * | 0 | | **526.75** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Measuring Point Elevation | * | 0 | | **555.60** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.87** | ft | 1 | 08/11/2025 11:23 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **14** | NTU | 1 | 08/11/2025 11:23 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **69.7** | °F | 1 | 08/11/2025 11:23 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.76** | | 1 | 08/11/2025 11:23 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1650** | µmhos/cm @25C | 1 | 08/11/2025 11:23 | R369784 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1250** | mg/L | 1.67 | 08/15/2025 13:31 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/12/2025 17:37 | R369661 |
| Chloride | NELAP | 5.00 | | **28.9** | mg/L | 10 | 08/12/2025 17:37 | R369661 |
| Sulfate | NELAP | 10.0 | | **344** | mg/L | 10 | 08/12/2025 17:37 | R369661 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.354** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Boron | NELAP | 0.0200 | | **3.21** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Calcium | NELAP | 0.100 | | **194** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/13/2025 19:17 | 243289 |
| *Sample result for Ba exceeds 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **0.0020** | mg/L | 5 | 08/14/2025 3:14 | 243289 |
| Arsenic | NELAP | 0.0010 | | **0.0044** | mg/L | 5 | 08/19/2025 12:08 | 243589 |
| Lithium | * | 0.0030 | | **0.0067** | mg/L | 5 | 08/14/2025 3:14 | 243289 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:14 | 243289 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2025 3:14 | 243289 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/12/2025 16:20 | 243283 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 08/25/2025 0:00 | R371072 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 08/25/2025 0:00 | R371072 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-003
**Client Sample ID:** G122
**Matrix:** GROUNDWATER
**Collection Date:** 08/11/2025 12:12

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **505.11** | ft | 1 | 08/11/2025 12:12 | R369784 |
| Depth to water | * | -5.00 | | **30.38** | ft | 1 | 08/11/2025 12:12 | R369784 |
| Depth to water from measuring point | * | 0 | | **32.12** | ft | 1 | 08/11/2025 12:12 | R369784 |
| Elevation of groundwater surface | * | 0 | | **522.28** | ft | 1 | 08/11/2025 12:12 | R369784 |
| Measuring Point Elevation | * | 0 | | **554.40** | ft | 1 | 08/11/2025 12:12 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **1.74** | ft | 1 | 08/11/2025 12:12 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **18** | NTU | 1 | 08/11/2025 12:12 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.5** | °F | 1 | 08/11/2025 12:12 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.71** | | 1 | 08/11/2025 12:12 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1850** | µmhos/cm @25C | 1 | 08/11/2025 12:12 | R369784 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **1480** | mg/L | 1 | 08/12/2025 15:23 | R369703 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/12/2025 17:48 | R369661 |
| Chloride | NELAP | 5.00 | | **37.3** | mg/L | 10 | 08/12/2025 17:48 | R369661 |
| Sulfate | NELAP | 10.0 | | **552** | mg/L | 10 | 08/12/2025 17:48 | R369661 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.466** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Boron | NELAP | 0.0200 | | **12.5** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Calcium | NELAP | 0.100 | | **258** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:32 | 243289 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:20 | 243289 |
| Arsenic | NELAP | 0.0010 | | **0.0029** | mg/L | 5 | 08/19/2025 12:15 | 243589 |
| Lithium | * | 0.0030 | | **0.0062** | mg/L | 5 | 08/14/2025 3:20 | 243289 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:20 | 243289 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2025 3:20 | 243289 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/12/2025 16:22 | 243283 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |

**Client:** City Water, Light & Power **Work Order:** 25080111

**Client Project:** FGDS Landfill **Report Date:** 10-Sep-25

**Lab ID:** 25080111-004 **Client Sample ID:** AW-2

**Matrix:** GROUNDWATER **Collection Date:** 08/11/2025 12:56

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.34** | ft | 1 | 08/11/2025 12:56 | R369784 |
| Depth to water | * | -5.00 | | **2.72** | ft | 1 | 08/11/2025 12:56 | R369784 |
| Depth to water from measuring point | * | 0 | | **6.02** | ft | 1 | 08/11/2025 12:56 | R369784 |
| Elevation of groundwater surface | * | 0 | | **523.96** | ft | 1 | 08/11/2025 12:56 | R369784 |
| Measuring Point Elevation | * | 0 | | **529.98** | ft | 1 | 08/11/2025 12:56 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.30** | ft | 1 | 08/11/2025 12:56 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **4.9** | NTU | 1 | 08/11/2025 12:56 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **72.0** | °F | 1 | 08/11/2025 12:56 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.87** | | 1 | 08/11/2025 12:56 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1200** | µmhos/cm @25C | 1 | 08/11/2025 12:56 | R369784 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 20 | | **790** | mg/L | 1 | 08/12/2025 15:23 | R369703 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/12/2025 18:00 | R369661 |
| Chloride | NELAP | 5.00 | | **26.0** | mg/L | 10 | 08/12/2025 18:00 | R369661 |
| Sulfate | NELAP | 10.0 | | **131** | mg/L | 10 | 08/12/2025 18:00 | R369661 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.604** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Boron | NELAP | 0.0200 | | **3.08** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Calcium | NELAP | 0.100 | | **157** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:33 | 243289 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:26 | 243289 |
| Arsenic | NELAP | 0.0010 | | **0.0110** | mg/L | 5 | 08/19/2025 12:21 | 243589 |
| Lithium | * | 0.0030 | | **0.0053** | mg/L | 5 | 08/14/2025 3:26 | 243289 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 3:26 | 243289 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2025 3:26 | 243289 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/12/2025 16:24 | 243283 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-005
**Client Sample ID:** P07D
**Matrix:** GROUNDWATER
**Collection Date:** 08/11/2025 11:23

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **495.71** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Depth to water | * | -5.00 | | **2.02** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Depth to water from measuring point | * | 0 | | **5.02** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Elevation of groundwater surface | * | 0 | | **523.23** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Measuring Point Elevation | * | 0 | | **528.25** | ft | 1 | 08/11/2025 11:23 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.00** | ft | 1 | 08/11/2025 11:23 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **35** | NTU | 1 | 08/11/2025 11:23 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **66.9** | °F | 1 | 08/11/2025 11:23 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.67** | | 1 | 08/11/2025 11:23 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **931** | µmhos/cm @25C | 1 | 08/11/2025 11:23 | R369784 |
| **STANDARD METHODS 2540 C (TOTAL) 2020** | | | | | | | | |
| Total Dissolved Solids | NELAP | 33 | | **1180** | mg/L | 1.67 | 08/15/2025 13:31 | R369952 |
| **SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY** | | | | | | | | |
| Fluoride | NELAP | 0.50 | | **ND** | mg/L | 10 | 08/12/2025 18:12 | R369661 |
| Chloride | NELAP | 5.00 | | **31.8** | mg/L | 10 | 08/12/2025 18:12 | R369661 |
| Sulfate | NELAP | 10.0 | | **324** | mg/L | 10 | 08/12/2025 18:12 | R369661 |
| **SW-846 3005A, 6010B, METALS BY ICP (TOTAL)** | | | | | | | | |
| Barium | NELAP | 0.0025 | | **0.789** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Beryllium | NELAP | 0.0005 | | **< 0.0005** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Boron | NELAP | 0.0200 | | **5.54** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Cadmium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Calcium | NELAP | 0.100 | | **194** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Chromium | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Cobalt | NELAP | 0.0050 | | **< 0.0050** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Lead | NELAP | 0.0075 | | **< 0.0075** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| Molybdenum | NELAP | 0.0100 | | **< 0.0100** | mg/L | 1 | 08/14/2025 17:34 | 243289 |
| *Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.* | | | | | | | | |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Antimony | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 4:38 | 243289 |
| Arsenic | NELAP | 0.0010 | | **0.0255** | mg/L | 5 | 08/19/2025 12:27 | 243589 |
| Lithium | * | 0.0030 | | **0.0069** | mg/L | 5 | 08/14/2025 4:38 | 243289 |
| Selenium | NELAP | 0.0010 | | **< 0.0010** | mg/L | 5 | 08/14/2025 4:38 | 243289 |
| Thallium | NELAP | 0.0020 | | **< 0.0020** | mg/L | 5 | 08/14/2025 4:38 | 243289 |
| **SW-846 7470A (TOTAL)** | | | | | | | | |
| Mercury | NELAP | 0.00020 | | **< 0.00020** | mg/L | 1 | 08/12/2025 16:27 | 243283 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | |
| Radium-226 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |
| Radium-228 | * | 0 | | **See Attached** | pci/L | 1 | 08/22/2025 0:00 | R371072 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-006
**Client Sample ID:** P03D
**Matrix:** GROUNDWATER
**Collection Date:** 08/11/2025 14:10

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.95** | ft | 1 | 08/11/2025 14:10 | R369784 |
| Depth to water | * | -5.00 | | **5.46** | ft | 1 | 08/11/2025 14:10 | R369784 |
| Depth to water from measuring point | * | 0 | | **8.65** | ft | 1 | 08/11/2025 14:10 | R369784 |
| Elevation of groundwater surface | * | 0 | | **524.53** | ft | 1 | 08/11/2025 14:10 | R369784 |
| Measuring Point Elevation | * | 0 | | **533.20** | ft | 1 | 08/11/2025 14:10 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.18** | ft | 1 | 08/11/2025 14:10 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **12** | NTU | 1 | 08/11/2025 14:10 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **68.3** | °F | 1 | 08/11/2025 14:10 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.90** | | 1 | 08/11/2025 14:10 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **1630** | µmhos/cm @25C | 1 | 08/11/2025 14:10 | R369784 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0017** | mg/L | 5 | 08/19/2025 12:34 | 243589 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-007
**Client Sample ID:** P104
**Matrix:** GROUNDWATER
**Collection Date:** 08/11/2025 13:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **494.07** | ft | 1 | 08/11/2025 13:45 | R369784 |
| Depth to water | * | -5.00 | | **6.90** | ft | 1 | 08/11/2025 13:45 | R369784 |
| Depth to water from measuring point | * | 0 | | **9.54** | ft | 1 | 08/11/2025 13:45 | R369784 |
| Elevation of groundwater surface | * | 0 | | **522.25** | ft | 1 | 08/11/2025 13:45 | R369784 |
| Measuring Point Elevation | * | 0 | | **531.79** | ft | 1 | 08/11/2025 13:45 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.64** | ft | 1 | 08/11/2025 13:45 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **5.2** | NTU | 1 | 08/11/2025 13:45 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **66.2** | °F | 1 | 08/11/2025 13:45 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.30** | | 1 | 08/11/2025 13:45 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **495** | µmhos/cm @25C | 1 | 08/11/2025 13:45 | R369784 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0055** | mg/L | 5 | 08/20/2025 14:04 | 243589 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-008
**Client Sample ID:** P103
**Matrix:** GROUNDWATER
**Collection Date:** 08/11/2025 14:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **502.18** | ft | 1 | 08/11/2025 14:45 | R369784 |
| Depth to water | * | -5.00 | | **8.88** | ft | 1 | 08/11/2025 14:45 | R369784 |
| Depth to water from measuring point | * | 0 | | **11.84** | ft | 1 | 08/11/2025 14:45 | R369784 |
| Elevation of groundwater surface | * | 0 | | **525.59** | ft | 1 | 08/11/2025 14:45 | R369784 |
| Measuring Point Elevation | * | 0 | | **537.43** | ft | 1 | 08/11/2025 14:45 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **2.96** | ft | 1 | 08/11/2025 14:45 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **47** | NTU | 1 | 08/11/2025 14:45 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **69.7** | °F | 1 | 08/11/2025 14:45 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.97** | | 1 | 08/11/2025 14:45 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **902** | µmhos/cm @25C | 1 | 08/11/2025 14:45 | R369784 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0018** | mg/L | 5 | 08/20/2025 14:10 | 243589 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-009
**Client Sample ID:** GP-7
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 10:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **533.12** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Depth to water | * | -5.00 | | **5.85** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Depth to water from measuring point | * | 0 | | **8.89** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Elevation of groundwater surface | * | 0 | | **524.23** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Measuring Point Elevation | * | 0 | | **533.12** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.04** | ft | 1 | 08/12/2025 10:33 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **140** | NTU | 1 | 08/12/2025 10:33 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.8** | °F | 1 | 08/12/2025 10:33 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.78** | | 1 | 08/12/2025 10:33 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **884** | µmhos/cm @25C | 1 | 08/12/2025 10:33 | R369784 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0072** | mg/L | 5 | 08/15/2025 2:29 | 243361 |

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 10-Sep-25
**Lab ID:** 25080111-010
**Client Sample ID:** P04D
**Matrix:** GROUNDWATER
**Collection Date:** 08/11/2025 14:11

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **497.12** | ft | 1 | 08/11/2025 14:11 | R369784 |
| Depth to water | * | -5.00 | | **7.96** | ft | 1 | 08/11/2025 14:11 | R369784 |
| Depth to water from measuring point | * | 0 | | **12.99** | ft | 1 | 08/11/2025 14:11 | R369784 |
| Elevation of groundwater surface | * | 0 | | **526.68** | ft | 1 | 08/11/2025 14:11 | R369784 |
| Measuring Point Elevation | * | 0 | | **539.67** | ft | 1 | 08/11/2025 14:11 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **5.03** | ft | 1 | 08/11/2025 14:11 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **68** | NTU | 1 | 08/11/2025 14:11 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **70.4** | °F | 1 | 08/11/2025 14:11 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **7.01** | | 1 | 08/11/2025 14:11 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **881** | µmhos/cm @25C | 1 | 08/11/2025 14:11 | R369784 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0027** | mg/L | 5 | 08/20/2025 14:16 | 243589 |

# Receiving Check List

Teklab, Inc. Environmental Laboratory

http://www.teklabinc.com/

**Client:** City Water, Light & Power

**Work Order:** 25080111

**Client Project:** FGDS Landfill

**Report Date:** 10-Sep-25

**Carrier:** Daniel Crump

**Received By:** LEH

**Completed by:** Amber Dilallo
**On:** 12-Aug-25

**Reviewed by:** Elizabeth A. Hurley
**On:** 13-Aug-25

**Pages to follow:** Chain of custody 2 Extra pages included 18

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 11.1 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☑ | Lab ☐ | NA ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples were received on 8/11/25 at 1625 on ice [Cooler #2 = 11.1C and Cooler #3 = 16.1C - LTG#3]. Additional Nitric Acid (104844) was needed for R101, G121, G122, AW2 and P07D upon arrival at the laboratory. pH strip #104524. - JD/amberdilallo - 8/12/2025 9:06:13 AM

Samples were received on 8/12/25 at 1540 on ice [Cooler #1 = 5.3C, Cooler #2 = 4.7C, Cooler #3 = 3.7C and Cooler #4 = 4.3C - LTG#5]. pH strip #104524. - amberdilallo - 8/13/2025 8:17:51 AM

rint PD

# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 25080111

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 11.1 °C 3
Preserved in: ☒ LAB ☐ FIELD FOR LAB USE ONLY pH DH 8524
LAB NOTES: Added HNO3 (104844) 3/3 liters R101, G121, G122, AW2, P07D

Client Comments: 30 8/12/25
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

PROJECT NAME/NUMBER: FGDS Landfill
SAMPLE COLLECTOR'S NAME: Bret Gillihan

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | As (ICPMS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25080111-001 | R101 | 8-11-25 1218 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -002 | G121 | 8-11-25 1123 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -003 | G122 | 8-11-25 1212 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -004 | AW-2 | 8-11-25 1256 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -005 | P07D | 8-11-25 1123 | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -006 | P03D | 8-11-25 1410 | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -007 | P104 | 8-11-25 1345 | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -008 | P103 | 8-11-25 1445 | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -009 | GP-7 | | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -010 | P04D | 8-11-25 1411 | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-11 / 1625 | | 8/11/25 1625 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

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# CHAIN OF CUSTODY

Pg 1 of 1 Workorder # 25080111

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005 5.3, 4.7, 3.7

Client: City Water, Light & Power
Address: 3100 Stevenson Drive, 2nd Floor Maintenance Building
City/State/Zip: Springfield IL 62712
Contact: Eric Staley Phone: (217) 757-8610
Email: eric.staley@cwlp.com Fax:

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.3 °C 5
Preserved in: ☐ LAB ☒ FIELD FOR LAB USE ONLY
LAB NOTES: 104524 DM 8/13/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☑ No
Are these samples known to be hazardous? ☐ Yes ☑ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☑ Yes ☐ No Permit on file

**Client Comments:**
*elevations, pH, conductivity, temperature
**Sb As Se Li Tl (ICPMS) Ba Be B Cd Ca Cr Co Pb Hg Mo

**PROJECT NAME/NUMBER**
FGDS Landfill

**SAMPLE COLLECTOR'S NAME**
Payton Tock

**RESULTS REQUESTED**
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other _____ ☐ 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Field parameters* | Cl F SO4 TDS (T) | Metals (T)** | Radium-226 | Radium-228 | Field Turbidity | As (ICPMS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25080111-001 | R101 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -002 | G121 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -003 | G122 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -004 | AW-2 | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -005 | P07D | | Groundwater | 1 | 4 | | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| -006 | P03D | | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -007 | P104 | | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -008 | P103 | | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -009 | GP-7 | 8/12/25 1033 | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| -010 | P04D | | Groundwater | 1 | 1 | | | | | | | | ✔ | | | | | ✔ | ✔ |
| | | | Groundwater | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 8-12/1540 | | 8/12/25 1540 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** R101
**Sample ID:** 001
**Date (s):** 8/11/2025

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 84 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Locks | Yes | No |
|---|---|---|---|---|---|
| Well Pad | Good | | Protective Casing | | X |
| Casing | Good | | Well | | X |
| Protective Casing | Good | | | | |
| Reference Mark/Identification | Yes | | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 11:55 AM
Static Water Level: 7.49 feet below TOC
Total Depth: 35.27 feet below TOC
Water Column: 27.78 feet

**Purging Activities**

Purged By: DC Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 27.78 ft. x 0.022 = 0.61 L x 3 Vol. = 1.83 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:55 | 0.0 | 217 | purge start time | | | | | | |
| 12:06 | 2.4 | ↓ | 6.70 | 836.50 | 18.14 | 1.99 | 43.90 | 10.40 | |
| 12:09 | 3.0 | | 6.69 | 837.60 | 18.11 | 1.83 | 42.40 | 15.24 | |
| 12:12 | 3.7 | | 6.69 | 834.50 | 18.16 | 1.67 | 40.70 | 17.98 | |
| 12:15 | 4.3 | | 6.68 | 832.20 | 17.93 | 1.55 | 39.10 | 20.87 | |
| 12:18 | 5.0 | | 6.69 | 833.60 | 17.78 | 1.46 | 37.60 | 23.02 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 8/11/2025 12:18
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.69 pH 833.60 Spec. Cond. 17.78 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 7.51 feet below TOC Drawdown: 0.02 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** G121
**Sample ID:** 002
**Date (s):** 8/11/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 10:49 AM
Static Water Level: 28.85 feet below TOC
Total Depth: 58.56 feet below TOC
Water Column: 29.71 feet

**Purging Activities**

Purged By: AL Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 29.71 ft. x 0.022 = 0.65 L x 3 Vol. = 1.95 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Slightly cloudy Odor: Slight Color: light brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:49 | 0.0 | 88 | purge start time | | | | | | |
| 11:14 | 2.2 | ↓ | 6.77 | 1,651.80 | 20.65 | 4.82 | -109.80 | 14.32 | |
| 11:17 | 2.5 | | 6.76 | 1,653.50 | 20.46 | 4.71 | -109.70 | 13.48 | |
| 11:20 | 2.7 | | 6.76 | 1,651.10 | 20.81 | 4.79 | -108.90 | 14.14 | |
| 11:23 | 3.0 | | 6.76 | 1,654.40 | 20.92 | 4.75 | -107.60 | 13.86 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/11/2025 11:23
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.76 pH 1,654.40 Spec. Cond. 20.92 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 29.00 feet below TOC Drawdown: 0.15 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** G122
**Sample ID:** 003
**Date (s):** 8/11/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 11:51 AM
Static Water Level: 32.12 feet below TOC
Total Depth: 49.29 feet below TOC
Water Column: 17.17 feet

**Purging Activities**

Purged By: AL Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 17.17 ft. x 0.022 = 0.38 L x 3 Vol. = 1.14 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: gray

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:51 | 0.0 | 286 | purge start time | | | | | | |
| 12:03 | 3.4 | ↓ | 6.72 | 1,783.30 | 18.26 | 0.69 | -104.40 | 31.73 | |
| 12:06 | 4.3 | | 6.71 | 1,829.60 | 18.20 | 0.64 | -111.10 | 22.91 | |
| 12:09 | 5.1 | | 6.71 | 1,819.90 | 18.78 | 0.63 | -114.10 | 21.11 | |
| 12:12 | 6.0 | | 6.71 | 1,854.80 | 18.06 | 0.59 | -116.00 | 17.86 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/11/2025 12:12
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.71 pH 1,854.80 Spec. Cond. 18.06 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 32.31 feet below TOC Drawdown: 0.19 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** AW-2
**Sample ID:** 004
**Date (s):** 8/11/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 12:38 PM
Static Water Level: 6.02 feet below TOC
Total Depth: 32.64 feet below TOC
Water Column: 26.62 feet

**Purging Activities**

Purged By: AL Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 26.62 ft. x 0.022 = 0.59 L x 3 Vol. = 1.77 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Slightly cloudy Odor: Slight Color: light brown

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:38 | 0.0 | 222 | purge start time | | | | | | |
| 12:47 | 2.0 | ↓ | 6.88 | 1,199.00 | 21.32 | 1.19 | -135.10 | 2.12 | |
| 12:50 | 2.7 | | 6.88 | 1,195.90 | 21.21 | 1.04 | -136.30 | 2.59 | |
| 12:53 | 3.3 | | 6.87 | 1,198.20 | 21.68 | 0.99 | -136.70 | 3.64 | |
| 12:56 | 4.0 | | 6.87 | 1,198.00 | 22.23 | 0.97 | -135.50 | 4.90 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/11/2025 12:56
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.87 pH 1,198.00 Spec. Cond. 22.23 Temp
Field Filtered: Yes Filter Type: Inline Disposable
Water Level: 6.33 feet below TOC Drawdown: 0.31 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** P07D
**Sample ID:** 005
**Date (s):** 8/11/2025

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 83 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 10:52 AM
Static Water Level: 5.02 feet below TOC
Total Depth: 32.54 feet below TOC
Water Column: 27.52 feet

**Purging Activities**

Purged By: DC Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 27.52 ft. x 0.022 = 0.61 L x 3 Vol. = 1.83 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:52 | 0.0 | 194 | purge start time | | | | | | |
| 11:11 | 3.7 | ↓ | 6.67 | 973.80 | 18.71 | 1.29 | -47.50 | 43.47 | |
| 11:14 | 4.3 | | 6.67 | 958.90 | 18.90 | 1.25 | -50.90 | 37.46 | |
| 11:17 | 4.8 | | 6.67 | 947.80 | 19.27 | 1.23 | -53.80 | 37.54 | |
| 11:20 | 5.4 | | 6.67 | 948.30 | 19.81 | 1.24 | -56.30 | 32.14 | |
| 11:23 | 6.0 | | 6.67 | 931.20 | 19.37 | 1.23 | -58.80 | 34.99 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 8/11/2025 11:23
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.67 pH 931.20 Spec. Cond. 19.37 Temp
Field Filtered: No Filter Type:
Water Level: 5.21 feet below TOC Drawdown: 0.19 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** P03D
**Sample ID:** 006
**Date (s):** 8/11/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 1:53 PM
Static Water Level: 8.65 feet below TOC
Total Depth: 38.25 feet below TOC
Water Column: 29.60 feet

**Purging Activities**

Purged By: AL Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 29.6 ft. x 0.022 = 0.65 L x 3 Vol. = 1.95 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:53 | 0.0 | 235 | purge start time | | | | | | |
| 14:01 | 1.9 | ↓ | 6.90 | 1,632.10 | 20.00 | 1.13 | -11.70 | 8.38 | |
| 14:04 | 2.6 | | 6.90 | 1,615.30 | 20.04 | 1.04 | -11.10 | 8.89 | |
| 14:07 | 3.3 | | 6.90 | 1,630.80 | 20.52 | 1.07 | -11.60 | 10.72 | |
| 14:10 | 4.0 | | 6.90 | 1,628.40 | 20.15 | 0.98 | -13.20 | 11.67 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/11/2025 14:10
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.90 pH 1,628.40 Spec. Cond. 20.15 Temp
Field Filtered: No Filter Type:
Water Level: 8.85 feet below TOC Drawdown: 0.20 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** P104
**Sample ID:** 007
**Date (s):** 8/11/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 85 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Damaged |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 1:25 PM
Static Water Level: 9.54 feet below TOC
Total Depth: 37.72 feet below TOC
Water Column: 28.18 feet

**Purging Activities**

Purged By: AL Purge Date: 8/11/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 28.18 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: Slight Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:25 | 0.0 | 200 | purge start time | | | | | | |
| 13:36 | 2.2 | ↓ | 7.29 | 494.10 | 19.02 | 1.24 | -120.70 | 5.62 | |
| 13:39 | 2.8 | | 7.30 | 493.20 | 19.20 | 1.17 | -126.70 | 6.82 | |
| 13:42 | 3.4 | | 7.30 | 494.70 | 19.15 | 1.11 | -129.20 | 5.23 | |
| 13:45 | 4.0 | | 7.30 | 495.40 | 19.02 | 1.05 | -130.80 | 5.16 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/11/2025 13:45
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.30 pH 495.40 Spec. Cond. 19.02 Temp
Field Filtered: No Filter Type:
Water Level: 12.02 feet below TOC Drawdown: 2.48 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612
- Rusted casing

**Form Completed By:** Allison Lampe **Date:** 8/11/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | P103 |
| **Project Location:** | Springfield, IL | **Sample ID:** | 008 |
| **W.O. Number (s):** | 25080111 | **Date (s):** | 8/11/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 88 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | **Locks** | | |
| Casing | Good | Protective Casing | | X |
| Protective Casing | Good | Well | | X |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 2:25 PM

Static Water Level: 11.84 feet below TOC

Total Depth: 35.25 feet below TOC

Water Column: 23.41 feet

**Purging Activities**

Purged By: DC Purge Date: 8/11/2025

Purge Method: Peristaltic Pump Well Diameter: 3"

Purge Volume Calculation (L): 23.41 ft. x 0.022 = 0.52 L x 3 Vol. = 1.56 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 14:25 | 0.0 | 250 | purge start time | | | | | | |
| 14:33 | 2.0 | ↓ | 6.99 | 890.00 | 21.44 | 1.68 | 90.20 | 77.54 | |
| 14:36 | 2.8 | | 6.98 | 894.00 | 21.38 | 1.55 | 87.90 | 81.66 | |
| 14:39 | 3.5 | | 6.98 | 895.10 | 21.22 | 1.47 | 86.00 | 78.69 | |
| 14:42 | 4.3 | | 6.97 | 897.70 | 21.04 | 1.39 | 84.40 | 65.46 | |
| 14:45 | 5.0 | | 6.97 | 901.70 | 20.95 | 1.34 | 83.00 | 47.18 | |

**Sampling Activities**

Sampled By: DC Sample Date/Time: 8/11/2025 14:45

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.97 pH 901.70 Spec. Cond. 20.95 Temp

Field Filtered: No Filter Type:

Water Level: 11.91 feet below TOC Drawdown: 0.07 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/11/2025

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** GP-7
**Sample ID:** 009
**Date (s):** 8/12/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 84 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 10:14 AM
Static Water Level: 8.89 feet below TOC
Total Depth: 40.52 feet below TOC
Water Column: 31.63 feet

**Purging Activities**

Purged By: AL Purge Date: 8/12/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 31.63 ft. x 0.022 = 0.7 L x 3 Vol. = 2.1 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:14 | 0.0 | 158 | purge start time | | | | | | |
| 10:24 | 1.6 | ↓ | 6.86 | 790.50 | 18.48 | 1.41 | -64.50 | 44.92 | |
| 10:27 | 2.1 | | 6.87 | 793.20 | 18.35 | 1.21 | -73.40 | 60.69 | |
| 10:30 | 2.5 | | 6.85 | 829.00 | 18.23 | 1.06 | -83.20 | 90.05 | |
| 10:33 | 3.0 | | 6.78 | 884.20 | 18.22 | 0.94 | -98.90 | 136.81 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/12/2025 10:33
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.78 pH 884.20 Spec. Cond. 18.22 Temp
Field Filtered: No Filter Type:
Water Level: 9.35 feet below TOC Drawdown: 0.46 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/12/2025

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | P04D |
| **Project Location:** | Springfield, IL | **Sample ID:** | 010 |
| **W.O. Number (s):** | 25080111 | **Date (s):** | 8/11/2025 |

**Field Team Members**

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | | Locks | Yes | No |
|---|---|---|---|---|
| Well Pad | Good | Protective Casing | | X |
| Casing | Good | Well | | X |
| Protective Casing | Good | | | |
| Reference Mark/Identification | Yes | | | |

**Groundwater Level Measurements**

Date/Time Measured: 8/11/25 1:47 PM

Static Water Level: 12.99 feet below TOC

Total Depth: 42.55 feet below TOC

Water Column: 29.56 feet

**Purging Activities**

Purged By: DC Purge Date: 8/11/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 29.56 ft. x 0.022 = 0.65 L x 3 Vol. = 1.95 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Slightly cloudy Odor: None Color: Clear

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:47 | 0.0 | 208 | purge start time | | | | | | |
| 13:59 | 2.5 | ↓ | 7.16 | 683.80 | 21.23 | 3.43 | 62.90 | 48.65 | |
| 14:02 | 3.1 | | 7.13 | 688.10 | 21.22 | 3.37 | 64.40 | 46.37 | |
| 14:05 | 3.8 | | 7.07 | 712.70 | 21.29 | 3.21 | 68.20 | 42.87 | |
| 14:08 | 4.4 | | 7.01 | 743.80 | 21.30 | 2.97 | 73.60 | 38.34 | |
| 14:11 | 5.0 | | 6.93 | 803.30 | 21.28 | 2.65 | 80.40 | 36.19 | |
| 14:14 | 5.6 | | 7.41 | 22.00 | 21.81 | 8.43 | 81.00 | 4.41 | |
| 14:17 | 6.2 | | 7.80 | 20.00 | 23.08 | 8.93 | 74.40 | 4.54 | |
| 14:20 | 6.9 | | 7.93 | 25.80 | 25.27 | 8.89 | 69.90 | 4.53 | |
| 14:23 | 7.5 | | 8.05 | 22.20 | 26.65 | 8.70 | 65.70 | 4.60 | |
| 14:26 | 8.1 | | 7.43 | 965.50 | 21.44 | 5.71 | 89.10 | 70.66 | |
| 14:29 | 8.8 | | 7.07 | 853.50 | 20.43 | 2.14 | 92.80 | 73.21 | |
| 14:32 | 9.4 | | 7.01 | 881.10 | 21.36 | 1.79 | 91.20 | 68.13 | |

**Sampling Activities**

Sampled By: BG Sample Date/Time: 8/11/2025 14:11

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.01 pH 881.10 Spec. Cond. 21.36 Temp

Field Filtered: No Filter Type:

Water Level: 13.05 feet below TOC Drawdown: 0.06 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46868

**Form Completed By:** Brett Gillihan **Date:** 8/11/2025

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25080111
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46868 Technician(s): B. Gillihan Date: 8/11/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 8/11/25 10:09 |
| 7.0 Buffer | WC240918A | 7.00 | 8/11/25 9:59 |
| 10.0 Buffer | WC240625A | 10.00 | 8/11/25 10:15 |
| LCS/CCV (7.0 Buffer) | WC250407A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1411 | 8/11/25 10:26 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.31 | 8/11/25 10:28 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-BG | LCS | 8/11/25 10:28 | 21.7 | 7.02 | 1,414 | 0.34 | | |
| CCV-1-BG | CCV | 8/11/25 15:01 | 23.3 | 7.02 | 1,417 | 0.39 | | |

**Comments:**

Field Meter ID: Pine 46868 Technician(s): B. Gillihan Date: 8/12/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | |
| 7.0 Buffer | WC240918A | 7.00 | 8/12/25 8:49 |
| 10.0 Buffer | WC240625A | 10.00 | 8/12/25 8:55 |
| LCS/CCV (7.0 Buffer) | WC250407A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1415 | 8/12/25 9:01 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.17 | 8/12/25 9:06 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-BG | LCS | 8/12/25 9:08 | 22.6 | 7.02 | 1,418 | 0.2 | | |
| CCV-2-BG | CCV | 8/12/25 14:07 | 24.3 | 7.03 | 1,422 | 0.29 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25080111
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46868 B. Gillihan Date: 8/13/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250102A | 4.00 | 8/13/25 9:04 |
| 7.0 Buffer | WC240918A | 7.00 | 8/13/25 8:58 |
| 10.0 Buffer | WC240625A | 10.00 | 8/13/25 9:13 |
| LCS/CCV (7.0 Buffer) | WC250407A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1415 | 8/13/25 9:18 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.37 | 8/13/25 9:19 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. bb |
|---|---|---|---|---|---|---|---|---|
| LCS-3-BG | LCS | 8/13/25 9:28 | 23.4 | 7.01 | 1,435 | 0.63 | | |
| CCV-3-BG | CCV | 8/13/25 12:39 | 24.7 | 7.03 | 1,444 | 0.55 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25080111
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46864 Technician(s): justin colp Date: 8/12/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 8/12/25 9:03 |
| 7.0 Buffer | wc250407a | 7.00 | 8/12/25 9:00 |
| 10.0 Buffer | wc240625a | 10.00 | 8/12/25 9:06 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/12/25 9:11 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.91 | 8/12/25 9:12 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-JC | LCS | 8/12/25 9:12 | 23.8 | 7.01 | 1,397 | 1.87 | | |
| CCV-1-JC | CCV | 8/12/25 13:41 | 26.4 | 7.04 | 1,382 | 2.03 | | |

**Comments:**

Field Meter ID: Pine 46864 Technician(s): justin colp Date: 8/13/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | wc250102a | 4.00 | 8/13/25 8:54 |
| 7.0 Buffer | wc250407a | 7.00 | 8/13/25 8:49 |
| 10.0 Buffer | wc240625a | 10.00 | 8/13/25 8:58 |
| LCS/CCV (7.0 Buffer) | wc240918a | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/13/25 9:04 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 1.95 | 8/13/25 9:04 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-JC | LCS | 8/13/25 9:06 | 23.6 | 7.03 | 1,410 | 1.92 | | |
| CCV-2-JC | CCV | 8/13/25 13:00 | 24.2 | 6.97 | 1,388 | 2.03 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25080111
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45612 Technician(s): A.Lampe Date: 8/11/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250429L | 4.00 | 8/11/25 10:09 |
| 7.0 Buffer | WC250407A | 7.00 | 8/11/25 10:11 |
| 10.0 Buffer | Wc240625A | 10.00 | 8/11/25 10:15 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/11/25 10:19 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.13 | 8/11/25 10:19 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-1-AL | LCS | 8/11/25 10:21 | 21.9 | 7.07 | 1,416 | 0.13 | | |
| CCV-1-AL | CCV | 8/11/25 14:16 | 25.7 | 7.09 | 1,412 | 0.23 | | |

**Comments:**

Field Meter ID: Pine 45612 Technician(s): A.Lampe Date: 8/12/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250429L | 4.00 | 8/12/25 9:11 |
| 7.0 Buffer | WC250407A | 7.00 | 8/12/25 9:15 |
| 10.0 Buffer | Wc240625A | 10.00 | 8/12/25 9:20 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/12/25 9:25 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.24 | 8/12/25 9:25 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-2-AL | LCS | 8/12/25 9:31 | 25.8 | 7.09 | 1,418 | 0.24 | | |
| CCV-2-AL | CCV | 8/12/25 14:14 | 27.5 | 7.09 | 1,420 | 0.21 | | |

**Comments:**

**Site Samping Event:** FGDS Landfill
**LIMS Workorder:** 25080111
**Technician(s):** DC, JC, BG, AL, JR, PY

**Field Calibration Log(s)**
**CWLP- 3Q 2025**

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45612 Technician(s): A.Lampe Date: 8/13/2025

| pH Standards | LIMS ID | Calibration reading | Date/Time |
|---|---|---|---|
| 4.0 Buffer | WC250429L | 4.00 | 8/13/25 9:06 |
| 7.0 Buffer | WC250407A | 7.00 | 8/13/25 9:10 |
| 10.0 Buffer | Wc240625A | 10.00 | 8/13/25 9:13 |
| LCS/CCV (7.0 Buffer) | WC240918A | | |

| Conductivity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 1,412 µS Std. | 105373 | 1412 | 8/13/25 9:16 |

| Turbidity Standard | LIMS ID | Reading | Date/Time |
|---|---|---|---|
| 0 NTU (DI Water) | 1 | 0.12 | 8/13/25 9:17 |
| 124 NTU | 95834 | | |

| ORP Standard | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| | | | |

| D.O. Saturation | LIMS ID/Lot# | Reading | Date/Time |
|---|---|---|---|
| 100% | N/A | | |

| Sample ID | Sample Type | Date/Time | Temp. °C | pH S.U. | Conductivity µS | Turbidity NTU | ORP mV | D.O. % |
|---|---|---|---|---|---|---|---|---|
| LCS-3-AL | LCS | 8/13/25 9:16 | 25.3 | 7.09 | 1,413 | 0.12 | | |
| CCV-3-AL | CCV | 8/13/25 12:35 | 27.6 | 7.09 | 1,406 | 0.14 | | |

**Comments:**

# APPENDIX H:

## Boring Log/Well Completion Report and Laboratory Report for P06D

# PATRICK ENGINEERING INC.

BORING NUMBER **P-6D** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,717.0 E 2,186.8**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.8 | 0.0 | | Brown silty clay, trace to little fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | | 22.2 | |
| | | | Mottled at 2.0' | SS-2 2.0-4.0 18"R | 2 1 2 3 | ✳ 21.2 | |
| | | | | SS-3 4.0-6.0 20"R | 1 1 2 2 | ✳ 21.7 | |
| 518.3 | 6.5 | | | SS-4AB 6.0-8.0 18"R | 1 2 2 2 | ✳ 22.0 | |
| 517.3 | 7.5 | | Brown, clayey, fine sand, little to some silt, loose, poorly graded, saturated SC | | | ✳ 25.4 | Water level at 6.0' during drilling. |
| | | | Brown mottled silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-5 8.0-10.0 10"R | 1 1 2 2 | ✳ 21.7 | Wood fragments in SS-5. |
| 514.8 | 10.0 | | Gray silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | SS-6 10.0-12.0 20"R | 3 1 1 1 | ✳ 29.8 | |
| | | | | SS-7 12.0-14.0 20"R | 2 2 2 2 | ✳ 28.3 | |
| | | | | SS-8 14.0-16.0 22"R | 1 2 4 3 | ✳ 24.1 | |
| | | | | SS-9 16.0-18.0 24"R | 2 2 2 2 | ✳ 24.7 | |
| | | | | 3T-10 18.0-20.0 24"R | | ✳ | |
| 504.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

REMARKS
**WOH = Weight of Hammer**

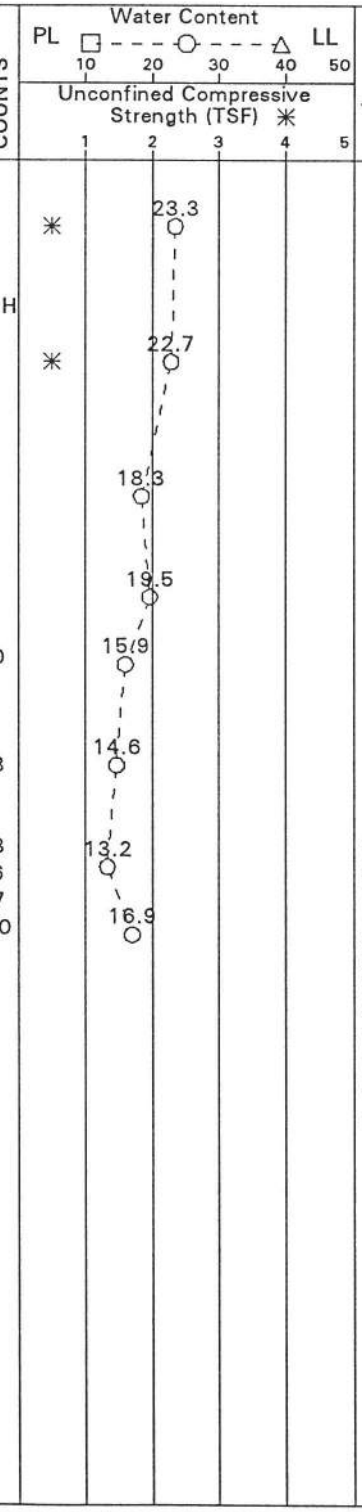
WATER LEVEL (ft.)
▽ **6.0'** during drilling
▼ **1.0'** after drilling

# PATRICK ENGINEERING INC.

BORING NUMBER P-6D SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,717.0 E 2,186.8

LOGGED BY KRR
GROUND ELEVATION 524.8

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 504.8 | 20.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | 1 2 2 1 |
| | | | | SS-12 22.0-24.0 24"R | WOH 1 2 1 |
| 501.8 | 23.0 | | Little fine sand in SS-12 Gray clayey silt, trace fine sand, loose, wet to saturated CL-ML/ML | SS-13 24.0-26.0 24"R | 2 3 4 4 |
| | | | | SS-14AB 26.0-28.0 24"R | 4 4 7 10 |
| 497.3 | 27.5 | | | | |
| 496.8 | 28.0 | | Gray fine sand, trace coarse to medium sand, some silt, medium dense, poorly graded, saturated SM | SS-15 28.0-30.0 24"R | 7 7 18 9 |
| | | | Gray coarse to fine sand, trace coarse to fine gravel, some silt, medium dense, well graded, saturated SM | SS-16AB 30.0-32.0 22"R | 13 16 17 100 + |
| 493.3 | 31.5 | | | | |
| 492.8 | 32.0 | | Gray shale | | |
| | | | End of Boring at 32.0' | | |




NOTES & TEST RESULTS

Water level at 1.0' immediately after drilling.
Piezometer was installed immediatley after completion of drilling.
Refer to As-Built Diagram P-6D for more information.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

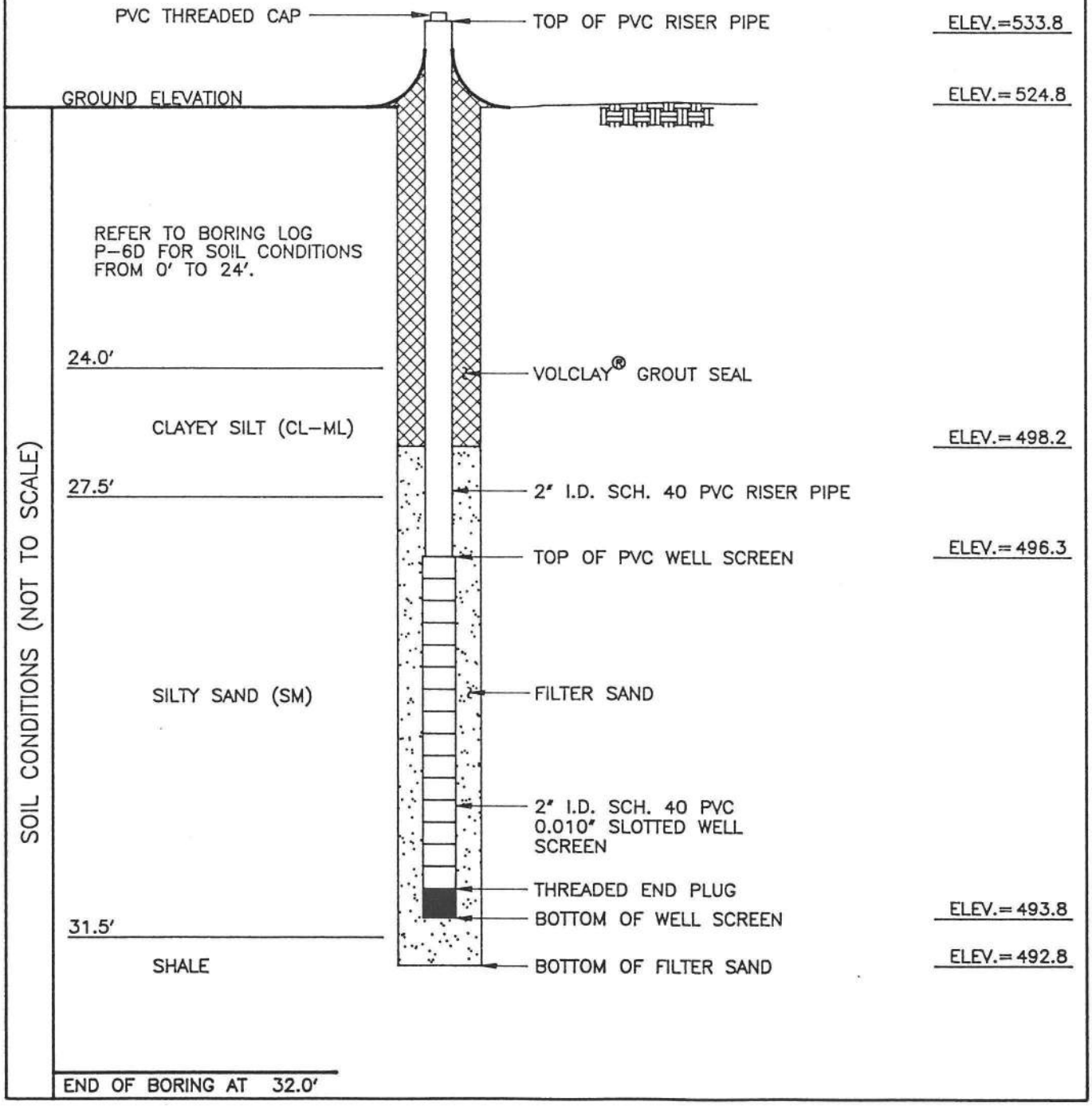
REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **6.0'** during drilling.
▼ **1.0'** after drilling.

| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-6D<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

BORING NO. P-6D
LOCATION N 4717.0
E 2186.8
INSTALLATION DATE 8/12/92
WEATHER SUNNY, 70'S



April 22, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 25030753

Dear Eric Staley:

TEKLAB, INC received 9 samples on 3/18/2025 3:05:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Work Order:** 25030753
**Client Project:** FGDS Landfill
**Report Date:** 22-Apr-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 16 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 25030753

**Client Project:** FGDS Landfill **Report Date:** 22-Apr-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 25030753
**Client Project:** FGDS Landfill
**Report Date:** 22-Apr-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25030753
**Report Date:** 22-Apr-25

**Cooler Receipt Temp:** 13.7 °C

An employee of Teklab, Inc. collected the sample(s).

Radium 226/228 analysis was performed by Alliance Technical Group. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 25030753
**Client Project:** FGDS Landfill
**Report Date:** 22-Apr-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2025 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2025 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 25030753
**Client Project:** FGDS Landfill
**Report Date:** 22-Apr-25
**Lab ID:** 25030753-004
**Client Sample ID:** P06D
**Matrix:** GROUNDWATER
**Collection Date:** 03/18/2025 11:45

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 1.0 | | **15.3** | µg/L | 5 | 03/24/2025 11:59 | 236195 |

# Field Data Sheet

| | | | |
|---|---|---|---|
| **Project Name:** | FGDS Landfill | **Monitoring Point:** | P06D |
| **Project Location:** | Springfield, IL | **Sample ID:** | 004 |
| **W.O. Number (s):** | 25030753 | **Date (s):** | 3/18/2025 |

**Field Team Members**

Name: Tracy Carroll Affiliation: TekLab, Inc.

Name: Affiliation:

**Weather Conditions**

Temp: 58 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| **Locks** | Yes | No |
|---|---|---|
| Protective Casing | | X |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 3/18/2025 11:22

Static Water Level: 2.64 feet below TOC

Total Depth: 37.42 feet below TOC

Water Column: 34.78 feet

**Purging Activities**

Purged By: TC Purge Date: 3/18/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 34.78 ft. x 0.022 = 0.77 L x 3 Vol. = 2.31 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear Odor: None Color: None

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:24 | 0.0 | 333 | purge start time | | | | | | |
| 11:33 | 3.0 | ↓ | 6.82 | 998.90 | 13.67 | 1.30 | -87.00 | 4.78 | |
| 11:36 | 4.0 | | 6.80 | 999.80 | 13.73 | 1.12 | -97.80 | 4.28 | |
| 11:39 | 5.0 | | 6.79 | 1,000.80 | 14.15 | 1.00 | -104.70 | 4.28 | |
| 11:42 | 6.0 | | 6.79 | 1,001.90 | 14.07 | 0.91 | -109.30 | 4.81 | |
| 11:45 | 7.0 | | 6.79 | 1,002.70 | 14.44 | 0.83 | -113.00 | 6.76 | |

**Sampling Activities**

Sampled By: TC Sample Date/Time: 3/18/2025 11:45

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.79 pH 1,002.70 Spec. Cond. 14.44 Temp

Field Filtered: No Filter Type:

Water Level: 2.87 feet below TOC Drawdown: 0.23 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210756

**Form Completed By:** Tracy Carroll **Date:** 3/18/2025

# APPENDIX I:

## Boring Log/Well Completion Report and Laboratory Report for GP-7

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water Light and Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 80's F, Sunny

**Boring Information:**
Boring No: GP7
Well No: GP7
Surf Elev.: 0

**Depth Information:**
Total: 36.5
Auger: 36.5
Core: N/A

**Drilling Contractor:**
Contractor Name: Bulldog Drilling, Inc.
City: Dupo, IL
Equipment: AMS PowerProbe 9500 w/ 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: J. Edwards
Helper(s): S. Guy

**Dates:**
Start: 5/16/19
Finish: 5/16/19

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | | | | | | | Dark brown clayey silt TOPSOIL, moist, moderately loose. | |
| | | | | | | | Brown/gray silty CLAY to clayey SILT, moist, stiff, trace sand. | |
| | 1 | | 4.1/5 | | | | | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 4.0/4 | | | | | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 4.0/4 | | | | | |
| | | | | | | | Gray silty CLAY, moist, stiff. | |
| 15 | 4 | | 2.7/4 | | | | | -15.0 |
| | | | | | | | 17.0 - 18.0: Soft, saturated. | |
| | | | | | | | 18.0 - 25.0: moderately loose to moderately stiff. | |
| | 5 | | 4.0/4 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes: Refusal at 36.50'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP7** Boring No: GP7 Well No: GP7

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | (cont.) Gray silty CLAY, moist, stiff. | |
| | 6 | | 4.0/4 | | | | 23.0 - 25.0: gray to brown/gray. | |
| 25 | | | | | | | Dark gray silty CLAY, moist, moderately stiff; some sand. | -25.0 |
| | 7 | | 3.1/4 | | | | | |
| | | | | | | | Dark gray silty SAND, fine-grained, wet, loose, some clay. | |
| 30 | 8 | | 3.7/4 | | | | | -30.0 |
| | 9 | | 3.5/ 3.5 | | | | | |
| 35 | | | | | | | | -35.0 |
| | | | | | | | Gray to dark gray SHALE, weathered, soft, dry. | |
| | | | | | | | End of Boring = 36.5 Feet | |
| 40 | | | | | | | | -40.0 |

Notes: Refusal at 36.50'

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: T4S

Site Name: FGDS Development Borehole #: T4S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 36 ' 3 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB, 2 ' split spoon Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/20/2025 Date Well Finished: 5/20/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

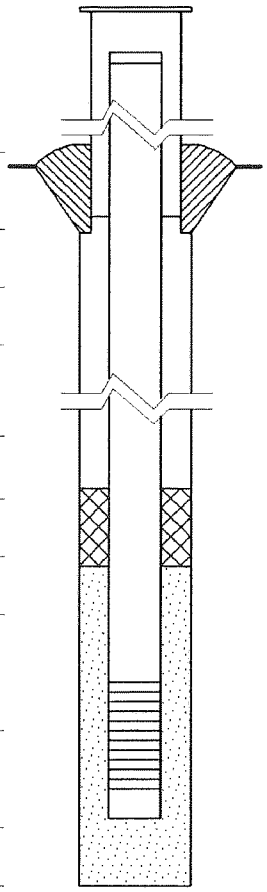
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | 549.25 | -2.5 |
| Top of Riser Pipe | 549.04 | -2.29 |
| Ground Surface | 546.75 | 0.0 |
| Top of Annular Sealant | | |
| Static Water Level Measured on (after completion) | | |
| Top of Seal | 544.75 | 2.0 |
| Top of Sandpack | 538.85 | 7.9 |
| Top of Screen | 536.83 | 9.93 |
| Bottom of Screen | 532.15 | 14.6 |
| Bottom of Well | 531.75 | 15.0 |
| Bottom of Borehole | 531.75 | 15.0 |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 12.21 |
| Bottom of Screen to End Cap (ft) | 0.4 |
| Screen Length (1st slot to last slot) (ft) | 4.68 |
| Total Length of Casing (ft) | 17.29 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

August 21, 2025

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10438 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** FGDS Landfill **WorkOrder:** 25080111

Dear Eric Staley:

TEKLAB, INC received 10 samples on 8/12/2025 3:40:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Client Project:** FGDS Landfill

**Work Order:** 25080111
**Report Date:** 21-Aug-25

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 17 |
| Chain of Custody | Appended |


PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power

**Work Order:** 25080111

**Client Project:** FGDS Landfill

**Report Date:** 21-Aug-25

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

PRELIMINARY REPORT

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**Client:** City Water, Light & Power

**Work Order:** 25080111

**Client Project:** FGDS Landfill

**Report Date:** 21-Aug-25

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power

**Client Project:** FGDS Landfill

**Work Order:** 25080111

**Report Date:** 21-Aug-25

**Cooler Receipt Temp:** 11.1 °C

An employee of Teklab, Inc. collected the sample(s).

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com


PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power

**Client Project:** FGDS Landfill

**Work Order:** 25080111

**Report Date:** 21-Aug-25

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2026 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2026 | Collinsville |
| Kansas | KDHE | E-10438 | NELAP | 7/31/2026 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2026 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2026 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2026 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2025 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2026 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | KWLCP | KY98050 | | 12/31/2025 | Collinsville |
| Kentucky | KWLCP | KY98006 | | 12/31/2025 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2026 | Collinsville |
| Mississippi | MSDH | | | 4/30/2026 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2028 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

**Client:** City Water, Light & Power
**Work Order:** 25080111
**Client Project:** FGDS Landfill
**Report Date:** 21-Aug-25
**Lab ID:** 25080111-009
**Client Sample ID:** GP-7
**Matrix:** GROUNDWATER
**Collection Date:** 08/12/2025 10:33

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|
| **FIELD ELEVATION MEASUREMENTS** | | | | | | | | |
| Bottom of well elevation | * | 0 | | **533.12** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Depth to water | * | -5.00 | | **5.85** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Depth to water from measuring point | * | 0 | | **8.89** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Elevation of groundwater surface | * | 0 | | **524.23** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Measuring Point Elevation | * | 0 | | **533.12** | ft | 1 | 08/12/2025 10:33 | R369784 |
| Measuring Point Height Above Land Surface | * | 0 | | **3.04** | ft | 1 | 08/12/2025 10:33 | R369784 |
| **STANDARD METHODS 2130 B FIELD** | | | | | | | | |
| Turbidity | * | 1.0 | | **140** | NTU | 1 | 08/12/2025 10:33 | R369784 |
| **STANDARD METHODS 2550 B FIELD** | | | | | | | | |
| Temperature | * | 0 | | **64.8** | °F | 1 | 08/12/2025 10:33 | R369784 |
| **SW-846 9040B** | | | | | | | | |
| pH, Field | * | 1.00 | | **6.78** | | 1 | 08/12/2025 10:33 | R369784 |
| **SW-846 9050A** | | | | | | | | |
| Spec. Conductance, Field | * | 1.00 | | **884** | µmhos/cm @25C | 1 | 08/12/2025 10:33 | R369784 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | |
| Arsenic | NELAP | 0.0010 | | **0.0072** | mg/L | 5 | 08/15/2025 2:29 | 243361 |

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.

# Field Data Sheet

**Project Name:** FGDS Landfill
**Project Location:** Springfield, IL
**W.O. Number (s):** 25080111
**Monitoring Point:** GP-7
**Sample ID:** 009
**Date (s):** 8/12/2025

**Field Team Members**

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

**Weather Conditions**

Temp: 84 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

**Well Observations**

| | |
|---|---|
| Well Pad | Good |
| Casing | Good |
| Protective Casing | Good |
| Reference Mark/Identification | Yes |

| Locks | Yes | No |
|---|---|---|
| Protective Casing | X | |
| Well | | X |

**Groundwater Level Measurements**

Date/Time Measured: 8/12/25 10:14 AM
Static Water Level: 8.89 feet below TOC
Total Depth: 40.52 feet below TOC
Water Column: 31.63 feet

**Purging Activities**

Purged By: AL Purge Date: 8/12/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 31.63 ft. x 0.022 = 0.7 L x 3 Vol. = 2.1 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: none

| Purge Time | Cumulative Purge Vol.(L) | Purge Rate (mL/m) | pH (S.U.) | Specific Conductivity (µS/cm) | Temp (°C) | Dissolved Oxygen (mg/L) | ORP (mV) | Turbidity (NTU) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:14 | 0.0 | 158 | purge start time | | | | | | |
| 10:24 | 1.6 | ↓ | 6.86 | 790.50 | 18.48 | 1.41 | -64.50 | 44.92 | |
| 10:27 | 2.1 | | 6.87 | 793.20 | 18.35 | 1.21 | -73.40 | 60.69 | |
| 10:30 | 2.5 | | 6.85 | 829.00 | 18.23 | 1.06 | -83.20 | 90.05 | |
| 10:33 | 3.0 | | 6.78 | 884.20 | 18.22 | 0.94 | -98.90 | 136.81 | |

**Sampling Activities**

Sampled By: PY Sample Date/Time: 8/12/2025 10:33
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.78 pH 884.20 Spec. Cond. 18.22 Temp
Field Filtered: No Filter Type:
Water Level: 9.35 feet below TOC Drawdown: 0.46 feet

**Observations/Comments:** (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

**Form Completed By:** Allison Lampe **Date:** 8/12/2025

# **Appendix J**:
# Flow Path Report

**City Water, Light & Power**
**Springfield, Illinois**

**CCR Surface Impoundments and**
**FGDS Unit 2 Landfill**

# Flow Path Report

**September 2025**

*Prepared for:*
City Water, Light & Power
3100 Stevenson Drive
Springfield, Illinois

ANDREWS ENGINEERING

3300 Ginger Creek Drive, Springfield, IL 62711 | 217.787.2334

ILLINOIS | MISSOURI | INDIANA

# EXECUTIVE SUMMARY

This Flow Path Report is prepared in accordance with paragraphs 263 and 280 of the January 14, 2025 Consent Agreement and Final Order (CAFO). The purpose of this report is to fully characterize groundwater flow paths from the CCR surface impoundments and the FGDS Disposal Facility, evaluate potential preferential pathways including the abandoned creek beneath the Dallman Ash Pond and discontinuous shallow sand, assess the potential for contact between coal combustion residuals (CCR) and groundwater after closure, and demonstrate the absence of hydraulic communication between geologic units that could facilitate contaminant transport. This report integrates site-specific geologic, hydrogeologic, and construction data, including boring logs, well installation records, groundwater monitoring results, transducer data, hydrogeologic cross-sections, static groundwater elevations, pool elevations for Lake Springfield, the clarification pond, and Sugar Creek, and potentiometric surface maps and slug testing results for hydraulic conductivity.

Key findings include:

- The abandoned creek bed beneath the Dallman Ash Pond perimeter berms and the Unit 2 Landfill has been filled and compacted during construction, precluding it from acting as a preferential pathway. Historical aerial photographs and topographic maps (United Stated Geological Survey) do not show Sugar Creek being recently present beneath the Lakeside Ash Pond.
- Current groundwater movement is generally radial from the impoundments toward Sugar Creek, with an eastward component along the eastern portion of the site toward the FGDS Landfill, then northward toward Sugar Creek.
- The shallow sand unit, which is discontinuous, was largely removed during Dallman Ash Pond construction and Sugar Creek relocation and does not serve as a primary contaminant pathway.
- The potentiometric surfaces in the shallow sand piezometers do not reflect direct connection to the impoundments, indicating hydraulic separation, particularly along the northern periphery of the Dallman Ash Pond.
- Post-closure, CCR is not anticipated to be in contact with groundwater due to the confining properties of the lower cohesive unit.
- Construction of the impoundments did not occur below the potentiometric surfaces due to hydrogeologic properties of the sediments and complexities of building structures in wet or saturated conditions.
- Nested well group AP-15S/AP-15D is proposed to be added to the monitor well system; the Groundwater Monitoring Program will be updated accordingly.

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# 1. INTRODUCTION

## 1.1 Purpose and Scope

Pursuant to Paragraphs 263 and 280 of the CAFO, City Water, Light and Power (CWLP) agreed to prepare a Flow Path Report that includes all applicable data used to determine the groundwater flow paths for the CCR Surface Impoundments and Flue Gas Desulfurization System (FGDS) Unit 2 Landfill.

This Flow Path Report focuses on groundwater flow dynamics, geologic barriers, and potential pathways to address these items. It integrates data from historical site investigations, construction records, groundwater monitoring and recent assessments. Data collection includes semiannual monitoring and transducer deployments for groundwater level monitoring events.

## 1.2 Site Background

CWLP owns two existing CCR surface impoundments and a CCR landfill subject to the U.S. EPA Standards for the Disposal of Coal Combustion Residuals (40 CFR 257). The CWLP CCR surface impoundments and FGDS Unit 2 Landfill are located north and east of the former Lakeside Power Generating Station and Dallman Power Generating Station in the Eastern ½ of Section 12, Township 15 North, Range 5 West, in Springfield, Illinois (see Figure 1). The CCR surface impoundments are identified as the Lakeside Ash Pond and the Dallman Ash Pond and the CCR landfill is identified as Unit 2 of the Flue Gas Desulfurization Sludge (FGDS) Landfill (see Figure 2). Depicted in Figure 3 is the 1936 pre-CCR impoundment conditions of the CWLP facility looking to the north-northeast.

The Lakeside Ash Pond was placed into service prior to 1958 and ceased receiving ash in 2009. It has been divided into four separate ponds, three lime sludge ponds (out of service since October 13, 2023) and the settling pond consisting of approximately 35.0 acres. The Lakeside Ash Pond formerly received lime sludge from the CWLP Drinking Water Purification Plant, scrubber wastewater treatment plant clarifier blowdown and water from miscellaneous floor drains. Construction of new concrete-lined lime sludge ponds were completed and began operation simultaneously with the cessation of the use of Lakeside Ash Pond.

The Dallman Ash Pond was placed into service in 1976 and is approximately 34.5 acres. The Dallman Ash Pond formerly received fly ash and bottom ash, which were sluiced with raw lake water, industrial wastewater treatment plant clarifier blowdown and landfill leachate. CWLP ceased operating Dallman Units 31 & 32 and ceased operating Dallman Unit 33 by September 15, 2023 with all CCR/non-CCR waste streams ceased by October 13, 2023.

The FGDS Unit 2 Landfill, is an existing non-hazardous special waste landfill. Located immediately east of the Dallman Ash Pond, this is a permitted non-hazardous special waste landfill (Illinois EPA Permit No. 1995-243-LFM) for flue gas desulfurization sludge, bottom ash, fly ash, and lime sludge. The FGDS Disposal Facility consists of 40 acres with 22.3 acres of disposal area divided into two units. The south unit is identified as Unit 1 and the north unit is identified as Unit 2.

## 2. SURFACE IMPOUNDMENT/LANDFILL CONSTRUCTION

Prior to the area development the property on which the CCR surface impoundments and CCR landfill have been constructed was originally for agricultural/pasture purposes as well as woodlands where the Dallman Ash Pond is located. Sugar Creek historically meandered across the site, generally from the west to east with an overall flow direction to the north. Prior to the creek relocation, the creek bed was largely restricted to the northern half of the facility where the Dallman Ash Pond and Unit 2 Landfill are located. Figure 4 shows the subject area prior to development of the ponds or landfill. The upper layer of soil at the site consisted of eolian soils (loess) deposited near the surface, isolated pockets and lenses of fine-grained silty to clayey sand at some locations and alluvial silts and silty clays. Much of the shallow soils were displaced during area development.

During the construction of the Dallman Ash Pond, the creek was abandoned and relocated west and north of the site. The Grading Plan drawing by Burns & McDonnell (Drawing No. Y29, Rev. 4, dated August 13, 1976) (Figure 5) depicts the creek realignment. Abandonment of the creek channel included the placement of different soil types, ranging from cohesive soils characterized as silty clays, to granular fill characterized as poorly graded silty to clayey sands. While the vertical hydraulic conductivity of the material that forms the bottom of the surface impoundments is generally low, soils were not compacted beneath the impoundments except for sections where the dikes of the Dallman Ash Pond were built atop the existing creek bed. No composite liner or alternative composite liner as specified in 40 CFR Part 257.70 (b) or 40 CFR Part 257.70 9 (c)(1), was used to line the bottom of either ash pond.

The Lakeside Ash Pond contains approximately 1,565,000 cubic yards (cu. yds.) of CCR including water treatment plant sludge. The Lakeside Ash Pond is primarily a diked embankment with some incising along the east perimeter. The ash pond abuts the Lake Springfield Spaulding Dam to the south and the original portion of the ash pond abuts the Unit 1 landfill and the clarification pond to the north. Open downstream slopes are present along the west dike of the original ash pond, and the vertical expansion berms, which were constructed on the east, west and north boundaries of the ash pond. The original Lakeside Ash Pond has been divided into four separate ponds since it was expanded vertically in 1988; three lime ponds and the settling pond. The vertical expansion consists of berms built on top and inside of the existing embankments. The floor of the Lakeside

Ash Pond is approximately elevation 530 feet and slopes upward in the eastern portion following the natural topography.

The Dallman Ash Pond contains approximately 1,217,000 cu. yds. of CCR. The Dallman Ash Pond is a diked embankment surface impoundment. The entire Dallman Ash Pond is partially incised. The berms for the Dallman Ash Pond were built to a height of approximately 27 feet (554 feet MSL), using slopes of 2.5H:1V for both the inner and outer slopes. The elevation of the base of the surface impoundments is approximately 525 feet MSL based on aforementioned drawing Figure 5 and borings advanced to the floor of Dallman Ash Pond. Material from the center of the ash pond was excavated and utilized in the construction of the dikes. As depicted on the Grading Plan drawing by Burns & McDonnell (Figure 5), the Dallman Ash Pond dikes were constructed on areas of the old creek bed. According to Note 4 on this drawing, the creek bed in these areas was over-excavated by at least 4 feet below the existing channel banks and bottom. These excavations were then filled in with cohesive material and compacted to at least 90 percent of maximum dry density. The Dallman Ash Pond abuts the FGDS landfills to the east and the clarification pond to the south. The only open downstream slopes are on the west and north dikes. The floor of Dallman Ash Pond slopes from approximately 530 feet MSL along the southern perimeter to approximately 525 along the northern edge.

The CWLP FGDS Development Landfill Unit 2 is located directly to the east of the Dallman Ash Pond. CWLP has owned and operated the FGDS Development Landfill since 1988. Prior to 1988, the facility was owned and operated by the private corporation Environmental Site Developers, Inc. The original design for Landfill Unit 2 designated three disposal areas identified as Cells 1, 2, and 3. In September 1993, the Illinois Environmental Protection Agency (“IEPA”) approved an application seeking the separation of the active Cell 1 from the then-undeveloped Cells 2 and 3. This created Landfill Unit 1, which consists solely of the now-closed Cell 1, and Landfill Unit 2, which is comprised of Cells 2 and 3.

CWLP initiated development of Landfill Unit 2 in 1993, and IEPA issued a permit to operate Landfill Unit 2 under 35 Ill. Admin. Code Parts 811–814 on November 9, 1995. Landfill Unit 2 consists of approximately 22.3-acres of permitted disposal area separated into Cells 2 and 3. Cell 2 has not been developed and only 3.0 acres of Cell 3 has been developed. The IEPA operating permit authorizes Landfill Unit 2 to receive flue gas desulfurization (“FGD”) sludge (more commonly known as gypsum), bottom ash, fly ash, lime sludge from the Water Purification Plant, FGD wastewater treatment plant sludge, and Generating Facility wastewater treatment plant sludge.

The Landfill Unit 2 was constructed with a 5 foot recompacted clay liner overlain by a leachate collection system. The leachate collection system is composed of a 12-inch sand drainage layer on the floor grades with a geocomposite drain on the western and northern 10-percent sloped floor directly on the 5 foot recompacted clay liner. A geotextile fabric is directly above the 12-inch

sand drainage layer to prevent clogging of the sand. A leachate collection trench was centrally placed within the landfill running west to east over the 5 foot recompacted clay liner. The leachate collection trench is composed of a leachate collection pipe surrounded by gravel and wrapped in a geotextile fabric. The leachate collection pipe terminates into the leachate manhole riser on the east side of the landfill within the termination berm.

The lowest point of the 5 foot recompacted clay liner subgrade is approximately at an elevation of approximately 525 feet MSL and the lowest extent of the waste within the landfill is at an approximate elevation of 531 feet MSL, both near the central eastern point of the landfill near the leachate manhole riser. The remainder of the landfill is above these elevations.

# 3. SUBSURFACE CONDITIONS

## 3.1 Hydrogeologic Investigations

The subsurface conditions of the CWLP facility have been characterized through multiple subsurface investigations, including those prior to the CCR impoundment development, along the perimeter of the impoundments and including the hydrogeologic investigation at the CCR landfill located north of the Lakeside Ash Pond and east of the Dallman Ash Pond. These investigations span from June 1989 to present day. In chronological order, the investigations are:

- Professional Service Industries (PSI), June 1989. This investigation consisted of five soil borings within the east section of the south cell (Cell 1).
- Andrews Environmental Engineering, Inc., February 1990. This investigation was performed for Cell 2 and consisted of 13 soil borings. The drilling and testing were completed by PSI.
- Andrews Environmental Engineering, Inc., March 1990. This investigation was performed to install six wells at the Facility. The drilling and testing were completed by PSI.
- Patrick Engineering, Inc. (PEI), July 1992. This investigation was performed to further characterize the hydrogeology of the landfill setting.
- Stabilize, Inc., December 2008. This investigation installed three new monitoring wells as part of an assessment monitoring program for the landfill. The drilling, soil testing, and well construction were performed by Reynolds Well Drilling.
- CWLP, April 2010. This investigation was performed to install four piezometers on the west side of the CCR surface impoundments along Sugar Creek. The drilling and testing were completed by PSI.
- Stabilize, Inc., May 2011. This investigation installed four new monitoring wells to further the characterization of the CCR surface impoundments. The drilling, soil testing, and well construction were performed by PSI.

- Andrews Engineering, January 2012. This investigation was performed to replace CCR surface impoundment wells and install an additional background well. The drilling and well installation were completed by TerraDrill.
- Andrews Engineering, July 2017. This project included drilling peripheral to the Dallman Ash Pond and the installation of basal sand/bedrock interface wells at TW3E, TW3W and TW3N. TW3N is the replacement wells for AW-3 and is identified in the groundwater monitoring program as RW-3.
- Andrews Engineering, June 2019. This investigation advanced 7 direct push borings peripheral to the Dallman Ash Pond, GP-2, GP-3, GP-4, GP-5, GP-6 and GP-7 and included the installation 2 new monitoring wells (AP6 in boring GP6 and AP-7 in boring GP2) as part of an assessment program for the CCR ash impoundments.
- Andrews Engineering, February 2021. This investigation consisted of borings and construction of groundwater monitoring wells at 7 locations along the periphery of Dallman and Lakeside Ash Ponds; adjacent to Sugar Creek. These are identified as AP-8, AP-9, AP-10, AP11, AP-12, AP-13 and AP-14.
- Andrews Engineering, October 2023. This investigation consisted of 34 borings next to the impoundments and 4 next to landfill Unit 1, to investigate the CCR ash surface impoundment berm construction materials and the installation of 29 vibrating wire piezometers to characterize the stability of the berms. These are identified as B-1, B-1L, B-1LL, B-1U, B-1CCR, B-2, B-2L, B-2U, B-2CCR, B-3, B-3U, B-3CCR, B-4, B-4L, B-4U, B-4CCR, B-5, B-5L, B-5CCR, B-6, B-6L, B-6CCR, B-7, B-7L, B-7CCR, B8-L, B8-U, B-9L, B-9U, B-9CCR, B-10CCR, B-11U, B-12L, B-12U, B-13BN, B-13BS, B-13L, B-13LF. With the exception of B-4L, B-4U, B-4CCR, B-8U and B-11U, the borings were completed with vibrating wire sensors.
- Andrews Engineering, February 2024. This investigation consisted of 14 borings using a cone penetrometer adjacent to and within the Dallman and Lakeside Ash Ponds. These borings are identified as CPT-1CCR, CPT-2CCR, CPT-2L, CPT-3CCR, CPT-4CCR, CPT-4L, CPT 5CCR, CPT-6CCR, CPT-6L, CPT-7CCR, CPT-7L, CPT-10CCR, CPT-14CCR and CPT-15CCR.
- Andrews Engineering, April/May 2024. This investigation consisted of 4 borings advanced in the Dallman Ash Pond (D-1, D-2, D-3 and D-4) and 4 borings advanced in the Lakeside Ash Pond (L-1, L-3, L-4 and L-5). Wells were constructed to screen the bottom of the CCR in these borings. This investigation also included the advancement of borings T-1, T-2, T-4, T-5 and T-6 on the opposite side of Sugar Creek, west and north of the surface impoundment area and the advancement of a deep boring, B100, which was packer tested to characterize bedrock permeability.
- Hanson Professional Services, Inc. (Hanson), August 2024. This investigation consisted of a total of 12 borings, 5 through the Dallman Ash Pond (DB-01, DB-02, DB-03, DB-04 and DB-05) and 5 through the Lakeside Ash Pond (LB-01, LB-02, LB-03, LB-04 and

LB-05). Two of the Dallman Ash Pond borings were converted to piezometers (DB-04 and DB-05) and one of the borings in the Lakeside Ash Pond (LB02) was converted to a piezometer.

- Hanson, May/June 2025. This investigation consisted of 4 borings (D-06, D-07, D-08 and DW-01) completed as wells within the Dallman Ash Pond, and two of the borings, BH-01 and BH-02, were completed as wells along the berm that separates the Dallman Ash Pond from the clarification pond.
- Andrews Engineering, May 2025. This investigation consisted of the advancement of 21 borings (AP-6S, AP-6SA, AP-8S, AP-8SA, AP-15S, AP-15D, AP-16, AW-2, B2-LE, B-4E, B-6E, B-6LE, B-7E, B-7LE, G-104, G-104S, P-03D, P-03S, R-103, RW3S and T-4S) with the installation of 9 groundwater monitoring wells (AP-6SA, AP-8SA, AP-15S, AP-15D, AP-16, G-104S, P-03S, RW3S and T-4S). Seven of these borings (AW-2, B-2LE, B-4E, B-6E, B-6LE, B-7E and B-7LE) were completed to collect additional samples for characterization of the berm/foundation soils and one to verify previous boring log comments.

The investigations and related work conducted to date have provided sufficient information to characterize the site hydrogeologic conditions, including the uppermost saturated zone (i.e., basal sand) and the uppermost confining unit (i.e., bedrock). Figure 6 depicts all borings, monitoring wells/piezometers and vibrating wire locations. The site-specific geologic conditions have been refined through the advancement of additional borings during 2024 and 2025. Boring logs and well completion reports for these 2024 and 2025 investigations are included as Appendix A and Appendix B, respectively.

Data from these investigations has been used to create and refine the geologic cross-sections, with an emphasis on characterizing the primary hydrostratigraphic units. The geologic cross-sections have been updated to include information from these recent, 2024 and 2025 investigations. The revised geologic cross-sections are provided in Appendix C.

## 3.2 Uppermost Bedrock

The bedrock at the project site consists of Pennsylvanian aged shale that is gray in color with some coal seams. Erosion of the bedrock surface has occurred along the alluvial valley forming a south to north trough in which Sugar Creek is located. The bedrock increases in elevation to the eastern and western flanks of the bedrock trough. There appears to be a bedrock ridge which runs south southeast to north northwest at the northeast corner of the Dallman Ash Pond. At this location the bedrock elevation increases from approximately 497 feet MSL at RW3 to 527 feet MSL at GP-3, just north of Sugar Creek. Near the center of the landfill, the bedrock surface elevation varies from approximately 492 feet MSL to approximately 554 feet MSL at the southeast corner of Cell 1, boring B-14. Figure 7 depicts the bedrock surface elevations.

Rock Quality Designation (RQD) measurements were performed on core samples taken from the FGDS Landfill area. RQDs measured from core samples collected during this investigation ranges from 80% to 100%. The RQD values indicate that the bedrock exhibits minimal to no fracturing. Two in situ hydraulic conductivity tests were performed to determine the hydraulic conductivity of the upper portions of the bedrock. Test results indicate hydraulic conductivity values of $1.8 \times 10^{-7}$ cm/sec and $1.3 \times 10^{-6}$ cm/sec (Patrick, 1993). This shows that the bedrock encountered at the project site is a lower confining unit to the uppermost saturated zone. There is good correlation between the lithology of the rocks tested and the hydraulic conductivity values obtained. The upper bedrock beneath the impoundments is expected to exhibit the same characteristics as encountered at the landfill. RQD and slug test data for the Patrick 1989 application are included in Appendix D.

A 2024 investigation included the completion of deep boring B100. Located immediately north of the Dallman Ash Pond on adjacent to Sugar Creek the deep boring was advanced to 103.5 feet below ground surface (BGS). Bedrock at this location was encountered at 32.3 feet BGS (500.7 feet MSL). Packer testing was completed at seven intervals (i.e., 93 to 103.5 feet BGS, 82.5 to 93 feet BGS, 72 to 82.5 feet BGS, 61.5 to 72 feet BGS, and 51 to 61.5 feet BGS with the final two intervals overlapping 40.5 to 51 and 38.5 to 49 feet BGS). Test results indicate hydraulic conductivity below 482 feet MSL is less than $1 \times 10^{-9}$ cm/sec. The results for the intervals tested above 482 feet MSL are invalid as a result of hydraulic fracturing of the bedrock and the resultant inability to establish a seal within the shallow bedrock portion of the borehole. The results confirm that bedrock below the weathered zone is relatively impermeable; however, the shallow weathered bedrock may have higher hydraulic conductivities and in direct hydraulic communication with the overlying basal sand such that the interface of the unconsolidated deposits and bedrock comprise the uppermost saturated zone. The packer test data from this investigation is included in Appendix D.

There is good correlation between the lithology of the rocks tested and the hydraulic conductivity values obtained. The upper bedrock beneath the impoundments is expected to exhibit the same characteristics as encountered at the landfill.

## 3.3 Surficial Deposits

The shallow stratigraphy and lithology at the CCR units include approximately 20 to 50 feet of unconsolidated sediments, dependent upon location. In ascending order (i.e., oldest to youngest) these materials are identified as basal sand, creek fill, lower cohesive deposit, shallow sand, upper cohesive deposit and fill material. For the FGDS Landfill, the hydrogeology is consistent with the adjacent impoundments, with the basal sand as the uppermost saturated zone. As described below, the uppermost unit directly beneath the CCR surface impoundment varies with the Lakeside Ash Pond resting directly on the upper cohesive deposit and the southern third of

the Dallman Ash Pond resting on the upper cohesive deposit and northern two-thirds resting on the lower cohesive deposit.

The overall tendency is for the finer-grained materials (clays, silty clays and silts) to overlie the coarser-grained materials (sands and gravels). This coarsening downward is present throughout much of the site. At the majority of the borehole locations, the coarser materials rest directly on top of the weathered bedrock surface. It is this coarser material, the basal sand, which is characterized as the uppermost saturated zone.

The occurrence of the deposits discussed below are variable due to the meandering nature of Sugar Creek prior to the development of Lake Springfield and Spaulding Dam. The meandering creek has resulted in sequential erosion and deposition (scour and fill) throughout much of the creek drainage system, both laterally and vertically.

### *3.3.1 Basal Sand*

The basal sand generally overlies the bedrock surface and underlies the lower cohesive deposit. There are some pockets of very hard, fine-grained silty clay to clay overlying bedrock in a few areas. The basal sand is present above these pockets of clayey deposits, thought to be weathered bedrock. In most locations, the basal sand is the lower-most surficial deposit. The basal sand is a gray, poorly graded, silty to clayey fine sand to well graded sand with minor amounts of fine gravel. This unit is in a medium dense to dense condition. Across the CWLP facility (includes the Dallman and Lakeside Ash Ponds), the top elevation of the basal sand varies from 486.9 feet MSL (G113) to 535.1 feet MSL (GP-3) and the thickness ranges from absent to 18.6 feet. The unit was not consistently encountered, likely due to excessive erosion of the creek bottom. The surface of the Basal Sand is depicted in Figure 8. The thickness of the Basal Sand is depicted in Figure 9.

The basal sand generally consists of 0% to 34% gravel, 50% to 91% sand, and 6% to 44% silt/clay; and exhibits a horizontal hydraulic conductivity of ranging from $1.15 \times 10^{-3}$ to $7.64 \times 10^{-2}$ cm/sec. The geometric mean hydraulic conductivity is $1.25 \times 10^{-2}$ cm/sec. The basal sand was saturated in all locations where it was encountered (Patrick, 1993). Grain size analyses are provided in Appendix E.

Hanson conducted slug testing on the FGDS Landfill and CCR Surface Impoundment groundwater monitoring wells and the ash impoundment CCR wells during March 2025. The basal sand wells exhibited hydraulic conductivities ranging from a minimum of $4.57 \times 10^{-5}$ cm/sec to a maximum of $8.84 \times 10^{-2}$ cm/sec. The geometric mean hydraulic conductivity of the basal sand is $1.86 \times 10^{-3}$ cm/sec. The slug test data from Hanson is provided in Appendix D.

In August 2025 Andrews Engineering performed slug testing at Basal Sand wells AP-15D, AP-16 and P-03D. The slug testing results ranged from a minimum hydraulic conductivity of 2.62 x $10^{-5}$ cm/sec to a maximum of 4.03 x $10^{-3}$ cm/sec. The geometric mean hydraulic conductivity is 2.91 x $10^{-4}$ cm/sec. This value is in general agreement with that determined from previous investigations.

### *3.3.2 Lower Cohesive Deposit*

The lower cohesive deposit consists of brown, gray, and brownish gray silty clays, clayey silts, and clays, having very soft to stiff consistency. Across the CWLP facility, the lower cohesive deposit is as much as 27 feet thick with an average thickness of about 11 feet. The deposit was not encountered in isolated areas along the abandoned creek, possibly due to excessive erosion of the creek bottom in these areas. The northern two-thirds of the Dallman Ash Pond rests directly on top of the lower cohesive deposit. The top of the lower cohesive deposit is depicted in Figure 10. The thickness of the lower cohesive deposit is depicted in Figure 11

The soils in the lower cohesive deposit can be similar in color and texture to the soils in the upper cohesive deposit. The distinction between the two deposits was based on the presence or changes in soil consistency (as measured with a calibrated hand held penetrometer) and a marked difference in moisture content. The lower cohesive deposit is not exposed at the ground surface in the investigation area.

The lower cohesive deposit consists of 0% gravel, 8% to 48% sand, and 52% to 95% silt/clay; and has a low hydraulic conductivity. The vertical hydraulic conductivity ranges from 1.3 x $10^{-8}$ to 1.8 x $10^{-6}$ cm/sec (triaxial permeameter). Based on these values, the average vertical hydraulic conductivity is 9.07 x $10^{-7}$. The horizontal hydraulic conductivity ranges from 4.6 x $10^{-5}$ to 7.6 x $10^{-5}$ cm/sec (Patrick, 1993). Grain size analyses are provided in Appendix E.

As part of the 2023 geotechnical investigations conducted by Andrews Engineering, four borings were advanced in Lakeside Ash Pond and four borings in Dallman Ash Pond to confirm the bottom elevations of each impoundment. Borings L-1, L-3, L-4 and L-5 were advanced in Lakeside Ash pond where silty/clay materials were encountered at 534.5 feet MSL, 530.5 feet MSL, 553.0 feet MSL and 530.0 feet MSL, respectively. Borings D-1, D-2, D-3 and D-4 were advanced in Dalman Ash Pond where silty/clay materials were encountered at 526.0 feet MSL, 523.0 feet MSL, 526.2 feet MSL and 529.5 feet MSL respectively. The range of hydraulic conductivities for the silty/clay materials beneath Lakeside Ash Pond are from 6.8 x 10-6 cm/sec to 8.5 x 10-8 cm/sec with a geometric mean of 2.58 x 10-7 cm/sec. The range of hydraulic conductivities for the silty/clay materials beneath Dallman Ash Pond are from 2.1 x 10-6 cm/sec to 5.1 x 10-8 cm/sec with a geometric mean of 4.53 x 10-7 cm/sec.

### 3.3.3 Shallow Sand

The unit identified as the shallow sand is a fluvial deposit. Where it has been encountered, it is located between the top of the lower cohesive deposit and below the upper cohesive deposit. The discontinuous nature of the shallow sand is explained by the historical meandering nature of surface water across the area of investigation. Sediment deposition within a fluvial setting varies from fine-grained silts and clays to coarser sands, with the coarser materials being deposited as the water slows. As the creek flows into the inside of a bend, velocity decreases, causing the heaviest particles, typically sands and silty sands, to settle out first. Finer sediments remain suspended longer and are deposited further along the point bar or during overbank flooding. Because coarse-grained deposition is tied to localized drops in energy, such as those found only at specific points within the meander bends or during certain flood events, these deposits tend to be discontinuous. As a result, sand and silty sand lenses are often isolated within a matrix of finer material, creating a stratigraphic sequence that reflects the variable and shifting energy conditions of the meandering system.

The shallow sand was encountered on portions of the floor of FGDS Unit 2 Landfill and along the north side, and to a limited extent, west side of the Dallman Ash Pond from the middle of the north side to the eastern edge. The shallow sand was generally encountered between 515 feet MSL and 525 feet MSL, with some instance as low as 510 feet MSL and some as high as 530 feet MSL. This wide variation in elevations points to it variable deposition nature. Where encountered it is typically only a few feet in thickness or less. However, a thickness of 6 feet was observed in the undeveloped southern portion of Unit 2 and an approximate thickness of 7 feet was observed in boring AP15 west of the Lakeside Ash Pond. It appears the shallow sand may underlie a small section of the Lakeside Ash Pond where it is separated from the bottom of the Lakeside Ash Pond by approximately 8 feet of low permeability silty clay upper cohesive deposit. The shallow sand was not found to underlie the Dallman Ash Pond or Cell 3 of the Unit 2 Landfill. The extent and surface of the shallow sand is depicted in Figure 12. The thickness of the shallow sand is depicted in Figure 13.

Hydrogeologic cross-sections (e.g., Cross-Section A-A' and B-B') depict the limited extent of the shallow sand along the northern end and west side of the Dallman Ash Pond, respectively. These cross sections depict the shallow sand encountered at and above 525 feet MSL, but not intersecting CCR in saturated zones. Cross-section A-A' depicts the shallow sand present at AP-8, GP-4, TW3W and RW3.

According to the Grading Plan drawing by Burns & McDonnell (see Figure 5), the creek relocation project varied from an elevation of 520 feet MSL at the northwest corner to 516 MSL at the northeast corner. The drawing depicts that soils along the constructed creek channel were excavated along a 4:1 horizontal to vertical slope from the center line of the creek location channel and backfilled with cohesive soils essentially isolating the presence of the sand to a narrow band adjacent to the toe of the slope of the berm. This would result in the removal of the shallow sand

from the along the creek relocation area, essentially eliminating/removing the migration pathway of any fluvial sand deposits adjacent to the Dallman Ash Pond.

Along the west side of the Lakeside Ash Pond, a shallow sand appears in boring AP-15D and the B-2 series of borings used to characterize that portion of the Lakeside Ash Pond dike. A shallow sand was encountered at the location at approximately 525 feet MSL to 510 feet MSL. At this location, the bottom of the Lakeside Ash Pond is at approximately 535 feet MSL. This results in an approximate 10 foot vertical separation between the bottom of the Lakeside Ash Pond and the shallow sand at this location.

Laboratory tests performed on representative samples collected from the shallow sand unit during this and previous investigations indicate the shallow sand contains 0% gravel, 50% to 52% sand, and 48% to 50% silt/clay. Two FGDS Unit 2 Landfill piezometers (P06S and P07S) were screened in the shallow sand unit to obtain potentiometric surface information and conduct field hydraulic conductivity tests. The hydraulic conductivity of this unit based on the slug test results ranges from $3.6 \times 10^{-3}$ to $2.9 \times 10^{-2}$ cm/sec (Patrick, 1993). Grain size analyses are provided in Appendix E.

Hanson conducted slug testing on FGDS Unit 2 Landfill wells during March 2025. The Unit 2 shallow sand wells P06S and P07S exhibited hydraulic conductivities ranging from $1.53 \times 10^{-3}$ cm/sec to a maximum of $3.35 \times 10^{-3}$ cm/sec. The geometric mean hydraulic conductivity of the shallow sand is $2.29 \times 10^{-3}$ cm/sec.

In August 2025 Andrews Engineering performed slug testing of the Shallow Sand wells AP6S, AP-15S, G-104S, P-03S, R-103S, and RW3S. The slug testing results ranged from a minimum hydraulic conductivity of $4.30 \times 10^{-4}$ cm/sec to a maximum of $2.23 \times 10^{-2}$ cm/sec. The geometric mean hydraulic conductivity is $1.53 \times 10^{-3}$ cm/sec. This value is in general agreement with that determined from previous investigations.

### *3.3.4 Upper Cohesive Deposit*

The upper cohesive deposit consists of brown, light brown to brownish-gray silty clays to clayey silts having soft to stiff consistency. The unit includes loess deposits and isolated pockets of fine-grained silty to clayey sand and at some location alluvial silts and silty clays. The upper cohesive deposit is laterally adjacent to the sidewall of the CCR surface impoundment. The top of the upper cohesive deposit is depicted in Figure 14. The thickness of the upper cohesive deposit is depicted in Figure 15.

The upper cohesive deposit has a low vertical hydraulic conductivity as determined by laboratory triaxial hydraulic conductivity tests from borings taken from the landfill investigation. The hydraulic conductivity values determined from the laboratory tests ranged from $5.2 \times 10^{-7}$ cm/sec to

1.6 x 10 $^{5}$ cm/sec (Patrick, 1993). It is expected that the horizontal coefficient of hydraulic conductivity is greater than the vertical coefficient. Based on test results for the lower cohesive deposit, it is anticipated that the horizontal hydraulic conductivity for the upper cohesive deposit is in the range of $10^{-6}$ to $10^{-5}$ cm/sec (Patrick, 1993).

In 2024, four borings were conducted through both the Dallman and Lakeside Ash Ponds for the purposes of characterizing the geology immediately below the impoundments. Shelby tube samples were obtained from borings D-1, D-2, D-3 and D-4 (Dallman), and L-1, L-3, L-4 and L-5 (Lakeside). The geometric mean hydraulic conductivities of four samples under Dalman Ash Pond is 4.53 x $10^{-7}$ cm/sec. The geometric mean hydraulic conductivities of four samples under Lakeside Ash Pond is 2.58 x $10^{-7}$ cm/sec. The boring logs are provided in Appendix A and the laboratory hydraulic conductivity results are provided in Appendix E.

### *3.3.5 Creek Fill*

Creek fill is the material used to abandon the former channel of Sugar Creek. Borings conducted along the abandoned creek (i.e., CB-1 through CB-4, CB-7 through CB-9, P-5D and P-8D) indicate that the creek fill is variable, ranging from silty clays to organic clays to silty sands. In some locations the CCR surface impoundment and CCR landfill dikes were constructed over the creek channel. The Grading Plan drawing by Burns & McDonnell (see Note 4 on Figure 5) indicates that where construction of a dike was over the former Sugar Creek channel, the creek fill was over excavated at least 4 feet below the existing channel banks and bottom and then filled with cohesive material and compacted to at 90%.

The cohesive soils are characterized as silty clay to organic silty clay which contain varying quantities of fine- to medium-grained sand. Wood fragments and other organic were typically encountered. In some areas, the cohesive fill materials extended down to the top of bedrock. The granular fill materials are typically poorly graded silty to clayey sands and contain organics or wood fragments. In some areas, the granular fill materials also extended down to the top of bedrock. The location of the creek abandonment is depicted on Figure 5.

The cohesive fill material contains 0% gravel, 2% to 48% sand, and 52% to 98% silt/clay. The vertical hydraulic conductivity ranges from 7.6 x $10^{-8}$ cm/sec to.2.1x$10^{-5}$ cm/sec. The granular fill materials contain 0 to 2% gravel, 55% to 65% sand and 33% to 45% silt/clay. Based on one laboratory hydraulic conductivity test performed on a Shelby tube sample obtained from berm fill, the hydraulic conductivity of the granular fill material is 3.3 x $10^{-8}$ cm/sec (Patrick, 1993). Grain size analyses are provided in Appendix E.

Three landfill piezometers (P-3S, P-5S and P-8S) are screened across creek fill materials. Of these, one piezometer (P-5S) was installed across cohesive fill material (i.e., organic silty clay) and the other piezometers were installed across granular fill materials (i.e., clayey sand and silty

sand). Hydraulic conductivity of the granular fill materials ranged from a minimum of 7.1 x $10^{5}$ cm/sec to 1.5 x $10^{-2}$ cm/sec with a geometric mean of 6.02 x $10^{-4}$ cm/sec. The hydraulic conductivity of the cohesive fill material ranged from 7.1 x $10^{-5}$ cm/sec to 1.1 x $10^{-4}$ cm/sec, and an average of 8.6 x $10^{-5}$ cm/sec (Patrick 1993). These values represent the hydraulic conductivity in the horizontal direction.

The horizontal hydraulic conductivity values are believed to be typical of soils which contain organic matter (e.g. wood fragments). The hydraulic conductivity values based on laboratory tests are generally considered to be representative of the coefficient of hydraulic conductivity in the vertical direction because of the sample configuration during testing. However, because of the randomness of the fill, it is more likely that the hydraulic conductivity is within the range of $10^{-5}$ to $10^{-4}$ cm/sec (Patrick, 1993).

## 3.4 Hydrogeologic Units

The uppermost saturated zone and underlying confining unit control groundwater movement and the potential for CCR impacted groundwater migration at the site. A description of the uppermost saturated zone and the underlying confining unit follows:

### *3.4.1 Intermittent Saturated Shallow Sand*

The shallow sand is the uppermost saturated interval. As described above, the shallow sand is encountered intermittently between the top of the lower cohesive deposit and below the upper cohesive deposit, primarily on portions of the FGDS Unit 2 Landfill floor and along the north and west sides of the Dallman Ash Pond, from the middle of the north side to the eastern edge. It occurs at elevations generally between 515 and 525 feet MSL, with variations from 510 to 530 feet MSL, and thicknesses typically a few feet or less, though up to 6-7 feet in isolated areas at boring AP-15. The intermittent saturated shallow sand appears to be under confined, semi-confined, or unconfined conditions dependent upon location. The unit may underlie a small portion of the Lakeside Ash Pond, separated by about 8-10 feet of low-permeability silty clay, but it is absent beneath the Dallman Ash Pond or the Unit 2 Landfill. Creek relocation excavations along the Dallman Ash Pond further limited its extent by removing sands adjacent to the berm slopes, as shown in hydrogeologic cross-sections and figures depicting its surface and thickness.

The shallow sand wells include AP-6S, AP-8S, AP-15S, G-113, P-03S, P-06S North, P-07S West, P-09S West, P-103S, P-104S, RW3S and T-4S. There are three complete sets of shallow groundwater elevation data: June, 25, 2025, July 21, 2025 and August 21, 2025. The shallow groundwater elevations range from a minimum of 518.98 to 537.67 feet MSL. The average shallow groundwater elevation is 527.08 feet MSL.

As described above, the creek relocation project resulted in the excavation of soils along the constructed creek channel (i.e., west to east creek bed elevations are 520 to 516 feet MSL) along

a 4:1 horizontal to vertical slope from the center line of the creek location channel. This excavation was then backfilled with cohesive soils essentially isolating the presence of the shallow sand to a narrow band adjacent to the toe of the slope of the northern berm. This would result in the removal of the shallow sand from the along the creek relocation area, essentially eliminating/removing the migration pathway of any fluvial sand deposits adjacent to the Dallman Ash Pond.

### *3.4.2 Uppermost Saturated Zone*

The uppermost saturated zone is characterized as the basal sand overlying the shale bedrock. As indicated above, the hydraulic conductivity of the basal sand ranges from 1.15 x $10^{-3}$ to 7.64 x $10^{-2}$ cm/sec and exhibits a mean value of 1.25 x $10^{-2}$ cm/sec. The groundwater in the basal sand appears to be under semi- to confined conditions. The upper limit of the uppermost saturated zone is dependent upon the seasonally fluctuating groundwater table. The potentiometric surface of the basal sand varies from 565 feet MSL at upgradient locations (i.e., AP5), south of the Lakeside Ash Pond, to 525 feet MSL at down-gradient locations near Sugar Creek, north of the Dallman Ash Pond. As a result, the potentiometric surface is variably dependent upon the location and the seasonal variation.

Creek fill material was encountered in FGDS Unit 2 Landfill locations CB-1, CB-2, CB-3, CB-4, P-3D, P-5D, B1-89, B6-89, B11-89, B12-89, B17-89 and G-104. The creek fill materials directly overlay the basal sand at P-5D, B1-89, B6-89 and B11-89. At these locations the creek fill is a silty clay, effectively eliminating the creek fill as a flow path. Due to the highly variable hydraulic characteristics and random placement of the creek fill materials, further characterization is difficult. The creek fill material does not present a contaminant flow path from the CCR units to the basal sand. The basal sand appears to be separated from the overlying CCR units by the upper and lower cohesive deposit, and or soils recompacted under the dikes where the dikes intersected the former creek channel and where the creek realignment effectively removed the high permeability soils.

### *3.4.3 Lower Confining Unit*

The uppermost bedrock at the project site is primarily Pennsylvanian age shale with isolated thin coal layers. The Pennsylvanian shale functions as a lower confining unit due to its low hydraulic conductivity and effective porosity. The lower confining unit represents a natural hydrogeologic barrier (i.e., aquitard) to the vertical movement of groundwater.

In situ hydraulic conductivity test (slug tests) indicate that the hydraulic conductivity for the upper portions of the bedrock range from 1.8 x $10^{-7}$ cm/sec (0.0568 m/a) to 1.3 x $10^{-6}$ cm/sec (0.410 m/a) (Patrick, 1993). There appears to be good correlation between the rock lithology and the measured values of hydraulic conductivity. The bedrock over most of the site will act as an aquiclude and prevent the downward movement of groundwater.

## 3.5 Groundwater Elevations and Pool Levels

Static groundwater elevations were measured on a monthly schedule during 2025. Intermittent saturated shallow sand wells AP-6S, AP-8S, AP-15S, P-03S, P-103S, P-104S, RW3S and T-4S were installed in June 2025. The collection of groundwater elevations at these wells commenced June 2025. A summary of the groundwater elevations (in feet MSL) is provided in Table 1. This table includes all monitoring points including the adjacent surface water bodies: Lake Springfield, the clarification pond, and Sugar Creek. Also included in this table are pore water elevations for the Dallman Ash Pond and Lakeside Ash Pond wells (i.e., D and L wells, respectively).

There appears to be a slight seasonal variation in groundwater and pore water levels with higher levels generally observed during April and the lowest elevations observed during August 2025. The horizontal hydraulic gradient of the basal sand was calculated based on groundwater flow from well G-110 to well P-106. Using these wells, a horizontal hydraulic gradients was calculated for averages of the 2025 reported groundwater elevations for these wells/piezometers. As presented below, the horizontal hydraulic gradient within the basal sand exhibits an average of 0.00591 ft/ft.

Vertical hydraulic gradient were calculated for the nested groundwater monitoring well/piezometer locations AP-6/AP-6S, AP-8/AP8S, AP-15D/AP-15S, P-03D/P-03S, P-06R/P-06R/P-06S, P-07D/P-07M/P-07S, P-09D/P-09S, P-103/P-103S, P-104/P-104S, and RW3/RW3S. The vertical hydraulic gradients are summarized in Table 2. With the exception of the vertical hydraulic gradients at well pairs AP-15D/AP-15S, P-103/P-103S, P-104/P-104S and RW3/RW3S, the vertical hydraulic gradients are positive (i.e., upward). The overall upward hydraulic gradient is consistent with the characterization of the basal sand being a confined unit.

Well pairs AP-15D/AP-15S and RW3/RW3S are located along the western and northern perimeter of Dallman Ash Pond, respectively. Well pairs P-103/P-103S and P-104/P-104S are located along the northern perimeter of Unit 2. These well pairs are located along the periphery of the Dallman Ash Pond and Unit 2 in the where the shallow sand appears to be the thickest.

## 3.6 Potentiometric Surface Maps

Groundwater movement is controlled by recharge along topographic highs and discharge along the original stream valley. The pre-surface impoundment flow direction in the uppermost saturated zone was dominantly horizontal from the adjacent banks toward the natural convergence along Sugar Creek, which formerly drained the site. The overall groundwater movement was from south to north with local deviations. This dominant flow pattern persists under present day conditions but with localized variation introduced by the hydrologic discontinuity created upon construction of the FGDS Landfill and CCR surface impoundments.

Existing wells at the site, including wells from the FGDS Landfill, were used to derive potentiometric surface maps. As discussed, overall groundwater flow is from south to north. The east perimeter of the Lakeside Ash Pond is largely up-gradient, and the west side is downgradient to side-gradient. Excavated areas within the landfill boundary act as a groundwater sink along the east side of the Dallman Ash Pond. Groundwater generally moves northward under the Dallman Ash Pond but also moves easterly towards the FGDS Landfill and westerly towards Sugar Creek. Groundwater beneath the Lakeside Ash Pond also moves northward and westerly along Sugar Creek.

The impoundments likely influence local groundwater dynamics by increasing potentiometric pressures beneath and around their footprints. However, there are no piezometers screened in the basal sand beneath the impoundments. The increased pressures occur due to the sustained elevated water levels within the ponds during operation. This elevated head establishes an outward hydraulic gradient, promoting radial flow away from the mound toward lower-potential areas, such as nearby surface water bodies like Sugar Creek. The outward gradient is typically steeper near the impoundment boundaries due to the contrast between the artificially high heads inside the ponds and the ambient groundwater levels outside, often resulting in gradients on the order of 0.01-0.02 ft/ft as observed in site data. At this site, the elevated heads contribute to the observed eastward flow component near the FGDS Landfill and westward toward Sugar Creek, integrating with the broader south-to-north regime.

Potentiometric surface maps (derived from 2025 data, similar to Figure 3 in the 2024 Annual Report for well locations) show groundwater flow radially from the impoundments toward Sugar Creek. Contours indicate a hydraulic gradient of approximately 0.01-0.02 ft/ft, with flow directed west-northwest overall. Along the eastern portion near the FGDS Unit 2 Landfill, there is an eastward flow component toward the FGDS Unit 2 landfill, then northward toward Sugar Creek. Maps for each 2024 event confirm consistent directions, with minor fluctuations due to seasonal recharge. For the FGDS Landfill, flow is integrated into site-wide maps, with no separate potentiometric surfaces identified, but consistent with basal sand flow toward Sugar Creek. Potentiometric surface maps are provided in Appendix F.

# 4. EVALUATION OF PREFERENTIAL PATHWAYS

## 4.1 Abandoned Creek

The abandoned creek is not a contaminant migration pathway. The relocation of the creek occurred with the construction of Dallman Ash Pond (1976). Realignment of the creek channel required the over-excavation of the new channel by a minimum of 4 feet and backfilling with cohesive soils compacted to 90% maximum dry density. Construction plans, boring logs, and grain size analyses confirm low permeability of the creek fill. Cross-sections show fill materials mixed with onsite soils, removing the hydraulic connection between the abandoned

creek and the basal sand. The abandoned creek does not extend under the FGDS Unit 2 Landfill, though a portion exists north of FGDS Landfill Unit 2, where the relocated creek bed has an elevation of approximately 520 to 516 feet MSL.

Based on the geologic characterization of the site the abandoned creek bed has been removed or mixed with other on-site materials, which precludes it from being a potential pathway. See Figure 12 and Figure 13 which depict the surface of the Shallow Sand and the thickness relative to the pre-relocated Sugar Creek.

## 4.2 Shallow Sand Unit

The shallow sand is not hydraulically connected to the CCR units and is not a contaminant migration pathway due to the confined extent along the north. The shallow sand unit (intermittent deposits above 525 feet MSL), if present, was removed within pond footprints during construction. Borings did not encounter shallow sand intersecting CCR, and there is no evidence of communication with the lower cohesive unit or basal sand. New well AP6S, paired with AP6, confirms isolation (screened in shallow sand at 525-530 feet MSL). For the FGDS Landfill, shallow sand is not a significant pathway due to landfill construction. The 2025 elevation data for shallow wells (e.g., P-103S, P-104S) shows consistent levels with no anomalous fluctuations indicating preferential flow. Slug testing in shallow units (e.g., P-06S, P-07S) yields K values around 1-3E-03 cm/s, indicating limited conductivity.

As discussed above, the over-excavation and backfilling of the former creek channel and along the creek realignment further limits the horizontal connectivity of the intermittent saturated shallow sand. The Grading Plan drawing by Burns & McDonnell (Figure 5) depicts the creek abandonment and realignment north of the Dallman Ash Pond and Unit 2. The abandonment of the creek resulted in the over-excavation of at least 4 feet under the dike below the existing channel banks and bottom (see cross-sections), followed by filling with cohesive material and compaction to at least 90%. In addition to the excavation of soils under the dikes, realignment of the creek channel required the over excavation of the new channel by a minimum of 4 feet and backfilling with cohesive soils compacted to 90% maximum dry density. Construction plans, boring logs, and grain size analyses confirm low permeability of the creek fill. Cross-sections show fill materials mixed with onsite soils, removing direct hydraulic connection between the abandoned creek and the basal sand.

Pursuant to recommendations by the EPA, a boring was advanced about midway between AP4 and AP-14 on the west side of the Lakeside Ash Pond. A shallow sand was encountered from approximately 14.5 to 21.5 feet in depth; therefore, a shallow and a deep well were installed at that location (AP-15S and AP-15D, respectively). The shallow sand is illustrated in Cross Section B-B' (Appendix C). Based in the differential in groundwater elevation from AP-15S and the liquid level in the Lakeside Ash Pond, there is no apparent direct hydraulic connection

from the shallow sand to the ash pond. For purposes of monitoring the groundwater between wells AP4 and AP14, wells AP-15S and AP-15D are proposed to be added to the groundwater monitoring system.

### 4.3 Communication Between Basal Sand and Shallow Sand

The intermittent saturated shallow sand is not hydraulically connected to the basal sand. Boring logs and cross-sections confirm the lower cohesive unit separates the intermittent saturated shallow sand from the basal sand. Cross-sections A-A' and B-B' depict the geology along the north and west side of the Dallman Ash Pond and the west side of the Lakeside Ash Pond. Furthermore, potentiometric data indicate semi-confined conditions in the basal sand, with head differences from water table aquifers. Slug test data from the lower cohesive deposit (e.g., low conductivity approximately 10e-5 cm/s in cohesive units) supports the conclusions that the basal sand is under confined conditions.

## 5. GROUNDWATER ELEVATIONS RELATIVE TO CCR BASE

Both of the CCR surface impoundments, the Lakeside Ash Pond and the Dallman Ash Pond, were constructed above the static potentiometric surface. The potentiometric surface represents the total pressure within a water-bearing unit to which the water will rise in a well/piezometer that is sealed in and penetrates the water-bearing unit. Given that the basal sand is overlain by the low hydraulic conductivity lower cohesive deposit, the basal sand is semi-confined. The potentiometric surface does not represent a water table setting. The potentiometric surface can be higher than the actual presence of water since its movement is restricted by the overlying clayey deposit. Constructing the ash ponds into or below the static water level would have been impractical and not economically feasible to attempt. As depicted in Figure 3, the historical use of the Lakeside parcel was agricultural/pasture. The parcels containing the Dallman Ash Pond and the Unit 2 Landfill were previously woodlands except on the southeast corner (agricultural/pasture).

A historic topographic map from 1950 for the site is presented as Figure 4. This figure depicts the preconstruction ground surface within the area of the CWLP CCR units. Based upon this figure, the preconstruction ground surface ranged from 540 feet MSL along the southern edge of the Lakeside Ash Pond and the northern edge of the Dallman Ash Pond down to 530 feet MSL adjacent to Sugar Creek. As indicated above, the Lakeside Ash Pond and Dallman Ash Pond were constructed at or just below the pre-existing land surface. Prior to construction, Sugar Creek meandered from the southwest corner of the site, exiting at the northeast corner of the site. There is no as-built construction documentation for the Lakeside Ash Pond or for the Dallman Ash Pond. Figure 5 is the proposed grading plan for the Dallman Ash Pond. According to Figure 5, the typical elevation of the floor of the Dallman Ash Pond is approximately 527 feet MSL.

The typical surface water elevation of Sugar Creek is approximately 520 feet MSL (average for 2025 monthly elevations is 520.56) based on creek elevations obtained at the time of potentiometric surface measurements. These results indicate an approximate separation between the base of the Dallman Ash Pond and the static surface water level.

The D and L series borings/wells are located entirely within the CCR material in the Dallman Ash Pond and Lakeside Ash Pond, respectively, and serve as piezometers to measure liquid levels within the impoundments. Liquid levels in the Dallman Ash Pond (D series wells) range from approximately 546 to 550 feet MSL across 2025 monitoring events, with averages around 548-550 feet MSL (e.g., D-1 at 547.69-550.41 feet MSL, D-2 at 549.44-550.85 feet MSL, D-3 at 546.89-550.04 feet MSL, D-4 at 546.99-549.53 feet MSL). In the Lakeside Ash Pond (L series wells), liquid levels are similarly elevated, ranging from 550 to 559 feet MSL (e.g., L-1 at 550.33-551.37 feet MSL, L-3 at 550.71-551.84 feet MSL, L-4 at 558.45-559.45 feet MSL, L-5 at 549.51-551.05 feet MSL). The liquid levels are precipitation that falls within the impoundment boundaries.

These impoundment liquid levels are consistently higher than the potentiometric surfaces in adjacent monitoring wells screened in the uppermost saturated zone. For example, downgradient wells such as AP-1 (524-527 feet MSL) and AP-2 (528-529 feet MSL) exhibit hydraulic heads 20-30 feet lower than the pond levels, indicating a downward hydraulic gradient from the impoundments to the underlying aquifer. This is further substantiated by the saturated intervals encountered at the borings advanced through the dikes (i.e., B-5, B-6, B-7, B-8 and B-9 series of borings conducted in 2023). The pore water levels within the berms are closer to the potentiometric surface exhibited outside of the impoundments, and very different from the liquid levels exhibited by the piezometers within the CCR surface impoundments.

Pre-closure dewatering will lower impoundment levels within the CCR, eliminating the downward gradient. The confining lower cohesive unit (low $K < 10 \times 10^{-5}$ cm/s) limits vertical migration, confining transport to lateral flow in the basal sand. As stated previously, Sugar Creek is a gaining creek, being fed not only by any lake water from the spillway, but from the basal sand. Once dewatering in the impoundment has been completed as part of closure activities, the potentiometric surface in the basal sand is expected to decrease to levels near that of the creek, below that of bottom of the Dallman Ash Pond. Given the low hydraulic conductivity of the lower cohesive deposit between the basal sand and the bottom of the Dallman Ash Pond, a temporary increase in the potentiometric surface due to an increase in creek level will not result in fluctuation of the potentiometric surface into the ash pond. The low hydraulic conductivity will restrict vertical upward movement of groundwater thereby continuing separation of the potentiometric surface and the ash pond.

The bottom of the five-foot recompacted clay liner for the FGDS Unit 2 Landfill extended to a minimum depth of approximately 525 feet MSL; the surface of the liner is approximately 530 feet MSL. The FGDS Landfill was designed and constructed above the uppermost saturated zone. The landfill contains a leachate collection system designed to maintain the liquid level to less than

one foot of head on the liner. Upon closure, the landfill will install a composite final cover. The leachate collection system will continue to operate for a minimum 30 years after closure pursuant to 35 Ill. Admin. Code Part 811.

## 6. RECENT ADDITION OF PIEZOMETERS

Borings were advanced and piezometers installed at these locations to further characterize the hydrogeologic conditions of the CWLP facility and to identify potential migration pathways. Completed in June 2025 the installed piezometers are:

- At the northeast corner of the FGDS Development area, paired with P-103 (designated as P-103S).
- Northeast of the Unit 2 CCR disposal area, paired with G-104 (designated as P-104S).
- At the northeast corner of the Dallman Ash Pond, paired with RW3 (designated as RW3S).
- In the shallow sand unit, paired with well AP-6 (designated as AP-6S).
- In the shallow sand unit paired with AP-8 (designated as AP8-S).
- On the far side of Sugar Creek, paired with T4 (designated T4S)
- North of well T-5 (designated AP-16).
- Between wells AP-14 and AP-4 (designated as AP-15S and AP-15D).

Wells AP-15S and AP-15D will be incorporated into the groundwater monitoring system. The remaining piezometers shall be maintained solely for the continued measurement of groundwater elevations. CWLP does not identify these piezometers as groundwater monitoring wells and does not anticipate the collection of analytical samples from these wells. The piezometer network is sufficient to provide a full characterization of the flow characteristics.

## 7. ANNUAL EVALUATION

This report will be evaluated annually to determine if groundwater flow paths have changed (e.g., due to climate or site modifications) or if additional wells are necessary for detecting/assessing Appendix III/IV releases. Changes will be reported in annual GWMCA Reports, with the first evaluation in August 2026.

## 8. CONCLUSION

This Flow Path Report provides a comprehensive characterization of groundwater flow paths at the CWLP Dallman and Lakeside Ash Ponds and FGDS Disposal Facility, in fulfillment of the requirements outlined in Section B, Paragraph 263 and Section B, Paragraph 280 of the CAFO and Attachment 1. Through integration of extensive site-specific data, including boring logs, well construction details, groundwater elevations, potentiometric maps, hydrogeologic cross-sections,

and slug testing results, the analysis demonstrates that groundwater flow is predominantly radial from the impoundments toward Sugar Creek, with an eastward component influencing the FGDS area before converging northward. Hydraulic gradients average 0.01-0.02 ft/ft, with seasonal fluctuations driven by recharge, but no significant deviations or reversals observed.

The report confirms no additional preferential pathways exist: the abandoned creek bed has been over-excavated, filled, and compacted beneath the perimeter berms for the Dallman Ash Pond, exhibiting low permeability ($K=10^{-5}$ to $10^{-4}$ cm/s) that precludes enhanced transport; the shallow sand unit is discontinuous, largely removed during construction, and shows no connectivity to the basal sand. The shallow sand is present at AP-15 and along the exterior of the northern berm of the Dallman Ash Pond. However, the shallow sand does not appear to directly intersect with the CCR as the potentiometric surfaces in the shallow wells are indicative of groundwater elevations largely unaffected by the much higher liquid levels within the impoundment. The shallow sand appears isolated north of the pond due to excavation and relocation of Sugar Creek. Therefore, monitoring of the shallow sand along the northern perimeter is not necessary. However, it is proposed to add wells AP15S and AP-15D located west of the Lakeside Ash Pond to the impoundment groundwater monitoring program. A revision to the subject detection monitoring program will be forthcoming with the inclusion of AP-15S and AP-15D.

Vertical communication between units is de minimis, with the lower cohesive deposit acting as an effective confining layer ($K \sim 10^{-7}$ cm/sec) restricting migration to lateral flow within the confined basal sand. Borings were advanced and piezometers installed at these locations to enhance the hydrogeology understanding of the site with an emphasis on further characterization of the migration pathways at the CWLP facility. The installation of additional piezometers/monitoring wells is not necessary at this time.

These findings meet CAFO objectives by delineating flow dynamics, ruling out high-risk pathways, and supporting the Assessment of Corrective Measures through a complete hydrogeologic characterization. Annual evaluations will ensure adaptive management, with the first review scheduled for August 2026.

## 9. ENGINEERING CERTIFICATION

The owner or operator of a coal combustion residual (CCR) unit must obtain a certification from a qualified professional engineer that the Flow Path Report has been completed pursuant to 40 C.F.R. § 257.91(b)(1).

The engineering certification for the groundwater monitoring system follows.

# 10. REFERENCES

Stabilize, Inc. 2009. City Water Light and Power – 35 IAC 620 Ash Pond Assessment

Patrick Engineering, 1993. Hydrogeologic Report on Flue Gas Desulfurization Sludge Landfill.

## Professional Engineer Certification – Flow Path Report

### In General Accordance with 40 CFR § 257.91(b)(1) - Groundwater Flow Path

In accordance with Title 40 of the Code of Federal Regulations (40 CFR), Part 257, Subpart D, Section 257.91(b)(1) the owner or operator of a coal combustion residuals (CCR) unit must obtain certification from a qualified professional engineer verifying the accuracy of the information in the Flow Path Report.

*I, Karl W. Finke, a qualified professional engineer in good standing in the State of Illinois, certify that the information provided in the Flow Path Report for the CWLP impoundments and FGDS Unit 2 Landfill is accurate.*

LICENSED PROFESSIONAL ENGINEER
KARL W. FINKE
062.068571
STATE OF ILLINOIS

Signature: Karl Finke

Illinois P.E. No: 062.068571

Date: September 22, 2025

Lic. Exp: 11/30/25

# TABLES

# TABLE 1:
## GROUNDWATER ELEVATIONS

**Table 1: Groundwater Elevations**
**CWLP, Springfield, Illinois**

| Well/Location | Elev. Of Meas. Point | Grnd. Surface | Stick Up | 1/27/2025 | | | 2/25/2025 | | | 3/28/2025 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DTW from Meas. Pt | DTW from Grnd | GW Elev | DTW from Meas. Pt | DTW from Grnd | GW Elev | DTW from Meas. Pt | DTW from Grnd | GW Elev |
| R101 | 546.8 | 543.57 | 3.23 | 6.49 | 3.26 | 540.31 | 6.89 | 3.66 | 539.91 | 6.44 | 3.21 | 540.36 |
| P103 | 537.43 | 534.47 | 2.96 | 9.40 | 6.44 | 528.03 | 9.43 | 6.47 | 528.00 | 9.13 | 6.17 | 528.30 |
| P103S | 537.637 | 535.852 | 1.785 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| P104 | 531.79 | 529.15 | 2.64 | 7.98 | 5.34 | 523.81 | 7.91 | 5.27 | 523.88 | 7.86 | 5.22 | 523.93 |
| P104S | 532.669 | 529.742 | 2.927 | | | | | | | | | |
| P106 | 524.79 | 523.24 | 1.55 | 1.55 | 0.00 | 523.24 | 1.96 | 0.41 | 522.83 | 1.55 | 0.00 | 523.24 |
| G110 | 555.92 | 553.79 | 2.13 | 23.49 | 21.36 | 532.43 | 24.40 | 22.27 | 531.52 | 24.37 | 22.24 | 531.55 |
| R111 | 552.4 | 552.51 | -0.11 | 25.15 | 25.26 | 527.25 | 25.04 | 25.15 | 527.36 | 25.06 | 25.17 | 527.34 |
| G112 | 553.3 | 550.41 | 2.89 | 27.58 | 24.69 | 525.72 | 28.49 | 25.60 | 524.81 | 27.58 | 24.69 | 525.72 |
| G113 | 536.77 | 533.64 | 3.13 | 4.51 | 1.38 | 532.26 | 5.01 | 1.88 | 531.76 | 4.60 | 1.47 | 532.17 |
| G120 | 551.74 | 551.78 | -0.04 | 15.87 | 15.91 | 535.87 | 15.89 | 15.93 | 535.85 | 15.66 | 15.70 | 536.08 |
| G121 | 554.33 | 551.81 | 2.52 | 28.14 | 25.62 | 526.19 | 28.25 | 25.73 | 526.08 | 27.93 | 25.41 | 526.40 |
| G122 | 553.28 | 550.97 | 2.31 | 26.71 | 24.40 | 526.57 | 29.72 | 27.41 | 523.56 | 29.66 | 27.35 | 523.62 |
| G123 | 553.212 | 550.523 | 2.689 | | | | | | | | | |
| P03D | 533.203 | 530.018 | 3.185 | | | | | | | | | |
| P03S | 532.75 | 529.985 | 2.765 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| P04D | 539.67 | 534.64 | 5.03 | 7.98 | 2.95 | 531.69 | 12.42 | 7.39 | 527.25 | 12.41 | 7.38 | 527.26 |
| P05D | 536.92 | 533.64 | 3.28 | 6.02 | 2.74 | 530.90 | 5.88 | 2.60 | 531.04 | 5.96 | 2.68 | 530.96 |
| P06S North | 526.83 | 523.96 | 2.87 | 2.87 | 0.00 | 523.96 | 2.87 | 0.00 | 523.96 | 2.91 | 0.04 | 523.92 |
| P06D Middle | 529.8 | 523.96 | 5.84 | 5.84 | 0.00 | 523.96 | 5.84 | 0.00 | 523.96 | 5.84 | 0.00 | 523.96 |
| P06R South | 531.2 | 524.7 | 6.5 | 6.50 | 0.00 | 524.70 | 6.50 | 0.00 | 524.70 | 6.50 | 0.00 | 524.70 |
| P07S West | 527.39 | 525.08 | 2.31 | 5.28 | 2.97 | 522.11 | 3.00 | 0.69 | 524.39 | 4.74 | 2.43 | 522.65 |
| P07D North | 528.25 | 525.25 | 3 | 4.44 | 1.44 | 523.81 | 4.49 | 1.49 | 523.76 | 4.48 | 1.48 | 523.77 |
| P07M East | 527.04 | 525.02 | 2.02 | 4.31 | 2.29 | 522.73 | 2.02 | 0.00 | 525.02 | 4.51 | 2.49 | 522.53 |
| P09S West | 554.47 | 550.78 | 3.69 | 29.46 | 25.77 | 525.01 | 29.44 | 25.75 | 525.03 | 29.57 | 25.88 | 524.90 |
| P09D East | 554.84 | 551.47 | 3.37 | 29.08 | 25.71 | 525.76 | 28.93 | 25.56 | 525.91 | 29.14 | 25.77 | 525.70 |
| AW-1 | 554.42 | 551.24 | 3.18 | 13.33 | 10.15 | 541.09 | 13.45 | 10.27 | 540.97 | 13.31 | 10.13 | 541.11 |
| AW-2 | 528.25 | 525.02 | 3.23 | 4.56 | 1.33 | 523.69 | 4.53 | 1.30 | 523.72 | 4.50 | 1.27 | 523.75 |
| RW3 | 538.42 | 535.65 | 2.77 | 9.99 | 7.22 | 528.43 | 9.56 | 6.79 | 528.86 | 9.55 | 6.78 | 528.87 |
| RW3S | 538.391 | 535.867 | 2.524 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| TW3 West | 538.293 | 535.833 | 2.46 | 11.37 | 8.91 | 526.92 | 11.21 | 8.75 | 527.08 | 11.08 | 8.62 | 527.21 |
| AP-1 | 535.37 | 533.1 | 2.27 | 10.94 | 8.67 | 524.43 | 10.79 | 8.52 | 524.58 | 10.40 | 8.13 | 524.97 |
| AP-2 | 536.1 | 533.6 | 2.5 | 7.88 | 5.38 | 528.22 | 7.87 | 5.37 | 528.23 | 7.47 | 4.97 | 528.63 |
| AP-3 | 535.25 | 532.7 | 2.55 | 9.87 | 7.32 | 525.38 | 9.75 | 7.20 | 525.50 | 9.56 | 7.01 | 525.69 |
| AP-4 | 555.6 | 552.46 | 3.14 | 10.88 | 7.74 | 544.72 | 10.68 | 7.54 | 544.92 | 10.76 | 7.62 | 544.84 |
| AP-5 | 583.9 | 581.6 | 2.3 | 15.38 | 13.08 | 568.52 | 14.98 | 12.68 | 568.92 | 14.73 | 12.43 | 569.17 |
| AP6 | 536.796 | 534.155 | 2.641 | 8.57 | 5.93 | 528.23 | 8.56 | 5.92 | 528.24 | 8.21 | 5.57 | 528.59 |
| AP6S | 536.854 | 533.959 | 2.895 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| AP7 | 537.89 | 534.99 | 2.9 | 11.86 | 8.96 | 526.03 | 11.92 | 9.02 | 525.97 | 11.47 | 8.57 | 526.42 |
| AP8 | 540.3 | 537.2 | 3.1 | 5.51 | 2.41 | 534.79 | 5.51 | 2.41 | 534.79 | 5.10 | 2.00 | 535.20 |
| AP8S | 538.585 | 535.974 | 2.611 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| AP9 | 537.2 | 534.3 | 2.9 | 13.13 | 10.23 | 524.07 | 13.29 | 10.39 | 523.91 | 12.62 | 9.72 | 524.58 |
| AP10 | 537.5 | 534.4 | 3.1 | 2.98 | -0.12 | 534.52 | 4.04 | 0.94 | 533.46 | 3.88 | 0.78 | 533.62 |
| AP11 | 538.1 | 535.3 | 2.8 | 15.22 | 12.42 | 522.88 | 15.24 | 12.44 | 522.86 | 14.57 | 11.77 | 523.53 |
| AP12 | 540.7 | 537.8 | 2.9 | 18.06 | 15.16 | 522.64 | 18.08 | 15.18 | 522.62 | 17.51 | 14.61 | 523.19 |
| AP13 | 542 | 538.6 | 3.4 | 18.46 | 15.06 | 523.54 | 18.44 | 15.04 | 523.56 | 17.28 | 13.88 | 524.72 |
| AP14 | 539.6 | 536.8 | 2.8 | 2.30 | -0.50 | 537.30 | 2.39 | -0.41 | 537.21 | 2.34 | -0.46 | 537.26 |
| AP15D | 538.609 | 536.295 | 2.314 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| AP15S | 538.532 | 536.417 | 2.115 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| AP16 | 539.275 | 536.936 | 2.339 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| GP1 | 537.72 | 535.62 | 2.1 | 11.91 | 9.81 | 525.81 | 11.89 | 9.79 | 525.83 | 11.61 | 9.51 | 526.11 |
| GP3 | 550.41 | 547.56 | 2.85 | 21.57 | 18.72 | 528.84 | 21.08 | 18.23 | 529.33 | 20.06 | 17.21 | 530.35 |
| GP7 | 535.74 | 533.25 | 2.49 | 8.15 | 5.66 | 527.59 | 8.11 | 5.62 | 527.63 | 7.89 | 5.40 | 527.85 |
| T1 | 535.65 | 533.65 | 2 | 13.93 | 11.93 | 521.72 | 13.84 | 11.84 | 521.81 | 12.61 | 10.61 | 523.04 |
| T2 | 549.62 | 547.22 | 2.4 | 25.39 | 22.99 | 524.23 | 25.65 | 23.25 | 523.97 | 24.71 | 22.31 | 524.91 |
| T4 | 548.94 | 546.56 | 2.38 | 18.66 | 16.28 | 530.28 | 18.41 | 16.03 | 530.53 | 16.94 | 14.56 | 532.00 |
| T4S | 549.044 | 546.754 | 2.29 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| T5 | 540.66 | 538.15 | 2.51 | 8.33 | 5.82 | 532.33 | 7.99 | 5.48 | 532.67 | 6.42 | 3.91 | 534.24 |
| T6 | 538.32 | 535.96 | 2.36 | 9.87 | 7.51 | 528.45 | 9.8 | 7.44 | 528.52 | 9.4 | 7.04 | 528.92 |
| L1 Deep | 572.31 | 568.96 | 3.35 | 21.75 | 18.40 | 550.56 | 21.96 | 18.61 | 550.35 | 21.98 | 18.63 | 550.33 |
| L1 Shallow | 571.09 | 568.861 | 2.229 | NI | NI | NI | NI | NI | NI | 20.74 | 18.51 | 550.35 |
| LB2 Deep | 570.639 | 568.057 | 2.582 | NI | NI | NI | NI | NI | NI | 19.61 | 17.03 | 551.03 |
| LB2 Shallow | 570.452 | 568.136 | 2.316 | NI | NI | NI | NI | NI | NI | 19.39 | 17.07 | 551.06 |
| L3 Deep | 565.88 | 563.02 | 2.86 | 15.11 | 12.25 | 550.77 | 15.13 | 12.27 | 550.75 | 15.17 | 12.31 | 550.71 |
| L3 Shallow | 565.762 | 562.971 | 2.791 | NI | NI | NI | NI | NI | NI | 14.96 | 12.17 | 550.80 |
| L4 | 568.58 | 566.25 | 2.33 | 9.76 | 7.43 | 558.82 | 10.13 | 7.80 | 558.45 | 9.74 | 7.41 | 558.84 |
| L5 Deep | 568.01 | 565.19 | 2.82 | 18.38 | 15.56 | 549.63 | 18.5 | 15.68 | 549.51 | 18.28 | 15.46 | 549.73 |
| L5 Shallow | 567.747 | 565.25 | 2.497 | NI | NI | NI | NI | NI | NI | 16.97 | 14.47 | 550.78 |
| D1 Deep | 566.2 | 564.02 | 2.18 | 17.44 | 15.26 | 548.76 | 17.28 | 15.10 | 548.92 | 17.27 | 15.09 | 548.93 |
| D1 Shallow | 566.333 | 563.871 | 2.462 | NI | NI | NI | NI | NI | NI | 17.21 | 14.75 | 549.12 |
| D2 Deep | 560.93 | 558 | 2.93 | 11.25 | 8.32 | 549.68 | 10.84 | 7.91 | 550.09 | 10.88 | 7.95 | 550.05 |
| D2 Shallow | 560.503 | 557.849 | 2.654 | NI | NI | NI | NI | NI | NI | 10.20 | 7.55 | 550.30 |
| D3 Deep | 557.9 | 555.03 | 2.87 | 10.21 | 7.34 | 547.69 | 9.55 | 6.68 | 548.35 | 10.49 | 7.62 | 547.41 |
| D3 Shallow | 557.743 | 554.673 | 3.07 | NI | NI | NI | NI | NI | NI | 10.71 | 7.64 | 547.03 |
| D4 | 565.61 | 561.8 | 3.81 | 17.64 | 13.83 | 547.97 | 17.65 | 13.84 | 547.96 | 17.22 | 13.41 | 548.39 |
| DB04 Deep | 556.298 | 553.706 | 2.592 | NI | NI | NI | NI | NI | NI | 8.10 | 5.51 | 548.20 |
| DB04 Shallow | 556.433 | 553.548 | 2.885 | NI | NI | NI | NI | NI | NI | 7.93 | 5.05 | 548.50 |
| DB05 Deep | 555.82 | 553.385 | 2.435 | NI | NI | NI | NI | NI | NI | 7.77 | 5.33 | 548.05 |
| DB05 Shallow | 555.912 | 553.563 | 2.349 | NI | NI | NI | NI | NI | NI | 7.78 | 5.43 | 548.13 |
| DB06 | 553.694 | 552.765 | 0.929 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| DB07 | 555.798 | 552.754 | 3.044 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| DB08 | 554.332 | 551.8 | 2.532 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sugar Creek | 510.44 | NA | NA | 9.77 | NA | 520.21 | 9.55 | NA | 519.99 | 9.8 | NA | 520.24 |
| Lake Springfield | NA | NA | NA | NA | NA | 559.59 | NA | NA | 559.58 | NA | NA | 559.63 |
| Clarification Pond | 553.29 | NA | NA | 6.6 | NA | 546.69 | 7.3 | NA | 545.99 | 7.3 | NA | 545.99 |

Notes:
NI - Not Installed
NA - Not Applicable

**Table 1: Groundwater Elevations**
**CWLP, Springfield, Illinois**

| Well/Location | Elev. Of Meas. Point | Grnd. Surface | Stick Up | 4/20/2025 | | | 5/29/2025 | | | 6/25/2025 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DTW from Meas. Pt | DTW from Grnd | GW Elev | DTW from Meas. Pt | DTW from Grnd | GW Elev | DTW from Meas. Pt | DTW from Grnd | GW Elev |
| R101 | 546.8 | 543.57 | 3.23 | 5.19 | 1.96 | 541.61 | 6.88 | 3.65 | 539.92 | 7.12 | 3.89 | 539.68 |
| P103 | 537.43 | 534.47 | 2.96 | | -2.96 | 537.43 | | -2.96 | 537.43 | 11.62 | 8.66 | 525.81 |
| P103S | 537.637 | 535.852 | 1.785 | NI | NI | NI | NI | NI | NI | 11.87 | 10.09 | 525.77 |
| P104 | 531.79 | 529.15 | 2.64 | 7.04 | 4.40 | 524.75 | 7.61 | 4.97 | 524.18 | 8.57 | 5.93 | 523.22 |
| P104S | 532.669 | 529.742 | 2.927 | | | | NI | NI | NI | 9.28 | 6.35 | 523.39 |
| P106 | 524.79 | 523.24 | 1.55 | 1.55 | 0.00 | 523.24 | 1.67 | 0.12 | 523.12 | 1.55 | 0.00 | 523.24 |
| G110 | 555.92 | 553.79 | 2.13 | 23.97 | 21.84 | 531.95 | 24.85 | 22.72 | 531.07 | 24.96 | 22.83 | 530.96 |
| R111 | 552.4 | 552.51 | -0.11 | 24.66 | 24.77 | 527.74 | 25.19 | 25.30 | 527.21 | 25.51 | 25.62 | 526.89 |
| G112 | 553.3 | 550.41 | 2.89 | 27.27 | 24.38 | 526.03 | 17.54 | 14.65 | 535.76 | 17.77 | 14.88 | 535.53 |
| G113 | 536.77 | 533.64 | 3.13 | 4.01 | 0.88 | 532.76 | 5.80 | 2.67 | 530.97 | 5.83 | 2.70 | 530.94 |
| G120 | 551.74 | 551.78 | -0.04 | 15.00 | 15.04 | 536.74 | 16.18 | 16.22 | 535.56 | 16.15 | 16.19 | 535.59 |
| G121 | 554.33 | 551.81 | 2.52 | 27.27 | 24.75 | 527.06 | 28.13 | 25.61 | 526.20 | 27.93 | 25.41 | 526.40 |
| G122 | 553.28 | 550.97 | 2.31 | 28.72 | 26.41 | 524.56 | 29.13 | 26.82 | 524.15 | 30.31 | 28.00 | 522.97 |
| G123 | 553.212 | 550.523 | 2.689 | | | | | | | 30.26 | 27.57 | 522.95 |
| P03D | 533.203 | 530.018 | 3.185 | | | | | | | 7.82 | 4.64 | 525.38 |
| P03S | 532.75 | 529.985 | 2.765 | NI | NI | NI | NI | NI | NI | 9.89 | 7.13 | 522.86 |
| P04D | 539.67 | 534.64 | 5.03 | 12.26 | 7.23 | 527.41 | 13.22 | 8.19 | 526.45 | 13.66 | 8.63 | 526.01 |
| P05D | 536.92 | 533.64 | 3.28 | 5.45 | 2.17 | 531.47 | 6.09 | 2.81 | 530.83 | 6.23 | 2.95 | 530.69 |
| P06S North | 526.83 | 523.96 | 2.87 | 2.91 | 0.04 | 523.92 | 2.99 | 0.12 | 523.84 | 2.87 | 0.00 | 523.96 |
| P06D Middle | 529.8 | 523.96 | 5.84 | 5.84 | 0.00 | 523.96 | 6.12 | 0.28 | 523.68 | 5.84 | 0.00 | 523.96 |
| P06R South | 531.2 | 524.7 | 6.5 | 6.50 | 0.00 | 524.70 | 6.72 | 0.22 | 524.48 | 6.50 | 0.00 | 524.70 |
| P07S West | 527.39 | 525.08 | 2.31 | 4.14 | 1.83 | 523.25 | 4.89 | 2.58 | 522.50 | 6.71 | 4.40 | 520.68 |
| P07D North | 528.25 | 525.25 | 3 | 3.88 | 0.88 | 524.37 | 5.31 | 2.31 | 522.94 | 5.43 | 2.43 | 522.82 |
| P07M East | 527.04 | 525.02 | 2.02 | 3.46 | 1.44 | 523.58 | 4.37 | 2.35 | 522.67 | 5.55 | 3.53 | 521.49 |
| P09S West | 554.47 | 550.78 | 3.69 | 29.23 | 25.54 | 525.24 | 30.44 | 26.75 | 524.03 | 29.67 | 25.98 | 524.80 |
| P09D East | 554.84 | 551.47 | 3.37 | 28.80 | 25.43 | 526.04 | 29.65 | 26.28 | 525.19 | 29.73 | 26.36 | 525.11 |
| AW-1 | 554.42 | 551.24 | 3.18 | 12.52 | 9.34 | 541.90 | 14.26 | 11.08 | 540.16 | 14.76 | 11.58 | 539.66 |
| AW-2 | 528.25 | 525.02 | 3.23 | 3.72 | 0.49 | 524.53 | 5.35 | 2.12 | 522.90 | 5.44 | 2.21 | 522.81 |
| RW3 | 538.42 | 535.65 | 2.77 | 8.94 | 6.17 | 529.48 | 9.27 | 6.50 | 529.15 | 9.85 | 7.08 | 528.57 |
| RW3S | 538.391 | 535.867 | 2.524 | NI | NI | NI | NI | NI | NI | 9.23 | 6.71 | 529.16 |
| TW3 West | 538.293 | 535.833 | 2.46 | 8.88 | 6.42 | 529.41 | 9.23 | 6.77 | 529.06 | 11.66 | 9.20 | 526.63 |
| AP-1 | 535.37 | 533.1 | 2.27 | 8.11 | 5.84 | 527.26 | 9.79 | 7.52 | 525.58 | 10.50 | 8.23 | 524.87 |
| AP-2 | 536.1 | 533.6 | 2.5 | 6.38 | 3.88 | 529.72 | 7.79 | 5.29 | 528.31 | 8.06 | 5.56 | 528.04 |
| AP-3 | 535.25 | 532.7 | 2.55 | 8.39 | 5.84 | 526.86 | 7.67 | 5.12 | 527.58 | 9.32 | 6.77 | 525.93 |
| AP-4 | 555.6 | 552.46 | 3.14 | 10.08 | 6.94 | 545.52 | 10.38 | 7.24 | 545.22 | 10.44 | 7.30 | 545.16 |
| AP-5 | 583.9 | 581.6 | 2.3 | 13.48 | 11.18 | 570.42 | 14.41 | 12.11 | 569.49 | 14.63 | 12.33 | 569.27 |
| AP6 | 536.796 | 534.155 | 2.641 | 7.00 | 4.36 | 529.80 | 7.77 | 5.13 | 529.03 | 8.47 | 5.83 | 528.33 |
| AP6S | 536.854 | 533.959 | 2.895 | NI | NI | NI | NI | NI | NI | 9.06 | 6.16 | 527.79 |
| AP7 | 537.89 | 534.99 | 2.9 | 7.44 | 4.54 | 530.45 | 10.92 | 8.02 | 526.97 | 11.04 | 8.14 | 526.85 |
| AP8 | 540.3 | 537.2 | 3.1 | 8.05 | 4.95 | 532.25 | 4.01 | 0.91 | 536.29 | 5.22 | 2.12 | 535.08 |
| AP8S | 538.585 | 535.974 | 2.611 | NI | NI | NI | NI | NI | NI | 11.45 | 8.84 | 527.14 |
| AP9 | 537.2 | 534.3 | 2.9 | 10.18 | 7.28 | 527.02 | 12.86 | 9.96 | 524.34 | 12.80 | 9.90 | 524.40 |
| AP10 | 537.5 | 534.4 | 3.1 | 2.94 | -0.16 | 534.56 | 3.92 | 0.82 | 533.58 | 3.99 | 0.89 | 533.51 |
| AP11 | 538.1 | 535.3 | 2.8 | 12.04 | 9.24 | 526.06 | 12.03 | 9.23 | 526.07 | 15.03 | 12.23 | 523.07 |
| AP12 | 540.7 | 537.8 | 2.9 | 15.16 | 12.26 | 525.54 | 15.16 | 12.26 | 525.54 | 17.01 | 14.11 | 523.69 |
| AP13 | 542 | 538.6 | 3.4 | 13.43 | 10.03 | 528.57 | 14.73 | 11.33 | 527.27 | 16.82 | 13.42 | 525.18 |
| AP14 | 539.6 | 536.8 | 2.8 | 1.86 | -0.94 | 537.74 | 2.72 | -0.08 | 536.88 | 2.56 | -0.24 | 537.04 |
| AP15D | 538.609 | 536.295 | 2.314 | NI | NI | NI | NI | NI | NI | 1.90 | -0.41 | 536.71 |
| AP15S | 538.532 | 536.417 | 2.115 | NI | NI | NI | NI | NI | NI | 0.91 | -1.21 | 537.62 |
| AP16 | 539.275 | 536.936 | 2.339 | NI | NI | NI | NI | NI | NI | 6.95 | 4.61 | 532.33 |
| GP1 | 537.72 | 535.62 | 2.1 | 10.80 | 8.70 | 526.92 | 12.88 | 10.78 | 524.84 | 12.32 | 10.22 | 525.40 |
| GP3 | 550.41 | 547.56 | 2.85 | 17.91 | 15.06 | 532.50 | 19.64 | 16.79 | 530.77 | 19.54 | 16.69 | 530.87 |
| GP7 | 535.74 | 533.25 | 2.49 | 7.32 | 4.83 | 528.42 | 7.46 | 4.97 | 528.28 | 8.14 | 5.65 | 527.60 |
| T1 | 535.65 | 533.65 | 2 | 10.64 | 8.64 | 525.01 | 10.86 | 8.86 | 524.79 | 13.18 | 11.18 | 522.47 |
| T2 | 549.62 | 547.22 | 2.4 | 23.23 | 20.83 | 526.39 | 23.83 | 21.43 | 525.79 | 23.92 | 21.52 | 525.70 |
| T4 | 548.94 | 546.56 | 2.38 | 14.06 | 11.68 | 534.88 | 17.24 | 14.86 | 531.70 | 16.68 | 14.30 | 532.26 |
| T4S | 549.044 | 546.754 | 2.29 | NI | NI | NI | NI | NI | NI | 16.44 | 14.15 | 532.60 |
| T5 | 540.66 | 538.15 | 2.51 | 4.28 | 1.77 | 536.38 | 9.14 | 6.63 | 531.52 | 8.49 | 5.98 | 532.17 |
| T6 | 538.32 | 535.96 | 2.36 | 8.92 | 6.56 | 529.40 | 8.86 | 6.50 | 529.46 | 9.07 | 6.71 | 529.25 |
| L1 Deep | 572.31 | 568.96 | 3.35 | 20.94 | 17.59 | 551.37 | 21.19 | 17.84 | 551.12 | 20.98 | 17.63 | 551.33 |
| L1 Shallow | 571.09 | 568.861 | 2.229 | 19.75 | 17.52 | 551.34 | 19.91 | 17.68 | 551.18 | 19.72 | 17.49 | 551.37 |
| LB2 Deep | 570.639 | 568.057 | 2.582 | 18.53 | 15.95 | 552.11 | 18.93 | 16.35 | 551.71 | 18.77 | 16.19 | 551.87 |
| LB2 Shallow | 570.452 | 568.136 | 2.316 | 18.33 | 16.01 | 552.12 | 18.68 | 16.36 | 551.77 | 18.49 | 16.17 | 551.96 |
| L3 Deep | 565.88 | 563.02 | 2.86 | 14.04 | 11.18 | 551.84 | 14.55 | 11.69 | 551.33 | 14.33 | 11.47 | 551.55 |
| L3 Shallow | 565.762 | 562.971 | 2.791 | 13.84 | 11.05 | 551.92 | 14.43 | 11.64 | 551.33 | 14.24 | 11.45 | 551.52 |
| L4 | 568.58 | 566.25 | 2.33 | 9.13 | 6.80 | 559.45 | 9.67 | 7.34 | 558.91 | 9.43 | 7.10 | 559.15 |
| L5 Deep | 568.01 | 565.19 | 2.82 | 16.96 | 14.14 | 551.05 | 17.96 | 15.14 | 550.05 | 17.72 | 14.90 | 550.29 |
| L5 Shallow | 567.747 | 565.25 | 2.497 | 15.29 | 12.79 | 552.46 | 16.46 | 13.96 | 551.29 | 16.36 | 13.86 | 551.39 |
| D1 Deep | 566.2 | 564.02 | 2.18 | 15.79 | 13.61 | 550.41 | 18.51 | 16.33 | 547.69 | 17.66 | 15.48 | 548.54 |
| D1 Shallow | 566.333 | 563.871 | 2.462 | 15.87 | 13.41 | 550.46 | 18.78 | 16.32 | 547.55 | 17.69 | 15.23 | 548.64 |
| D2 Deep | 560.93 | 558 | 2.93 | 10.08 | 7.15 | 550.85 | 11.49 | 8.56 | 549.44 | 11.36 | 8.43 | 549.57 |
| D2 Shallow | 560.503 | 557.849 | 2.654 | 9.74 | 7.09 | 550.76 | 11.14 | 8.49 | 549.36 | 10.68 | 8.03 | 549.82 |
| D3 Deep | 557.9 | 555.03 | 2.87 | 8.09 | 5.22 | 549.81 | 8.62 | 5.75 | 549.28 | 11.01 | 8.14 | 546.89 |
| D3 Shallow | 557.743 | 554.673 | 3.07 | 7.69 | 4.62 | 550.05 | 8.16 | 5.09 | 549.58 | 10.66 | 7.59 | 547.08 |
| D4 | 565.61 | 561.8 | 3.81 | 16.08 | 12.27 | 549.53 | 18.62 | 14.81 | 546.99 | 17.36 | 13.55 | 548.25 |
| DB04 Deep | 556.298 | 553.706 | 2.592 | 6.40 | 3.81 | 549.90 | 6.66 | 4.07 | 549.64 | 7.55 | 4.96 | 548.75 |
| DB04 Shallow | 556.433 | 553.548 | 2.885 | 6.89 | 4.01 | 549.54 | 7.49 | 4.61 | 548.94 | 7.42 | 4.54 | 549.01 |
| DB05 Deep | 555.82 | 553.385 | 2.435 | 6.46 | 4.02 | 549.36 | 7.99 | 5.55 | 547.83 | 7.81 | 5.37 | 548.01 |
| DB05 Shallow | 555.912 | 553.563 | 2.349 | 6.42 | 4.07 | 549.49 | 7.85 | 5.50 | 548.06 | 7.84 | 5.49 | 548.07 |
| DB06 | 553.694 | 552.765 | 0.929 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| DB07 | 555.798 | 552.754 | 3.044 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| DB08 | 554.332 | 551.8 | 2.532 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sugar Creek | 510.44 | NA | NA | 10.31 | | 520.75 | 11.06 | NA | 521.50 | 10.31 | NA | 520.75 |
| Lake Springfield | NA | NA | NA | NA | NA | 560.02 | NA | NA | 560.40 | NA | NA | 560.38 |
| Clarification Pond | 553.29 | NA | NA | 6 | | 547.29 | 6.9 | NA | 546.39 | 6.4 | NA | 546.89 |

Notes:
NI - Not Installed
NA - Not Applicable

**Table 1: Groundwater Elevations**
**CWLP, Springfield, Illinois**

| Well/Location | Elev. Of Meas. Point | Grnd. Surface | Stick Up | 7/21/2025 | | | 8/21/2025 | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | DTW from Meas. Pt | DTW from Grnd | GW Elev | DTW from Meas. Pt | DTW from Grnd | GW Elev |
| R101 | 546.8 | 543.57 | 3.23 | 6.52 | 3.29 | 540.28 | 8.67 | 5.44 | 538.13 |
| P103 | 537.43 | 534.47 | 2.96 | 10.67 | 7.71 | 526.76 | 12.54 | 9.58 | 524.89 |
| P103S | 537.637 | 535.852 | 1.785 | 10.41 | 8.63 | 527.23 | 12.86 | 11.08 | 524.78 |
| P104 | 531.79 | 529.15 | 2.64 | 8.12 | 5.48 | 523.67 | 9.90 | 7.26 | 521.89 |
| P104S | 532.669 | 529.742 | 2.927 | 9.16 | 6.23 | 523.51 | 10.26 | 7.33 | 522.41 |
| P106 | 524.79 | 523.24 | 1.55 | 1.55 | 0.00 | 523.24 | 3.22 | 1.67 | 521.57 |
| G110 | 555.92 | 553.79 | 2.13 | 24.51 | 22.38 | 531.41 | 25.79 | 23.66 | 530.13 |
| R111 | 552.4 | 552.51 | -0.11 | 24.96 | 25.07 | 527.44 | 26.91 | 27.02 | 525.49 |
| G112 | 553.3 | 550.41 | 2.89 | 27.43 | 24.54 | 525.87 | 29.69 | 26.80 | 523.61 |
| G113 | 536.77 | 533.64 | 3.13 | 5.03 | 1.90 | 531.74 | 7.23 | 4.10 | 529.54 |
| G120 | 551.74 | 551.78 | -0.04 | 16.16 | 16.20 | 535.58 | 18.03 | 18.07 | 533.71 |
| G121 | 554.33 | 551.81 | 2.52 | 28.48 | 25.96 | 525.85 | 29.22 | 26.70 | 525.11 |
| G122 | 553.28 | 550.97 | 2.31 | 29.93 | 27.62 | 523.35 | 31.61 | 29.30 | 521.67 |
| G123 | 553.212 | 550.523 | 2.689 | 29.41 | 26.72 | 523.80 | 31.75 | 29.06 | 521.46 |
| P03D | 533.203 | 530.018 | 3.185 | 7.07 | 3.89 | 526.13 | 9.14 | 5.96 | 524.06 |
| P03S | 532.75 | 529.985 | 2.765 | 9.83 | 7.07 | 522.92 | 10.17 | 7.41 | 522.58 |
| P04D | 539.67 | 534.64 | 5.03 | 13.11 | 8.08 | 526.56 | 14.48 | 9.45 | 525.19 |
| P05D | 536.92 | 533.64 | 3.28 | 6.89 | 3.61 | 530.03 | 7.82 | 4.54 | 529.10 |
| P06S North | 526.83 | 523.96 | 2.87 | 2.87 | 0.00 | 523.96 | 5.43 | 2.56 | 521.40 |
| P06D Middle | 529.8 | 523.96 | 5.84 | 5.84 | 0.00 | 523.96 | 4.91 | -0.93 | 524.89 |
| P06R South | 531.2 | 524.7 | 6.5 | 6.50 | 0.00 | 524.70 | 6.50 | 0.00 | 524.70 |
| P07S West | 527.39 | 525.08 | 2.31 | 4.80 | 2.49 | 522.59 | 8.41 | 6.10 | 518.98 |
| P07D North | 528.25 | 525.25 | 3 | 4.34 | 1.34 | 523.91 | 6.92 | 3.92 | 521.33 |
| P07M East | 527.04 | 525.02 | 2.02 | 4.04 | 2.02 | 523.00 | 7.14 | 5.12 | 519.90 |
| P09S West | 554.47 | 550.78 | 3.69 | 29.42 | 25.73 | 525.05 | 30.38 | 26.69 | 524.09 |
| P09D East | 554.84 | 551.47 | 3.37 | 29.11 | 25.74 | 525.73 | 31.27 | 27.90 | 523.57 |
| AW-1 | 554.42 | 551.24 | 3.18 | 13.44 | 10.26 | 540.98 | 15.94 | 12.76 | 538.48 |
| AW-2 | 528.25 | 525.02 | 3.23 | 4.41 | 1.18 | 523.84 | 6.87 | 3.64 | 521.38 |
| RW3 | 538.42 | 535.65 | 2.77 | 10.49 | 7.72 | 527.93 | 11.05 | 8.28 | 527.37 |
| RW3S | 538.391 | 535.867 | 2.524 | 8.20 | 5.68 | 530.19 | 10.95 | 8.43 | 527.44 |
| TW3 West | 538.293 | 535.833 | 2.46 | 11.01 | 8.55 | 527.28 | 13.22 | 10.76 | 525.07 |
| AP-1 | 535.37 | 533.1 | 2.27 | 10.13 | 7.86 | 525.24 | 11.53 | 9.26 | 523.84 |
| AP-2 | 536.1 | 533.6 | 2.5 | 7.28 | 4.78 | 528.82 | 8.87 | 6.37 | 527.23 |
| AP-3 | 535.25 | 532.7 | 2.55 | 9.03 | 6.48 | 526.22 | 9.74 | 7.19 | 525.51 |
| AP-4 | 555.6 | 552.46 | 3.14 | 10.38 | 7.24 | 545.22 | 11.21 | 8.07 | 544.39 |
| AP-5 | 583.9 | 581.6 | 2.3 | 14.94 | 12.64 | 568.96 | 16.90 | 14.60 | 567.00 |
| AP6 | 536.796 | 534.155 | 2.641 | 8.93 | 6.29 | 527.87 | 9.58 | 6.94 | 527.22 |
| AP6S | 536.854 | 533.959 | 2.895 | 8.08 | 5.18 | 528.77 | 10.24 | 7.34 | 526.61 |
| AP7 | 537.89 | 534.99 | 2.9 | 11.38 | 8.48 | 526.51 | 11.83 | 8.93 | 526.06 |
| AP8 | 540.3 | 537.2 | 3.1 | 5.76 | 2.66 | 534.54 | 6.73 | 3.63 | 533.57 |
| AP8S | 538.585 | 535.974 | 2.611 | 8.13 | 5.52 | 530.46 | 13.59 | 10.98 | 525.00 |
| AP9 | 537.2 | 534.3 | 2.9 | 12.46 | 9.56 | 524.74 | 14.92 | 12.02 | 522.28 |
| AP10 | 537.5 | 534.4 | 3.1 | 4.08 | 0.98 | 533.42 | 5.54 | 2.44 | 531.96 |
| AP11 | 538.1 | 535.3 | 2.8 | 10.13 | 7.33 | 527.97 | 15.83 | 13.03 | 522.27 |
| AP12 | 540.7 | 537.8 | 2.9 | 17.19 | 14.29 | 523.51 | 18.22 | 15.32 | 522.48 |
| AP13 | 542 | 538.6 | 3.4 | 17.46 | 14.06 | 524.54 | 19.14 | 15.74 | 522.86 |
| AP14 | 539.6 | 536.8 | 2.8 | 2.37 | -0.43 | 537.23 | 2.39 | -0.41 | 537.21 |
| AP15D | 538.609 | 536.295 | 2.314 | 1.87 | -0.44 | 536.74 | 2.54 | 0.23 | 536.07 |
| AP15S | 538.532 | 536.417 | 2.115 | 0.86 | -1.26 | 537.67 | 1.57 | -0.55 | 536.96 |
| AP16 | 539.275 | 536.936 | 2.339 | 6.61 | 4.27 | 532.67 | 8.82 | 6.48 | 530.46 |
| GP1 | 537.72 | 535.62 | 2.1 | 12.02 | 9.92 | 525.70 | 13.01 | 10.91 | 524.71 |
| GP3 | 550.41 | 547.56 | 2.85 | 19.93 | 17.08 | 530.48 | 20.76 | 17.91 | 529.65 |
| GP7 | 535.74 | 533.25 | 2.49 | 8.74 | 6.25 | 527.00 | 9.38 | 6.89 | 526.36 |
| T1 | 535.65 | 533.65 | 2 | 13.48 | 11.48 | 522.17 | 14.93 | 12.93 | 520.72 |
| T2 | 549.62 | 547.22 | 2.4 | 24.82 | 22.42 | 524.80 | 26.31 | 23.91 | 523.31 |
| T4 | 548.94 | 546.56 | 2.38 | 16.96 | 14.58 | 531.98 | 18.54 | 16.16 | 530.40 |
| T4S | 549.044 | 546.754 | 2.29 | 16.91 | 14.62 | 532.13 | 16.87 | 14.58 | 532.17 |
| T5 | 540.66 | 538.15 | 2.51 | 7.57 | 5.06 | 533.09 | 11.16 | 8.65 | 529.50 |
| T6 | 538.32 | 535.96 | 2.36 | 9.34 | 6.98 | 528.98 | 9.77 | 7.41 | 528.55 |
| L1 Deep | 572.31 | 568.96 | 3.35 | 21.02 | 17.67 | 551.29 | 22.13 | 18.78 | 550.18 |
| L1 Shallow | 571.09 | 568.861 | 2.229 | 20.61 | 18.38 | 550.48 | 20.85 | 18.62 | 550.24 |
| LB2 Deep | 570.639 | 568.057 | 2.582 | 18.63 | 16.05 | 552.01 | 19.95 | 17.37 | 550.69 |
| LB2 Shallow | 570.452 | 568.136 | 2.316 | 18.40 | 16.08 | 552.05 | 19.71 | 17.39 | 550.74 |
| L3 Deep | 565.88 | 563.02 | 2.86 | 14.37 | 11.51 | 551.51 | 15.49 | 12.63 | 550.39 |
| L3 Shallow | 565.762 | 562.971 | 2.791 | 14.33 | 11.54 | 551.43 | 15.51 | 12.72 | 550.25 |
| L4 | 568.58 | 566.25 | 2.33 | 9.46 | 7.13 | 559.12 | 11.25 | 8.92 | 557.33 |
| L5 Deep | 568.01 | 565.19 | 2.82 | 17.86 | 15.04 | 550.15 | 18.84 | 16.02 | 549.17 |
| L5 Shallow | 567.747 | 565.25 | 2.497 | 16.61 | 14.11 | 551.14 | 17.41 | 14.91 | 550.34 |
| D1 Deep | 566.2 | 564.02 | 2.18 | 18.08 | 15.90 | 548.12 | 20.11 | 17.93 | 546.09 |
| D1 Shallow | 566.333 | 563.871 | 2.462 | 18.34 | 15.88 | 547.99 | 20.06 | 17.60 | 546.27 |
| D2 Deep | 560.93 | 558 | 2.93 | 10.47 | 7.54 | 550.46 | 15.7 | 12.77 | 545.23 |
| D2 Shallow | 560.503 | 557.849 | 2.654 | 10.43 | 7.78 | 550.07 | 15.02 | 12.37 | 545.48 |
| D3 Deep | 557.9 | 555.03 | 2.87 | 7.86 | 4.99 | 550.04 | 13.67 | 10.80 | 544.23 |
| D3 Shallow | 557.743 | 554.673 | 3.07 | 7.34 | 4.27 | 550.40 | 12.97 | 9.90 | 544.77 |
| D4 | 565.61 | 561.8 | 3.81 | 17.01 | 13.20 | 548.60 | 19.29 | 15.48 | 546.32 |
| DB04 Deep | 556.298 | 553.706 | 2.592 | 7.46 | 4.87 | 548.84 | 9.47 | 6.88 | 546.83 |
| DB04 Shallow | 556.433 | 553.548 | 2.885 | 7.44 | 4.56 | 548.99 | 9.40 | 6.52 | 547.03 |
| DB05 Deep | 555.82 | 553.385 | 2.435 | 6.31 | 3.87 | 549.51 | 12.04 | 9.60 | 543.78 |
| DB05 Shallow | 555.912 | 553.563 | 2.349 | 6.42 | 4.07 | 549.49 | 12.01 | 9.66 | 543.90 |
| DB06 | 553.694 | 552.765 | 0.929 | 3.96 | 3.03 | 549.73 | 8.93 | 8.00 | 544.76 |
| DB07 | 555.798 | 552.754 | 3.044 | 6.39 | 3.35 | 549.41 | 9.88 | 6.84 | 545.92 |
| DB08 | 554.332 | 551.8 | 2.532 | 4.30 | 1.77 | 550.03 | 11.25 | 8.72 | 543.08 |
| Sugar Creek | 510.44 | NA | NA | 10.41 | NA | 520.85 | 9.73 | NA | 520.17 |
| Lake Springfield | NA | NA | NA | NA | NA | 560.26 | NA | NA | 559.64 |
| Clarification Pond | 553.29 | NA | NA | 6.9 | NA | 546.39 | 7 | NA | 546.29 |

Notes:
NI - Not Installed
NA - Not Applicable

# TABLE 2:
## VERTICAL HYDRAULIC GRADIENTS

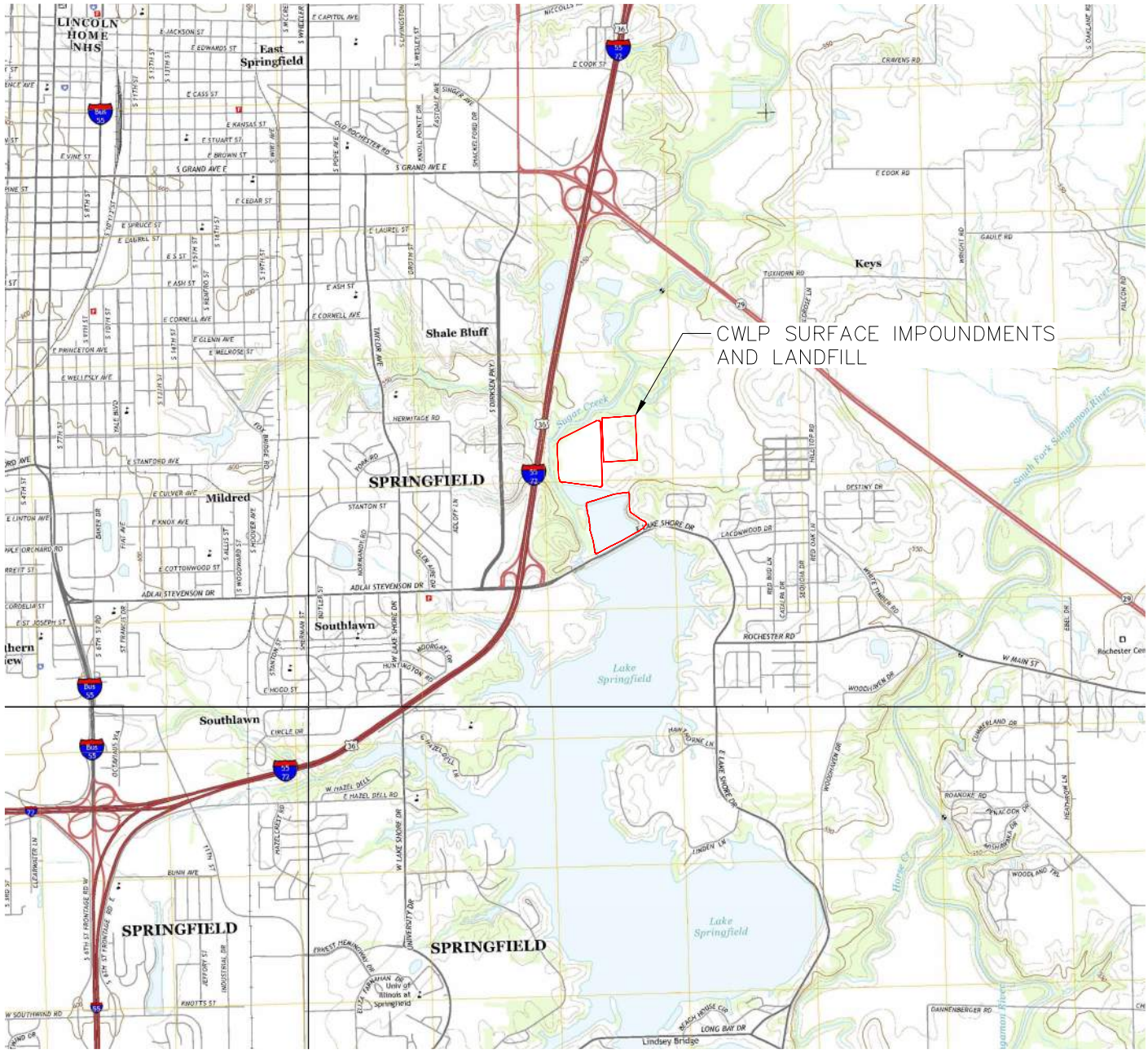
**Table 2: Vertical Hydraulic Gradients**
**CWLP, Springfield, Illinois**

| Well | Easting (Site Coord) | Northing (Site Coord) | Middle of Screen (ft amsl) | GW Elev (ft amsl) | Vertical Hydraulic Gradient | Direction |
|---|---|---|---|---|---|---|
| AP6S | 1702.3 | 5695.2 | 522.91 | 527.73 | 0.00100 | Upward |
| AP6 | 1715.8 | 5766.6 | 503.755 | 527.80 | | |
| AP8S | 1266.4 | 5413.4 | 524.61 | 527.53 | 0.304 | Upward |
| AP8 | 1265.0 | 5420.9 | 503.31 | 534.40 | | |
| AP15S | 1383.0 | 2925.3 | 517.245 | 537.42 | -0.0859 | Downward |
| AP15D | 1383.4 | 2921.3 | 507.43 | 536.51 | | |
| P03S | 2654.5 | 5671.3 | 520.75 | 522.79 | 0.108 | Upward |
| P03D | 2658.4 | 5671.1 | 498.75 | 525.19 | | |
| P06S North | 2191.4 | 4725.7 | 516.65 | 523.62 | 0.0180 | Upward |
| P06D Middle | 2186.8 | 4717.0 | 495.05 | 524.04 | | |
| P06D Middle | 2186.8 | 4717.0 | 495.05 | 524.04 | 0.0403 | Upward |
| P06R South | 2175.7 | 4718.1 | 484.05 | 524.67 | | |
| P07S West | 2420.0 | 5340.0 | 514.35 | 522.14 | 0.0321 | Upward |
| P07M East | 2432.8 | 5337.0 | 507.85 | 522.62 | | |
| P07M East | 2432.8 | 5337.0 | 507.85 | 522.62 | 0.0539 | Upward |
| P07D North | 2430.0 | 5345.0 | 497.45 | 523.34 | | |
| P09S West | 2415.6 | 4447.3 | 517.85 | 524.77 | 0.0276 | Upward |
| P09D East | 2422.4 | 4446.3 | 496.95 | 525.38 | | |
| P103S | 2654.4 | 5670.1 | 512.40 | 525.92 | -0.0147 | Downward |
| P103 | 2658.6 | 5670.2 | 506.78 | 525.82 | | |
| P104S | 2309.8 | 5674.6 | 508.07 | 523.10 | -0.0139 | Downward |
| P104 | 2305.9 | 5685.0 | 502.05 | 522.93 | | |
| RW3S | 1736.5 | 5614.9 | 523.59 | 528.93 | -0.0427 | Downward |
| RW3 | 1737.4 | 5613.3 | 500.87 | 527.96 | | |

# FIGURES

# FIGURE 1:
SITE LOCATION

J:\S\Springfield CWLP\CWLP Ash Pond\DWG\2025\Site Map.dwg Tab: Layout1



N

0 200 4000 8000

SCALE: IN FEET

NOTE:
BACKGROUND IMAGE COURTESY OF
UNITED STATES GEOLOGICAL SURVEY.

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APPROVED BY: KWF | DESIGNED BY: KWF | DRAWN BY: BCK

SITE LOCATION

PLANS PREPARED FOR
CITY, WATER, LIGHT & POWER
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DATE: SEPTEMBER 2025

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SHEET NUMBER:

FIG. 1

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# FIGURE 2:
## SITE FEATURES

**LEGEND**

POND/LANDFILL BOUNDARY

**NOTE**

1. AERIAL IMAGE FROM APRIL 7, 2024, FROM GOOGLE EARTH.

N

0 250 500 1000

SCALE: IN FEET

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SITE FEATURES

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FIG. 2

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Tab: FIGURE 2 NEW Last Saved: September 19, 2025, by Ben Korpus Plotted: Monday, September 22, 2025 12:08:48 PM
J:\S\Springfield CWLP\CWLP Ash Pond\DWG\2025\Site Plan Map.dwg

# FIGURE 3:
## HISTORIC SITE PHOTO - 1936

**NOTE**

SITE PHOTO DATED JULY 3, 1936

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| | | | |

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DESIGNED BY: MTH | DRAWN BY: BCK | CHECKED BY: MTH | APPROVED BY: MTH

SITE PHOTO

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FIG. 3

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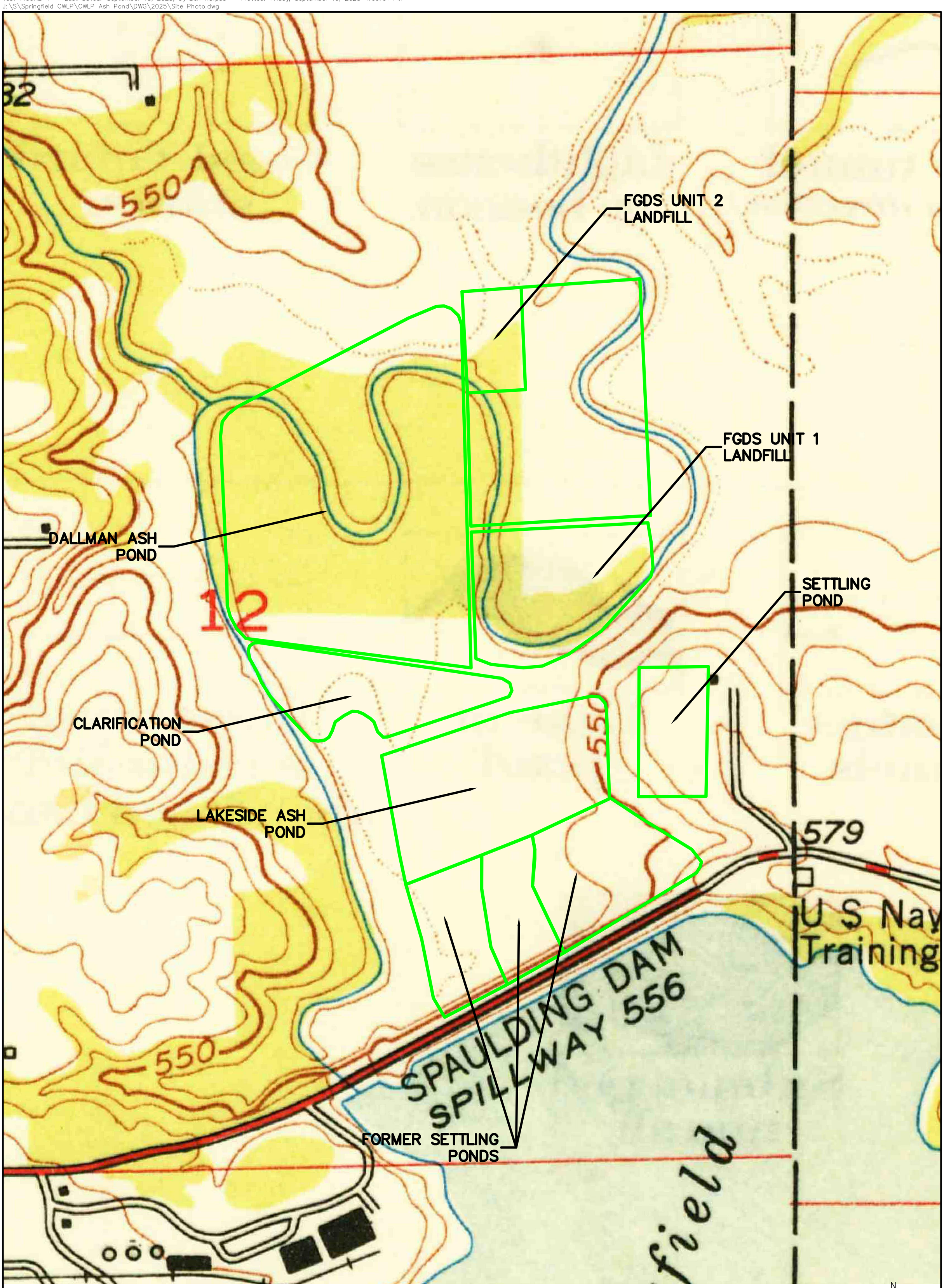
Tab: FIGURE 3 Last Saved: September 15, 2025, by Ben Korpus Plotted: Monday, September 15, 2025 11:29:59 AM
J:\S\Springfield CWLP\CWLP Ash Pond\DWG\2025\Site Photo.dwg

# FIGURE 4:
## HISTORIC SITE TOPOGRAPHIC MAP - 1950




**NOTE**

SPRINGFIELD EAST, IL HISTORICAL MAP GEOPDF 7.5X7.5 GRID 2400–SCALE 1950

0 200 400 800

SCALE: IN FEET

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FIG. 4

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: SEPTEMBER 2025

HISTORIC SITE TOPOGRAPHIC MAP – 1950

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# FIGURE 5:
## FORMER SUGAR CREEK CHANNEL

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE

SOURCE: GRADING PLAN – DALLMAN ASH POND, BURNS & MCDONNELL (DRAWING NO. Y29, REV. 4, DATED AUGUST 13, 1976)

Notes:

1. The 36" Corrugated Metal Pipe, 16 gauge, Bituminous coated, 2 2/3" x 1/2" corrugations, with 2 end sections required.
2. Excavate for Relocated Sugar Creek from Sta. 2+00 to Sta 19+00 leaving excavation isolated from Sugar Creek waters until excavation and Rip Rap is completed between the above mentioned stations.
3. Area is susceptable to Flooding
4. Over excavate at least 4.0 feet under dike below exist channel banks and bottom. (See cross sections) Fill with cohesive material and compact to at least 90%
5. Form a greenbelt on both sides of Relocated Sugar Creek. Areas within Greenbelt which are cleared or disturbed during construction shall be topsoiled & seeded. Plant trees on 25ft. On ground above el. 540.0 10 trees shall be Hard Maple the rest shall be Sycamore. On ground that is below El. 540.0 10 trees shall be Pin Oak the rest shall be Sycamore. Do not plant trees on ash pond dike
6. Clearing Limits as shown outside of Purchasers property lines. Within Purchasers property clear as necessary for const. Keep clearing limits as close to work as possible
7. Waste area is north of Green Belt. Grade waste area to drain and to present a neat appearance. Seed and mulch Waste Area.
8. ⚠
9. Borrow material for the Ash Pond Dikes shall come from center of pond and Relocated Sugar Creek. If in the opinion of the engineer material taken from the pond area is too wet to dry in a reasonable length of time the contractor will be permitted to borrow from the area directly north of Relocated Sugar Creek as long as the borrow area is topsoiled, seeded, and mulched, and graded to drain as directed by engineer.

SCALE IN FEET: 100 0 100 200

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FORMER SUGAR CREEK CHANNEL

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# FIG. 5

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Tab: 4 Last Saved: September 22, 2025, by Ben Korpus Plotted: Monday, September 22, 2025 3:08:22 PM
J:\S\Springfield CWLP\CWLP Ash Pond\DWG\PMAPS\2025\BASE with all borings.dwg

# FIGURE 6:
## BORING AND MONITORING WELL/PIEZOMETER LOCATIONS

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE

## NOTES

1. FLIGHT DATE APRIL 2023.

FIG. 6

BORING AND MONITORING WELL/PIEZOMETER LOCATIONS

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

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# FIGURE 7:
# BEDROCK SURFACE

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 10 FEET.

N

0 150 300 600

SCALE: IN FEET

FIG. 7

BEDROCK SURFACE

PREPARED FOR

CITY WATER, LIGHT, AND POWER

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# FIGURE 8:
## BASAL SAND SURFACE

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- BASAL SAND ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 10 FEET.

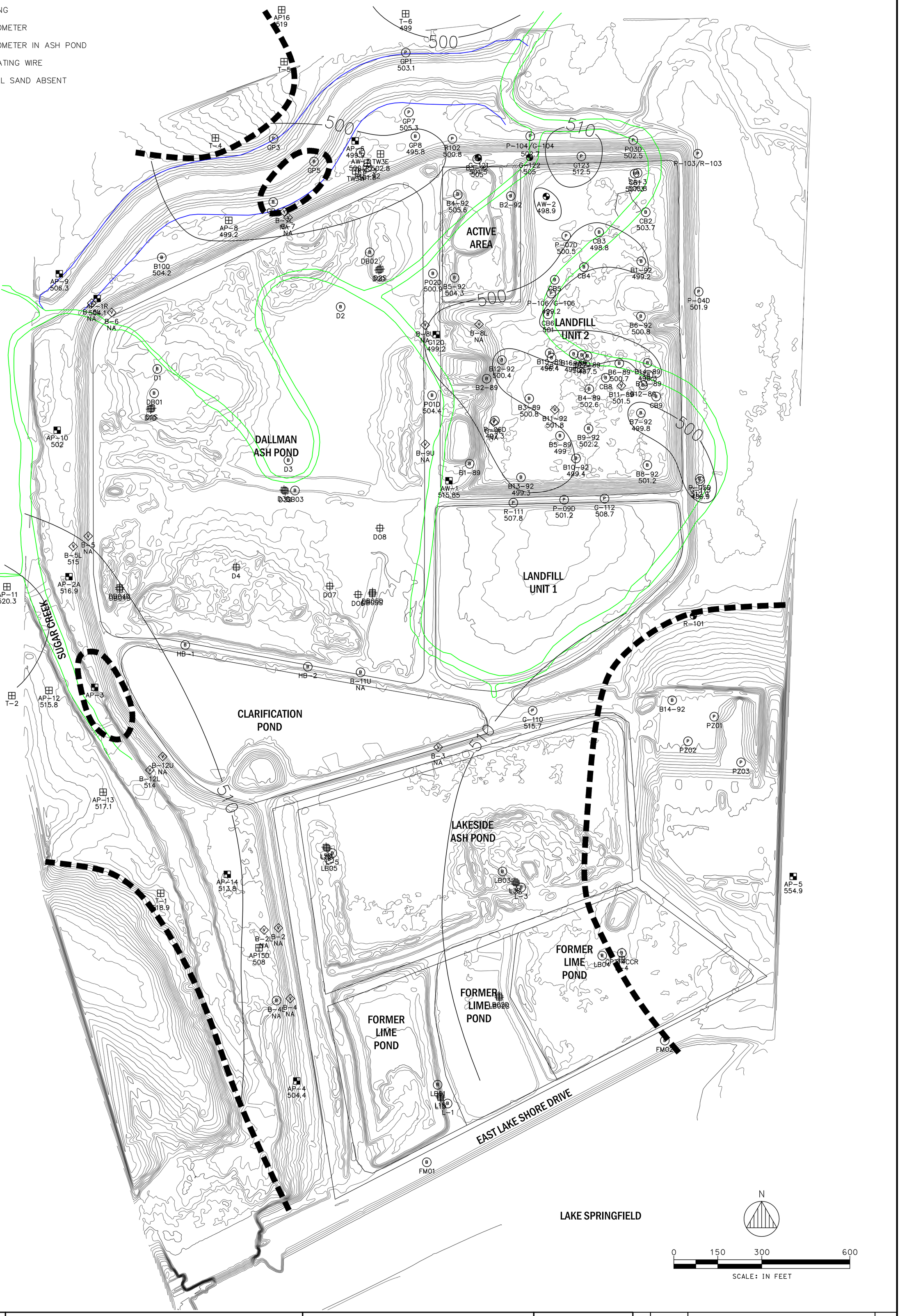


FIG. 8

BASAL SAND SURFACE

PREPARED FOR

CITY WATER, LIGHT, AND POWER

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# FIGURE 9:
## BASAL SAND ISOPACH

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- BASAL SAND ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.

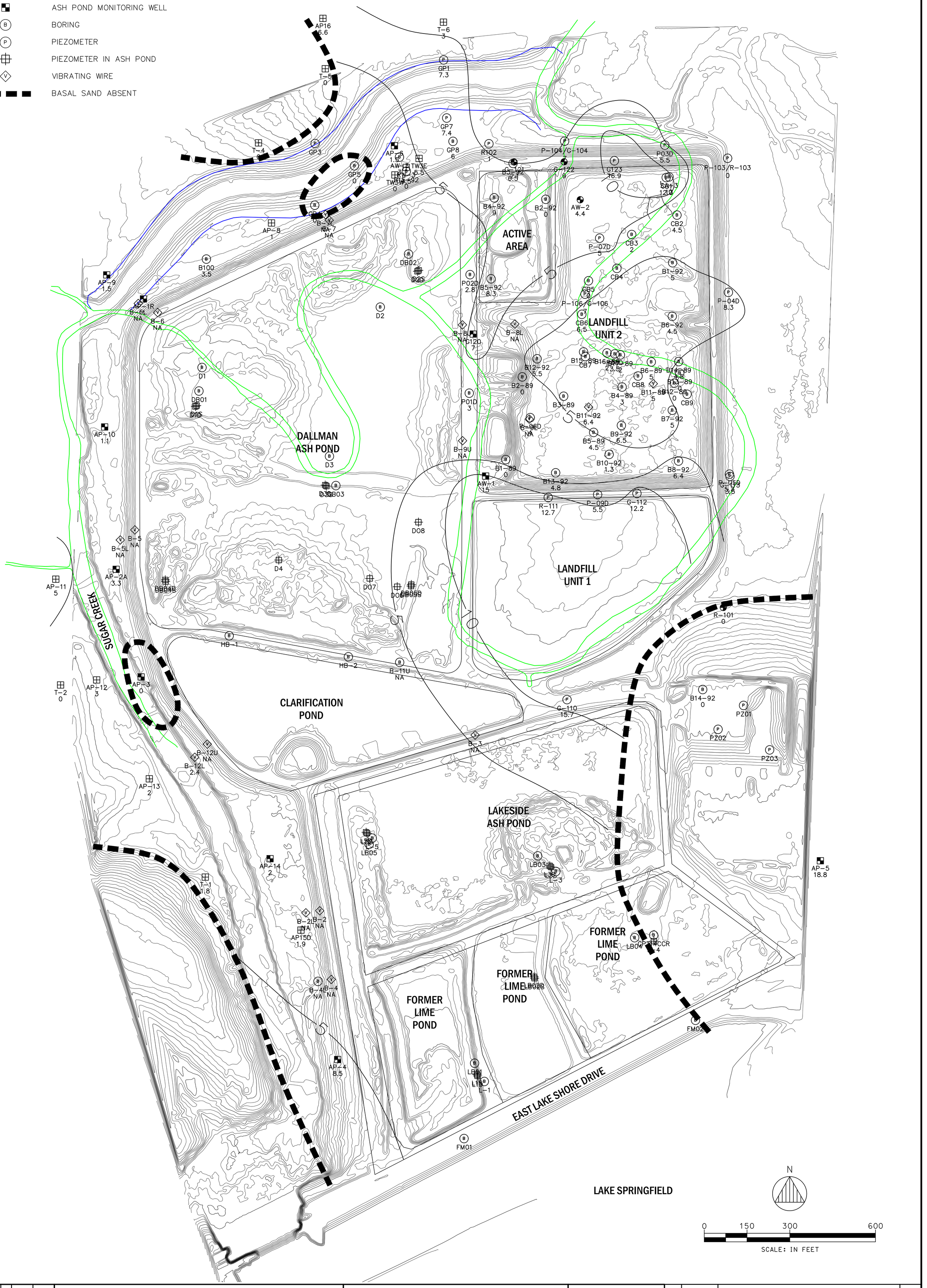


FIG. 9

BASAL SAND ISOPACH

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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# FIGURE 10:
## LOWER COHESIVE DEPOSIT SURFACE

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- LOWER COHESIVE DEPOSIT ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.

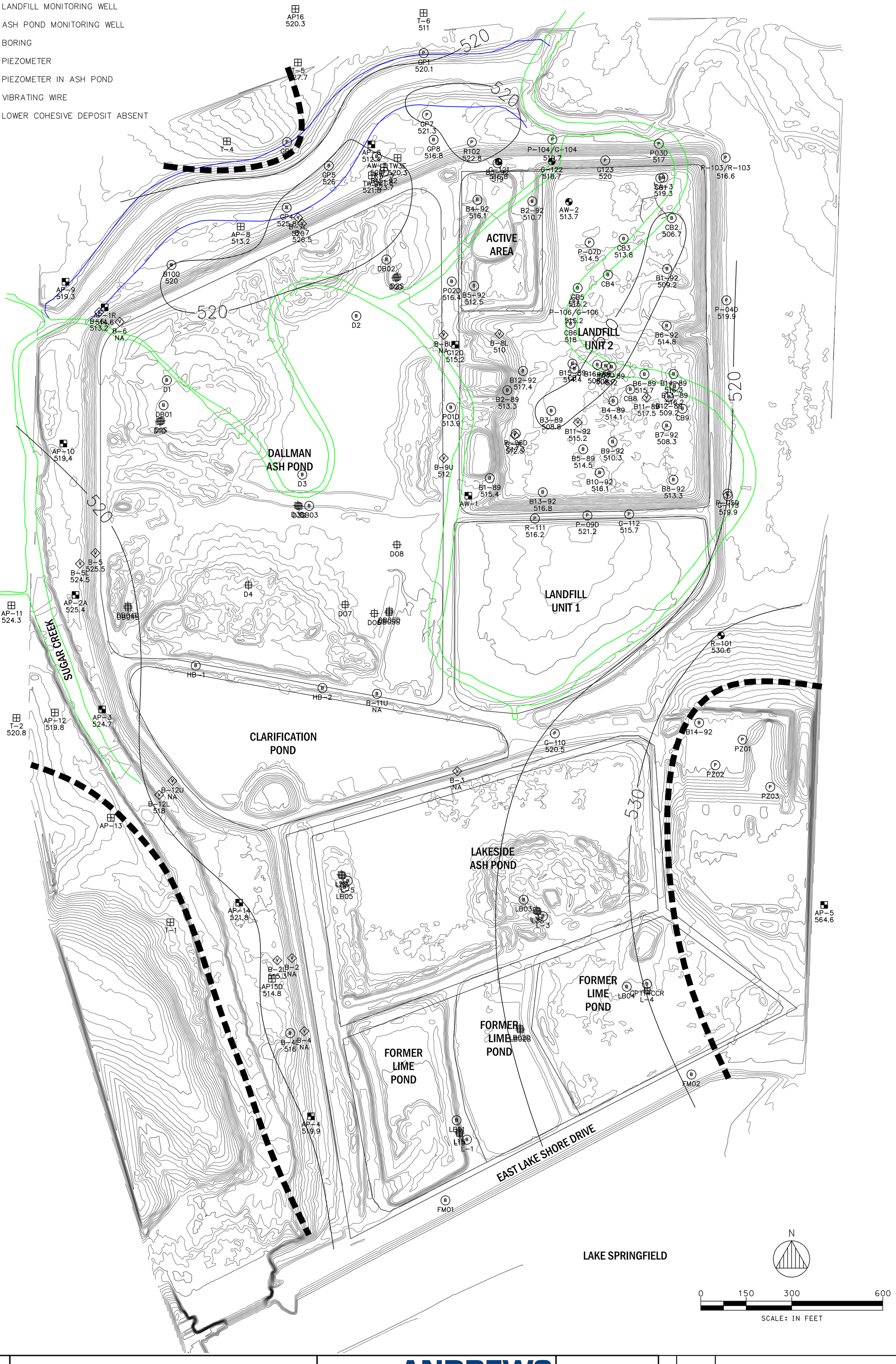


FIG. 10

LOWER COHESIVE DEPOSIT SURFACE

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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# FIGURE 11:
## LOWER COHESIVE DEPOSIT ISOPACH

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- LOWER COHESIVE DEPOSIT ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.

FIG. 11

LOWER COHESIVE DEPOSIT ISOPACH

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: SEPTEMBER 2025

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# FIGURE 12:
## SHALLOW SAND SURFACE

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- SHALLOW SAND ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 10 FEET.

FIG. 12

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: SEPTEMBER 2025

SHALLOW SAND SURFACE

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

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# FIGURE 13:
## SHALLOW SAND ISOPACH

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- SHALLOW SAND ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.

FIG. 13

SHALLOW SAND ISOPACH

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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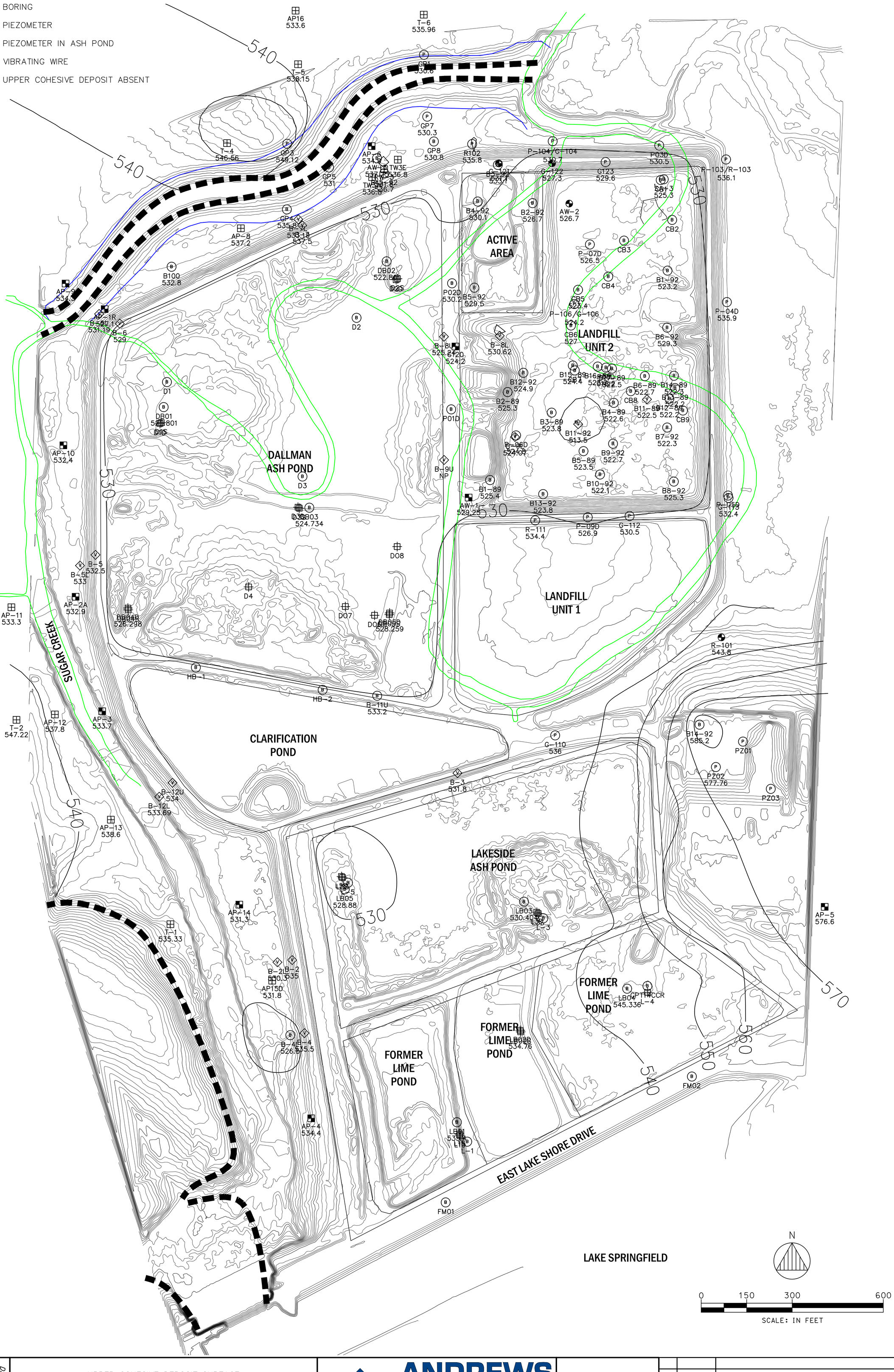
# FIGURE 14:
## UPPER COHESIVE DEPOSIT SURFACE

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- UPPER COHESIVE DEPOSIT ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 10 FEET.




N

0 150 300 600

SCALE: IN FEET

FIG. 14

UPPER COHESIVE DEPOSIT SURFACE

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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# FIGURE 15:
## UPPER COHESIVE DEPOSIT ISOPACH

## LEGEND

- TEMPORARY ASSESSMENT WELL
- LANDFILL MONITORING WELL
- ASH POND MONITORING WELL
- BORING
- PIEZOMETER
- PIEZOMETER IN ASH POND
- VIBRATING WIRE
- UPPER COHESIVE DEPOSIT ABSENT

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.

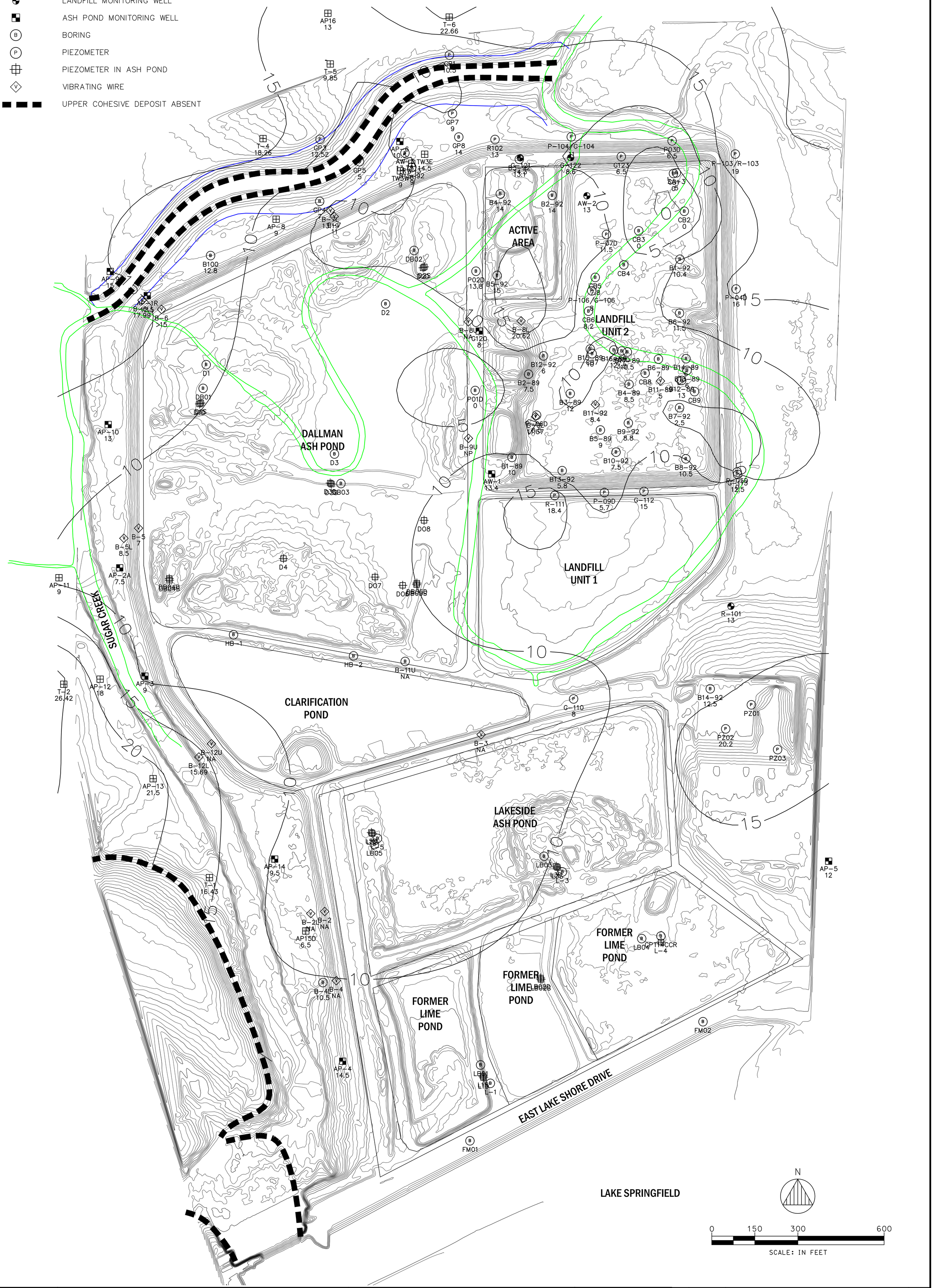


FIG. 15

UPPER COHESIVE DEPOSIT ISOPACH

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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# APPENDICES

# APPENDIX A:
## BORING LOGS

# APPENDIX A1:
## FGDS LANDFILL UNIT 2 INVESTIGATION

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-1

Project Name: FGD Sludge Facility - South Cell Date of Boring: May 30, 1989

Site: Springfield, Illinois Project No.: 020-95020

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, trace sand, dark grey, stiff | | 1-AU | -- | -- | -- | -- | |
| | | 2-SS | 5 | -- | 1.3 | -- | |
| | 5 | 3-SS | 4 | -- | 1.0 | -- | |
| | | 4-SS | 6 | -- | 1.5 | -- | |
| | 10 | 5-SS | 5 | -- | 0.8 | -- | |
| Silty clay, trace sand, light grey, firm to stiff | | 6-SS | 4 | -- | 0.8 | -- | |
| | 15 | 7-SS | 4 | -- | 1.5 | -- | |
| | | 8-SS | 4 | -- | 1.0 | -- | |
| | 20 | 9-SS | 4 | -- | 1.3 | -- | |
| End of boring | | | | | | | Dry upon completion |

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-2

Project Name: FGD Sludge Facility - South Cell  Date of Boring: May 30, 1989

Site: Springfield, Illinois  Project No.: 020-95020

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| | | 1-AU | -- | -- | -- | -- | |
| Silty clay, trace sand, grey, mottled brown, firm | | 2-SS | 8 | -- | 0.8 | -- | |
| | 5 | 3-SS | 9 | -- | 1.8 | -- | |
| Silty clay, trace sand, grey, stiff | | 4-SS | 7 | -- | 1.8 | -- | |
| | 10 | 5-SS | 2 | -- | -- | -- | |
| | | 6-SS | 4 | -- | 1.5 | -- | |
| Clayey silt, trace sand, grey, stiff | 15 | 7-SS | 4 | -- | 1.3 | -- | |
| | | 8-SS | 6 | -- | 1.3 | -- | ▽ While drilling |
| | 20 | 9-SS | 7 | -- | 1.5 | -- | |
| End of boring | | | | | | | |

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-3

Project Name: FGD Sludge Facility - South Cell  Date of Boring: May 30, 1989

Site: Springfield, Illinois  Project No.: 020-95020

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| | | 1-AU | -- | -- | -- | -- | |
| Silty clay, trace sand, grey, mottled brown, stiff | | 2-SS | 7 | -- | 1.3 | -- | |
| | 5 | 3-SS | 4 | -- | 1.5 | -- | |
| | | 4-SS | 6 | -- | 1.5 | -- | |
| | 10 | 5-SS | 4 | -- | 1.3 | -- | |
| | | 6-SS | 5 | -- | 0.8 | -- | |
| | 15 | 7-SS | 4 | -- | 1.5 | -- | |
| Clayey silt, trace sand, organics, grey, stiff | | 8-SS | 5 | -- | 1.0 | -- | While drilling ▽ |
| | 20 | 9-SS | 4 | -- | 1.3 | | |
| | | 10-SS | -- | -- | 1.3 | -- | |
| | 25 | 11-SS | 9 | -- | -- | -- | |
| Sand, fine, some silt, grey, medium dense | | | | | | | *Note 1 |
| Shale, grey, very stiff (weathered) | 30 | 12-SS | 50/6" | -- | 3.0 | -- | |
| End of boring | | | | | | | |

*Note 1: Blow-in sand @27.5'

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-4

Project Name: FGD Sludge Facility - South Cell  Date of Boring: May 30, 1989

Site: Springfield, Illinois  Project No.: 020-95020

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| | | 1-AU | -- | -- | -- | -- | |
| Silty clay, trace sand, organics, mottled brown, stiff | | 2-SS | 4 | -- | 1.7 | -- | |
| | 5 | 3-SS | 4 | -- | 1.0 | -- | |
| Silty clay, trace sand, dark grey, stiff | | 4-SS | 7 | -- | 2.0 | -- | |
| | 10 | 5-SS | 11 | -- | 2.5 | -- | |
| Silty clay, trace sand, mottled brown, very stiff | | | | | | | |
| | | 6-SS | 7 | -- | 1.0 | -- | While drilling ▽ |
| Clayey silt, trace sand, grey, firm to stiff | 15 | 7-SS | 5 | -- | 0.8 | -- | |
| | | 8-SS | 9 | -- | 1.5 | -- | |
| *Note 1 | 20 | 9-SS | 7 | -- | -- | -- | |
| End of boring | | | | | | | |

*Note 1: Silty sand, some gravel, slightly compact

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-6

Project Name: FGD Sludge Facility - South Cell Date of Boring: May 30, 1989

Site: Springfield, Illinois Project No.: 020-95020

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, trace sand, brown, stiff | | 1-AU | -- | -- | -- | -- | |
| | | 2-SS | 5 | -- | -- | -- | *Poor recovery on 2-SS |
| | 5 | 3-SS | 7 | -- | 1.3 | -- | |
| | | 4-SS | 8 | -- | 1.5 | -- | |
| Silty clay, trace sand, mottled grey, stiff | 10 | 5-SS | 6 | -- | 1.5 | -- | |
| | | 6-SS | 6 | -- | 1.0 | -- | |
| Clayey silt, trace sand, grey, stiff | 15 | 7-SS | 7 | -- | 1.3 | -- | |
| | | 8-SS | 7 | -- | 1.8 | -- | ▽ While drilling |
| | 20 | 9-SS | 9 | -- | 1.8 | -- | |

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-1

Project Name: Subsurface Exploration Date of Boring: September 28, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 525.36

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | 16 | ▽ 0 HR. |
| Clayey silt, trace sand, grey, mottled brown | | 1-SS (50%) | | | | 19 | |
| | 5 | | | | | 23 | |
| | | 2-SS (20%) | | | | 16 | |
| | 10 | | | | | | |
| Silty clay, trace sand, gravel, some organics, dark brown, black | | 3-SS (10%) | | | | 19 | |
| | 15 | | | | | | |
| | | 4-SS (50%) | | | | 16 | |
| | 20 | | | | | | |
| | | 5-SS (40%0) | | | | 13 | |
| Shale, grey | | | | | | | |
| End of Boring | 25 | | | | | | |

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-2

Project Name: Subsurface Exploration Date of Boring: September 28, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 525.28

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| *Note 1 | | | | | | 14 | |
| Silty clay, grey, mottled brown | | | | | | | |
| | | 1-SS (100%) | | | | 21 | |
| Silty sand, fine to medium, brown | 5 | | | | | 23 | ▽ 0 HR. |
| *Note 2 | | | | | | | |
| | | 2-SS (50%) | | | | 25 | |
| Silty sand, grey, brown | 10 | 3-ST (30%) | | | | | |
| | | 4-SS (90%) | | | | | |
| Clayey silt, trace sand, grey | 15 | 5-ST (100%) | | | | | |
| | | 6-SS (90%) | | | | 24 | |
| | | | | | | 21 | |
| | 20 | 7-ST (80%) | | | | | |
| Sandy silt, grey | | | | | | | |
| | | 8-SS (90%) | | | | | |
| | 25 | | | | | 18 | |
| Shale, grey | | 9-SS | | | | | |
| | 30 | (80%) | | | | | |
| End of Boring | | | | | | | |

*Note 1: Silty clay, grey, mottled brown, some organics

*Note 2: 6.5'-6.8': Silt, grey, mottled brown
6.8'-7.0': Silty sand, brown, grey
7.0'-7.5': Clay, trace sand, brown, grey

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-3

Project Name: Subsurface Exploration Date of Boring: September 28, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 523.83

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, trace sand, grey, mottled brown | | | | | | 14 | ▽ 0 HR. |
| | 5 | 1-SS (95%) | | | | 23 | |
| | | | | | | 23 | |
| | | 2-SS (90%) | | | | | |
| Silty dand, fine to medium, grey, brown | 10 | | | | | 20 | |
| Clayey silt, trace sand, gravel | | | | | | 25 | |
| Sand, trace gravel, fine to coarse, grey | | 3-SS (10%) | | | | 18 | |
| | 15 | | | | | | |
| Sandy silt, grey | | | | | | | |
| | | 4-SS (90%) | | | | 19 | |
| | 20 | | | | | 20 | |
| | | 5-SS (95%) | | | | | |
| Sand and gravel, fine to coarse, grey | 25 | | | | | 19 | |
| | | 6-SS (10%) | | | | | |
| | 30 | | | | | | |
| End of Boring | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-4

Project Name: Subsurface Exploration Date of Boring: September 29, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.61

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | 14 | ▽ 0 HR. |
| Silty clay with organics, black, dark brown | 5 | 1-SS (5%) | | | | 23 | |
| Silty clay, trace sand, grey, mottled brown | | 2-SS (90%) | | | | 22 | |
| Silty clay to clayey silt, trace sand, grey | 10 | 3-SS (90%) | | | | 21 | |
| | 15 | 4-SS (100%) | | | | 24 | |
| Sand, fine, some silt, grey | 20 | 5-SS (50%) | | | | 19 | |
| Silty clay, some sand, grey | 25 | 6-SS (30%) | | | | 12 | |
| *Note 1 | | | | | | | |
| End of Boring | | | | | | | |

*Note 1: 27'-27.5' - Sand and gravel, grey
27.5'-28' - Shale, grey

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-5

Project Name: Subsurface Exploration Date of Boring: September 30, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 523.49

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Clayey silt, some organics, sand, brown, mottled grey | 5 | 1-SS (80%) | | | | 19 | |
| | | 2-ST (100%) | | | | 24 | |
| | 10 | 3-SS (95%) | | | | | |
| | | 4-ST (0%) | | | | | |
| Silty clay, trace sand, grey | 15 | 5-SS (100%) | | | | 20 | |
| | | 6-ST (0%) | | | | | |
| | 20 | 7-SS (100%) | | | | 20 | |
| | | 8-ST (0%) | | | | | |
| | 25 | 9-SS (80%) | | | | | |
| Silty sand, grey | | 10-SS | 28/52 | | | 9 | |
| Sand with gravel, medium to coarse, grey | | 11-SS | 35/42 | | | | |
| Shale, grey | 30 | 12-SS | 100/2" | | | 9 | |
| End of Boring | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-6 (4' S. of 500+400)

Project Name: Subsurface Exploration Date of Boring: October 3, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.71

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, brown, black | | | | | | 17 | |
| Silty clay, grey, mottled brown | 5 | 1-SS (75%) | | | | 31 | ▽ 0 HR. |
| Silty clay, some organics, trace sand, grey | 10 | 2-SS (50%) | | | | 27 | |
| | | 3-SS (100%) | | | | | |
| | 15 | | | | | 20 | |
| | | 4-SS (75%) | | | | | |
| | 20 | | | | | 24 | |
| | | 5-SS (90%) | | | | | |
| Sand, fine to medium, grey | | | | | | | |
| Silty sand, fine to coarse, grey | 25 | | | | | 22 | |
| Shale, grey (Hard Drilling) | | | | | | | |
| End of Boring | 30 | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-11

Project Name: Subsurface Exploration Date of Boring: September 29, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.49

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Clayey silt, some organics, black, dark brown | | | | | | 18 | ▽ 0 HR. |
| | | 1-SS (5%) | | | | 22 | |
| | 5 | | | | | | |
| Silty clay, trace sand, grey | | 2-SS (90%) | | | | | |
| | 10 | | | | | 17 | |
| | | 3-SS (100%) | | | | | |
| | 15 | | | | | 19 | |
| | | 4-SS (25%) | | | | | |
| | 20 | | | | | 18 | |
| Silty sand, grey | | 5-SS (15%) | | | | 22 | |
| | 25 | | | | | | |
| Sand with gravel, grey | | 6-SS | 53/95-3" | | | 21 | |
| Shale, grey | | 7-SS | | | | 12 | |
| End of Boring | 30 | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-12 (Offset 36' west)

Project Name: Subsurface Exploration Date of Boring: October 3, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.22

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, trace sand, grey, brown | | | | | | | ▽ 0 HR |
| Silty clay, trace sand, grey | 5 | 1-SS (75%) | | | | 24 | |
| | | 2-SS (100%) | | | | 26 | |
| Silty clay, some organics, trace sand, gravel, grey | 10 | 3-SS (100%) | | | | 25<br>21 | |
| Silty clay to clayey silt, trace sand, grey | 15 | 4-SS (50%) | | | | 23<br>21 | |
| | 20 | 5-SS (25%) | | | | 22<br>22 | |
| | 25 | 6-SS (50%) | | | | 21<br>9 | |
| Shale, grey | | | | | | | |
| End of Boring | 30 | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-13

Project Name: Subsurface Exploration Date of Boring: October 3, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.20

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay with organics, dark grey | | | | | | | ▽ 0 HR |
| | 5 | 1-SS (50%) | | | | 27 | |
| | | 2-ST (50%) | | | | 37 | |
| Silty clay, trace sand, grey | | 3-SS (25%) | | | | 38 | |
| | 10 | 4-ST (50%) | | | | 23 | |
| Clayey silt with sand, fine, grey | | 5-SS (100%) | | | | 20 | |
| | 15 | 6-ST (60%) | | | | 27 | |
| | | 7-SS (100%) | | | | 21 | |
| | 20 | 8-SS (40%) | | | | 18 | |
| | 25 | | | | | 21 | |
| | | | | | | 17 | |
| Shale, grey? (Hard Drilling) | | | | | | | |
| End of Boring | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-14

Project Name: Subsurface Exploration Date of Boring: October 2, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.25

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, grey, mottled brown | | | | | | | ▽ 0 HR. |
| | 5 | 1-SS (50%) | | | | 23 | |
| | | | | | | 20 | |
| Silty clay to clayey silt, some sand, fine, grey | | 2-SS (15%) | | | | | While Drilling ▽ |
| | 10 | | | | | 18 | |
| | | 3-SS (75%) | | | | | |
| | 15 | | | | | 21 | |
| | | 4-SS (75%) | | | | | |
| | 20 | | | | | 19 | |
| | | 5-SS (75%) | | | | | |
| Sand with gravel, fine to coarse, grey | 25 | | | | | 15 | |
| *Hard Drilling @28.5' (Shale?) | | 6-SS (80%) | | | | | |
| End of Boring | 30 | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-15

Project Name: Subsurface Exploration Date of Boring: October 2, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 524.35

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, trace sand, grey, mottled brown | 5 | 1-SS (90%) | | | | 18 | ▽0 HR. |
| | | 2-ST (100%) | | | | | |
| | 10 | 3-SS (90%) | | | | 20 | |
| | | 4-SS (100%) | | | | 36 | |
| Silty clay to clayey silt, some sand, fine, grey | 15 | 5-SS (100%) | | | | 25 | |
| | 20 | 6-SS (95%) | | | | 22 | |
| | 25 | 7-SS (50%) | | | | 21 | |
| | | | | | | 20 | |
| | | | | | | 20 | |
| | | | | | | 26 | |
| Sand with gravel, medium to coarse | 30 | | | | | 15 | |
| End of Boring | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-16

Project Name: Subsurface Exploration Date of Boring: October 2, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 523.15

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, mottled brown | | | | | | 16 | ▽0 HR. |
| | | 1-SS (75%) | | | | | |
| Silty clay, trace sand, dark grey, black | 5 | 2-ST (30%) | | | | | |
| Silty clay to clayey silt, some sand, fine, grey | | 3-SS (100%) | | | | | |
| | 10 | 4-ST (100%) | | | | | |
| Sand, fine to coarse, grey | | 5-SS (50%) | | | | | |
| | 15 | 6-ST (10%) | | | | 24 | |
| Silty clay, trace sand, grey | | 7-SS (75%) | | | | 21 | |
| | 20 | 8-SS (50%) | | | | 17 | |
| | 25 | | | | | | |
| Sand with gravel, fine to coarse, grey | | | | | | | |
| Shale, grey (Hard Drilling @27.5') | 30 | | | | | 16 | |
| End of Boring | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring B-17 (Offset 12' south of stake)

Project Name: Subsurface Exploration Date of Boring: October 2, 1989

Site: CWLP Ash Disposal Facility, Springfield, Illinois Project No.: 020-95039

Surface Elevation 522.50

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, brown, mottled black | 5 | 1-SS (25%) | | | | 17 | ▽ 0 HR. |
| | | 2-SS (5%) | | | | | |
| | 10 | | | | | 19 | |
| Silty clay with organics, trace sand, grey | | 3-SS (95%) | | | | 30 | |
| | 15 | | | | | 21 | |
| | | 4-SS (90%) | | | | 20 | |
| Silty clay to clayey silt, sand, grey | 20 | | | | | | |
| | | 5-SS (80%) | | | | 21 | |
| | 25 | | | | | | |
| Sand with gravel, fine to coarse, grey | | | | | | | |
| Shale, grey | | | | | | 14 | |
| End of Boring | | | | | | | |

PSI A-100-9

PROJECT CWLP Flue Gas Desulfurization Sludge Landfill

CLIENT Andrews Environmental Engineers, Inc.

BORING SA-3 DATE STARTED 11-16-93 DATE COMPLETED 11-16-93 JOB L - 30,161

ELEVATIONS

GROUND SURFACE 529.3

END OF BORING 498.6

N 5560 E 2673

WATER TABLE

▼ WHILE DRILLING Drilling Fluid

▽ AT END OF BORING Drilling Fluid

▼ 24 HOURS Grouted

DISTANCE BELOW SURFACE IN FEET

| LENGTH RECOVERY | SAMPLE NO. | SAMPLE TYPE | N | WC | $C_u$ | γ DRY | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | SS | 10 | 22.1 | 3.0* | | | | Very stiff dark gray and dark brown silty CLAY, little sand (CL) |
| | 2 | SS | 9 | 23.5 | 2.15<br>2.0* | | | | |
| | | | | | | | 4.0 | 525.3 | |
| | 3 | SS | 3 | 30.1 | | 92.8 | | | Soft to medium stiff gray silty CLAY, little sand, occasional wood fragments (CL) |
| | 4 | SS | 3 | 30.5 | 0.50 | | | | |
| | A | | | 27.9 | 0.55 | 95.0 | | | LL = 28 PI = 13 |
| | 5 | PS | Push | | | | 9.0 | 520.3 | |
| | B | | | 24.7 | — | | 10.0 | 519.3 | Loose gray silty SAND (SM) |
| | 6 | SS | 2 | 28.0 | 0.21 | | | | Soft gray silty CLAY, little sand (CL) |
| | 7 | SS | 2 | 25.2 | | | | | |
| | 8 | SS | 2 | 52.7 | | 67.5 | 14.0 | 515.3 | |
| | | | | 54.8 | 0.40 | 71.4 | | | Soft gray ORGANIC CLAY, some sand, organic matter, wood fragments (OL) |
| | 9 | PS | Push | — | — | | 16.0 | 513.3 | LL = 30 PI = 13 |
| | A | | | 84.9 | — | 49.0 | | | Loose gray fine SAND, peat lens at 16.5' (SP) |
| | 10B | SS | 2 | — | — | | 17.5 | 511.8 | |
| | C | | | 46.6 | 0.75* | | | | Medium stiff ORGANIC CLAY, wood fragments (OL) |
| | A | | | 31.6 | — | | 19.0 | 510.3 | |
| | 11 | SS | 2 | 39.6 | 0.37 | | | | Soft gray silty CLAY, little sand (CL) |
| | B | | | 22.8 | | | 20.5 | 508.8 | |
| | 12 | SS | 3 | | | | | | Loose gray silty SAND, (clayey at top) (SM) |
| | 13 | SS | 3 | 22.8 | | | | | |
| | 14 | SS | 2 | | | | | | |
| | | | | | | | 27.0 | 502.3 | |
| | 15 | SS | 17 | | | | | | Medium dense gray fine SAND (SP) |
| | A | | | | | | | | |
| | 16 | SS | 30/0.2 | | | | | | |
| | B | | | | | | 30.5 | 498.8 | SHALE |

End of Boring at 30.7'. Sampler refusal

Cu Indicates Undrained Shear Strength - ksf
x.xx = 1/2 Unconfined compressive strength;
$\underline{x.xx}$ = Torvane Value.
$\underline{x.x^*}$ = 1/2 Calibrated Penetrometer Value

DRILL RIG NO. AEX

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-1** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,260.5 E 2,685.6**

LOGGED BY **KRR**
GROUND ELEVATION **523.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 523.2 | 0.0 | | Brown silty clay, trace coarse to fine sand, stiff to very stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | | |
| | | | | SS-2 2.0-4.0 24"R | 2 3 3 3 | ✳ | |
| | | | | SS-3 4.0-6.0 24"R | 2 3 3 4 | ✳ | |
| | | | | 3T-4 6.0-8.0 4"R | | | Low recovery. |
| 515.2 | 8.0 | | Gray silty clay, trace to little fine sand, soft, medium plasticity, wet CL<br>1" fine sand lense at 9.5' | SS-5 8.0-10.0 24"R | 1 1 1 1 | ✳ | |
| 512.8 | 10.4 | | Gray clayey sand and silt, very loose, poorly graded, saturated SC | SS-6 10.0-12.0 24"R | WOH 1 1 1 | | Water level at 10.0' during drilling. |
| | | | | SS-7 12.0-14.0 24"R | WOH WOH WOH WOH | | SS-7: Gravel = 0% Sand = 50% Silt or Clay = 50% |
| 509.2 | 14.0 | | Gray silty clay to clayey silt, trace fine sand, very soft to soft, low to medium plasticity, moist to wet CL/CL-ML<br>Lense of fine sand at 15.0' | SS-8 14.0-16.0 24"R | 1 1 1 1 | ✳ | |
| | | | | SS-9 16.0-18.0 24"R | WOH WOH 1 1 | ✳ | SS-9: LL = 25 PL = 22 PI = 3 |
| | | | | SS-10A B 18.0-20.0 24"R | WOH WOH 2 2 | ✳ | |
| 503.7 | 19.5 | | | | | | |
| 503.2 | 20.0 | | Gray clayey fine sand, little silt, loose, | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/1/92** ENDED **8/1/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **10.0'** during drilling
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER **B-1** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,260.5 E 2,685.6**

LOGGED BY **KRR**
GROUND ELEVATION **523.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 503.2 | 20.0 | | poorly graded, saturated SC | SS-11AB 20.0-22.0 14"R | WOH WOH WOH WOH | ✳ 22.8 24.9 23.7 | |
| 501.7 | 21.5 | | Gray fine sand, little silt, very loose, poorly graded, saturated SP-SM/SM | | | | |
| | | | Gray silty clay, trace to little fine sand, soft, medium plasticity, moist CL | SS-12 22.0-24.0 2"R | WOH WOH WOH WOH | | Blow-in at 26.0'. |
| 499.2 | 24.0 | | Gray coarse to fine sand, trace to little fine gravel, little silt, dense, well graded, saturated SW-SM/SM | SS-13 24.0-26.0 24"R | 3 8 11 13 | 15.5 | |
| | | | | SS-14 26.0-28.0 0"R | | | SS-14 could not be obtained due to blow-in. |
| | | | Gray fine sand, trace silt from 28.0'-29.0' | SS-15AB 28.0-30.0 20"R | 7 24 76 100+/3" | 14.4 14.0 | ✳ |
| 494.2 | 29.0 | | Gray silty clay to clay, hard, medium to high plasticity, moist to dry CL/CH | | | | |
| 490.2 | 33.0 | | Gray shale, massive, excellent | PQ-16 33.0-38.0 60"R | | | Hard clay; drilled to 33.0'. Auger refusal at 33.0'; switched to coring. RQD = 100% |
| 485.2 | 38.0 | | End of Boring at 38.0'. | | | | Borehole was tremie grouted immediately after completion of drilling. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/1/92** ENDED **8/1/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **10.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-2** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,482.9 E 2,241.0**

LOGGED BY **KRR**
GROUND ELEVATION **526.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 526.7 | 0.0 | | Brown mottled silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 23.8 | |
| | | | | SS-2 2.0-4.0 20"R | 3 2 2 3 | ✳ 24.6 | |
| | | | | SS-3 4.0-6.0 24"R | 2 2 3 3 | ✳ 25.4 | |
| | | | | SS-4 6.0-8.0 24"R | 3 3 3 3 | ✳ 23.7 | |
| 517.7 | 9.0 | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, wet CL | 3T-5 8.0-10.0 24"R | | ✳ | |
| | | | | SS-6 10.0-12.0 24"R | 1 1 2 3 | ✳ 25.7 | |
| | | | Little fine sand and trace shells in SS-7A 6" long wood in SS-7B | SS-7AB 12.0-14.0 24"R | 2 2 2 3 | ✳ 27.3 | |
| 512.7 | 14.0 | | Gray fine sand, little to some silt, loose, poorly graded, saturated SM | SS-8 14.0-16.0 24"R | 1 1 2 4 | 21.7 | Water level at 14.0' during drilling. |
| 510.7 | 16.0 | | Dark gray silty clay, trace fine sand, trace organics, medium stiff, medium plasticity, wet CL/OL | SS-9 16.0-18.0 24"R | 2 2 2 4 | ✳ 36.9 | |
| 508.7 | 18.0 | | Gray silty clay, trace fine sand, stiff, medium plasticity, wet CL | SS-10 18.0-20.0 24"R | 3 3 5 5 | ✳ 21.1 | |
| 506.7 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6 1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/29/92** ENDED **7/29/92**

REMARKS

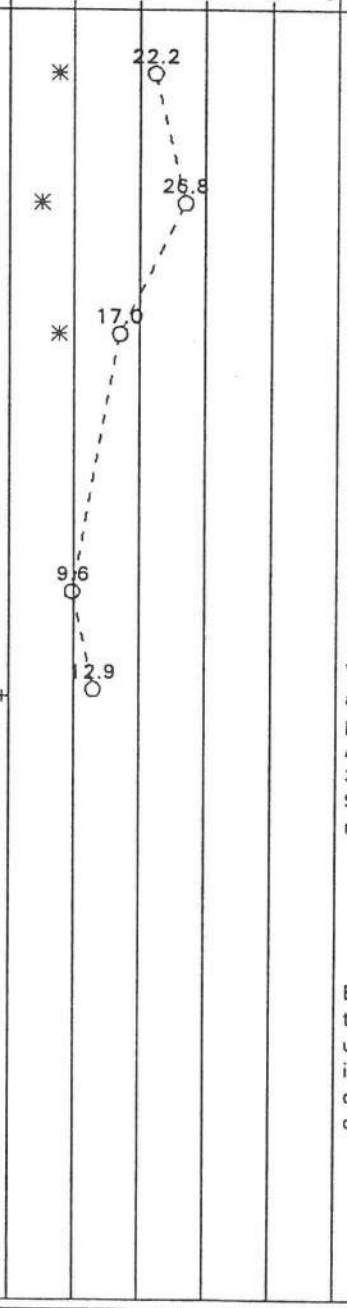
WATER LEVEL (ft.)
▽ **14.0'** during drilling
▽ **14.2'** within augers prior to coring
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER B-2 SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,482.9 E 2,241.0

LOGGED BY KRR
GROUND ELEVATION 526.7

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 506.7 | 20.0 | | Gray silty clay, trace fine sand, medium stiff, low to medium plasticity, moist to wet CL | SS-11 20.0-22.0 18"R | 3 4 4 5 |
| | | | | SS-12 22.0-24.0 24"R | 2 2 2 2 |
| | | | | SS-13 24.0-26.0 24"R | 1 2 2 2 |
| | | | Clayey silt at 27.0' | 3T-14 26.0-28.0 14"R | |
| 498.7 | 28.0 | | Gray clayey silt to silt, extremely dense, dry CL-ML/ML | SS-15 28.0-30.0 24"R | 2 13 23 72 |
| 496.7 | 30.0 | | Gray shale, soft | SS-16 30.0-31.0 9"R | 80 120+ /3" |
| | | | | PQ-17 31.0-35.0 48"R | |
| 491.7 | 35.0 | | End of Boring at 35.0'. | | |




NOTES & TEST RESULTS

Water level within augers at 14.2' prior to coring. Auger refusal at 31.0'. Switched to PQ rock coring.

Borehole was tremie grouted using Volclay grout immediately after completion of drilling.

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 6 1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/29/92 ENDED 7/29/92

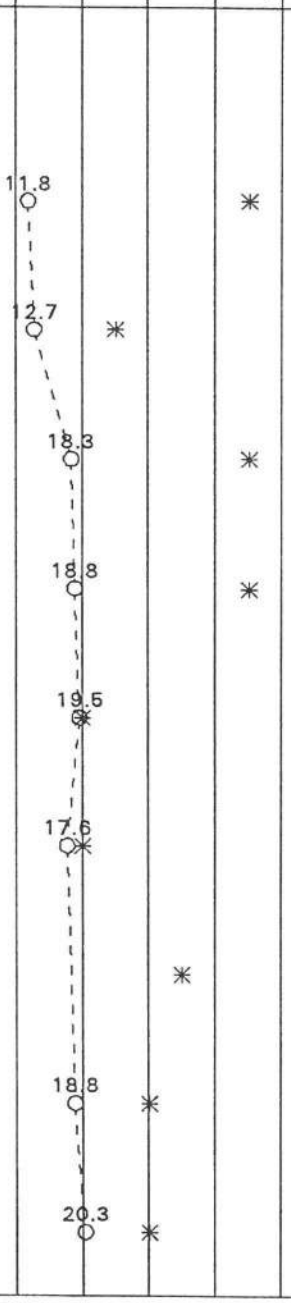
REMARKS

WATER LEVEL (ft.)
▽ 14.0' during drilling
▽ 14.2' within augers prior to coring
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER B-3 SHEET 1 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION

LOGGED BY SAS
GROUND ELEVATION 553.0



| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 553.0 | 0.0 | | Brown silty clay, trace fine sand, very stiff to hard, low plasticity, dry to moist, fill CL | AU-1 0.0-2.0 | | | |
| | | | Dark gray streaks at 3.0' | SS-2 2.0-4.0 6"R | 3 4 5 8 | 11.8 | |
| | | | Brown and dark gray from 4.0' | SS-3 4.0-6.0 12"R | 5 8 5 8 | 12.7 | |
| | | | | SS-4 6.0-8.0 18"R | - - 5 8 | 18.3 | |
| | | | Dark gray at 8.0', trace fine gravel | SS-5 8.0-10.0 16"R | 3 5 6 8 | 18.8 | |
| | | | Dark gray, trace organic | SS-6 10.0-12.0 14"R | 3 7 8 8 | 19.5 | |
| | | | | SS-7 12.0-14.0 12"R | 3 5 6 7 | 17.6 | |
| 539.0 | 14.0 | | Gray silty clay, trace fine sand, very stiff, medium plasticity, moist to wet, fill | 3T-8 14.0-16.0 20"R | | | |
| | | | | SS-9 16.0-18.0 18"R | - 13 13 15 | 18.8 | |
| | | | Dark gray, trace organics at 18.0' | SS-10 18.0-20.0 18"R | 3 5 7 12 | 20.3 | |
| 533.0 | 20.0 | | | | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-75/ATV
DRILLING STARTED 7/24/92 ENDED 7/24/92

REMARKS
WOH = Weight of Hammer.

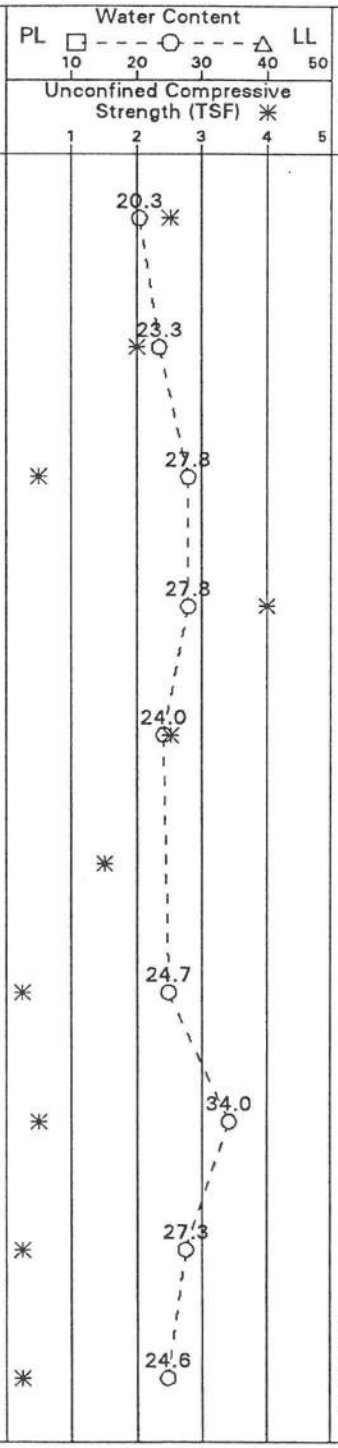
WATER LEVEL (ft.)
▽ 48' during drilling
▼ 33.1' end of drilling

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-3** SHEET **2** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION

LOGGED BY **SAS**
GROUND ELEVATION **553.0**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 533.0 | 20.0 | | Light gray, mottled silty clay, trace fine sand, very stiff, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | - 3 6 7 |
| 531.0 | 22.0 | | Brown mottled silty clay, trace fine sand, stiff, medium plasticity, wet CL | SS-12 22.0-24.0 24"R | - 3 5 7 |
| 528.3 | 24.7 | | Light brown silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-13 24.0-26.0 24"R | 1 2 3 5 |
| 526.5 | 26.5 | | Gray silty clay, trace fine sand, stiff to hard, medium plasticity, wet CL | SS-14 26.0-28.0 24"R | - 3 5 9 |
| | | | Sand Lenses | SS-15 28.0-30.0 24"R | 3 4 5 5 |
| | | | | 3T-16 30.0-32.0 24"R | |
| 519.9 | 33.1 | | | SS-17 32.0-34.0 24"R | 1 1 2 2 |
| 519.0 | 34.0 | | Gray sandy clay, soft, medium plasticity, moist SC | | |
| | | | Dark gray to brown silty clay, trace fine sand, very soft to soft, medium plasticity, wet CL | SS-18 34.0-36.0 24"R | 3 2 2 3 |
| | | | | SS-19 36.0-38.0 24"R | - 1 1 2 |
| | | | | 3T-20 38.0-40.0 24"R | |
| 513.0 | 40.0 | | | | |




NOTES & TEST RESULTS

3T-20:
Dry
Dens. = 104.2pcf
k = 8.2E-08 cm/s

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-75/ATV**
DRILLING STARTED **7/24/92** ENDED **7/24/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽ **48'** during drilling
▼ **33.1'** end of drilling

**PATRICK ENGINEERING INC.**

BORING NUMBER B-3 SHEET 3 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION

LOGGED BY SAS
GROUND ELEVATION 553.0

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 513.0 | 40.0 | | Dark gray to brown silty clay, trace fine sand, very soft to soft, medium plasticity, wet CL | SS-21 40.0-42.0 16"R | WOH WOH WOH WOH |
| | | | Sand Lense at 40.8', very soft | | |
| 510.7 | 42.3 | | Gray silty clay to clayey silt, little to some sand, soft to stiff, medium plasticity, moist to wet CL | SS-22 42.0-44.0 24"R | 1 1 2 2 |
| | | | Sand Lense at 43.3' and 43.6' | SS-23 44.0-46.0 24"R | 2 4 4 3 |
| | | | | 3T-24 46.0-48.0 24"R | |
| 505.0 | 48.0 | | Gray clayey fine sand, some silt, very loose, saturated SC | SS-25 48.0-50.0 12"R | WOH WOH WOH WOH |
| | | | | SS-26 50.0-52.0 24"R | WOH WOH WOH WOH |
| 501.0 | 52.0 | | Gray fine sand, trace coarse to medium sand, trace silt, very loose, poorly graded, saturated SP/SP-SM | SS-27 52.0-54.0 3"R | WOH WOH WOH WOH |
| 499.0 | 54.0 | | | | |
| 498.5 | 54.5 | | Gray coarse to fine sand, little silt, trace fine gravel, loose, poorly graded, saturated SM | SS-26AB 54.0-56.0 9"R | 2 80+/ 5" |
| 498.2 | 54.8 | | Gray shale | | |
| | | | End of Boring at 54.8' | | |

Water Content: PL □ - - - ○ - - - △ LL (10 20 30 40 50)
Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)

20.8
18.2
16.9
25.7
20.4
9.5

NOTES & TEST RESULTS:
Rod weight pushed sample.
Borehole was tremie grouted using Volclay grout immediately after drilling.

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-75/ATV
DRILLING STARTED 7/24/92 ENDED 7/24/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽ 48' during drilling
▽ 33.1' end of drilling
▽

| PATRICK ENGINEERING INC. | BORING NUMBER | B-4 | SHEET 1 OF 2 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 5,488.2 E 2,060.4 | |

LOGGED BY KRR

GROUND ELEVATION 530.1

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 530.1 | 0.0 | | Brown mottled silty clay, trace fine sand, very stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 23.1 | |
| | | | | SS-2 2.0-4.0 24"R | 5 5 5 4 | 22.1 | |
| | | | | SS-3 4.0-6.0 24"R | 3 4 5 7 | 20.3 | |
| | | | | 3T-4 6.0-8.0 24"R | | 28.0 | 3T-4: Dry Dens.=99pcf K=4.7 E--8cm/s |
| | | | Brown at 8.0' | SS-5AB 8.0-10.0 24"R | 2 4 5 6 | 27.4 33.5 | |
| 520.6 | 9.5 | | Gray silty clay, trace fine sand, medium stiff to stiff, medium to high plasticity, wet CL/CH | SS-6 10.0-12.0 24"R | 1 2 1 1 | 45.4 | Soft clay from 10.5' to 11.0'. |
| | | | | 3T-7 12.0-14.0 24"R | | | |
| 516.1 | 14.0 | | Dark gray silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | SS-8 14.0-16.0 24"R | 1 1 1 1 | 29.1 | SS-8: LL = 32 PL = 20 PI = 12 Gravel = 0% Sand = 8% Silt or Clay = 92% |
| | | | | SS-9 16.0-18.0 24"R | WOH 1 1 2 | 24.2 | |
| | | | | 3T-10 18.0-20.0 24"R | | | |
| 510.1 | 20.0 | | | | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/23/92 ENDED 7/23/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽ 31.0' during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-4** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,488.2 E 2,060.4**

LOGGED BY **KRR**
GROUND ELEVATION **530.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 510.1 | 20.0 | | Dark gray silty clay, trace fine sand, stiff, medium plasticity, wet<br>CL | SS-11<br>20.0-22.0<br>24"R | 1<br>2<br>1<br>1 | 21.1 | |
| | | | | SS-12<br>22.0-24.0<br>24"R | 2<br>2<br>3<br>4 | 18.9 | |
| 505.6 | 24.5 | | Gray clayey fine sand, some silt, very loose to loose, poorly graded, moist to saturated<br>SC | SS-13<br>24.0-26.0<br>24"R | 1<br>2<br>1<br>1 | 19.7 | |
| | | | | SS-14<br>26.0-28.0<br>24"R | 1<br>3<br>2<br>2 | 17.7 | SS-14:<br>Gravel = 0%<br>Sand = 56%<br>Silt or Clay = 44% |
| | | | | SS-15<br>28.0-30.0<br>24"R | 1<br>1<br>2<br>2 | 19.6 | |
| | | | | SS-16<br>30.0-32.0<br>24"R | 1<br>1<br>1<br>1 | 20.4 | |
| 498.1 | 32.0 | | Gray coarse to fine sand, trace silt, trace fine gravel, medium dense, poorly graded, saturated<br>SP | SS-17AB<br>32.0-34.0<br>24"R | 8<br>10<br>13<br>126 | 14.5 | Water level at 31.0' during drilling.<br>Water level was observed to rise rapidly after retrieving SS-17. |
| 496.6 | 33.5 | | Gray siltstone/shale | | | | |
| 495.6 | 34.5 | | End or Boring at 34.5'. | SS-18<br>34.0-34.5<br>0"R | 82<br>100+/-<br>1" | | Blow-in at 34.0'<br>Water level within augers at 6.0' one hour after completion of drilling.<br><br>Borehole was termie grouted using Volclay grout. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/23/92** ENDED **7/23/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **31.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-5** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,204.3 E 2,049.3**

LOGGED BY **KRR**
GROUND ELEVATION **529.5**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 529.5 | 0.0 | | Brown silty clay, trace coarse to fine sand, soft to very stiff, low to medium plasticity, moist to wet CL | AU-1 0.0-2.0 | | 13.4 | |
| | | | | SS-2 2.0-4.0 12"R | 4 3 4 4 | 13.5 ✳ | |
| | | | Mottled brown from 4.0' | SS-3 4.0-6.0 18"R | 3 2 4 3 | ✳ 25.3 | |
| | | | | SS-4 6.0-8.0 20"R | 3 4 4 4 | ✳ 22.9 | |
| | | | | SS-5 8.0-10.0 24"R | 2 1 2 2 | ✳ 24.9 | |
| | | | Little fine sand at 9.5' | SS-6 10.0-12.0 20"R | 2 2 2 2 | ✳ 23.1 | |
| 517.2 | 12.3 | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, wet CL | SS-7 12.0-14.0 22"R | 2 1 1 2 | ✳ 28.3 | |
| | | | | 3T-8 14.0-16.0 24"R | | | |
| 514.5 | 15.0 | | Gray fine sand, trace coarse to medium sand, trace silt, very loose, poorly graded, saturated SP | SS-9AB 16.0-18.0 24"R | 1 2 1 2 | ✳ 30.3 | Water level at 14.0' during drilling. |
| 512.5 | 17.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-10 18.0-20.0 24"R | 1 1 1 1 | ✳ 25.8 | |
| 509.5 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/24/92** ENDED **7/24/92**

REMARKS

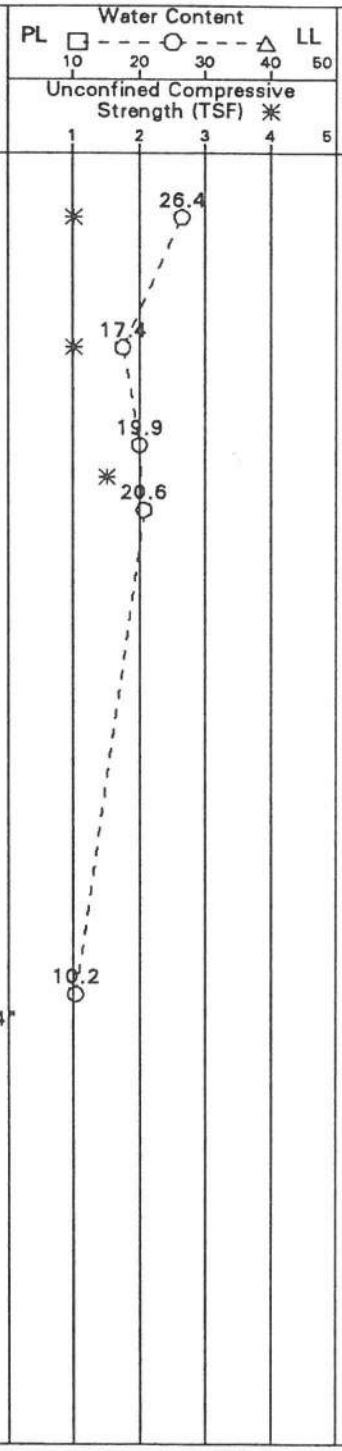
WATER LEVEL (ft.)
▽ **14.0'** during drilling
▽ **6.8'** after drilling
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-5** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,204.3 E 2,049.3**

LOGGED BY **KRR**
GROUND ELEVATION **529.5**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 509.5 | 20.0 | | Gray silty clay, trace fine sand, stiff, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | 3 2 2 2 |
| 507.5 | 22.0 | | Gray clayey silt to silty clay, little fine sand, stiff, low plasticity, moist to wet CL-ML/CL | SS-12 22.0-24.0 24"R | 1 2 3 2 |
| | | | | SS-13AB 24.0-26.0 24"R | 2 2 3 2 |
| 504.3 | 25.2 | | Gray clayey sand, some silt, loose, poorly graded, saturated SC | SS-14 26.0-28.0 24"R | 2 2 3 4 |
| | | | Trace coarse to medium sand at 27.0' | | |
| 501.0 | 28.5 | | Gray coarse to fine sand, little to some silt, trace fine gravel, loose to medium dense, poorly graded, saturated SP | SS-15 28.0-30.0 24"R | 3 4 4 6 |
| | | | | SS-16 30.0-32.0 24"R | 3 3 4 4 |
| 497.5 | 32.0 | | Gray fine sand, trace silt, loose to dense, poorly graded, saturated SP | SS-17 32.0-34.0 24"R | 4 14 45 120/4" |
| 496.0 | 33.5 | | Gray shale, massive, good | | |
| | | | | PQ-18 37.0-39.0 24"R | |
| 490.5 | 39.0 | | End of Boring at 39.0'. | | |




NOTES & TEST RESULTS

Water level at 6.8' immediately after drilling prior to coring.
Auger refusal at 34.0'. Changed to rock coring. Could not core from 34.0' to 37.0' due to problems with core barrel.
RQD = 80%

Borehole was tremie grouted using Volclay immediately after drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/24/92** ENDED **7/24/92**

REMARKS

WATER LEVEL (ft.)
▽ **14.0'** during drilling
▼ **6.8'** after drilling
▼

# PATRICK ENGINEERING INC.

BORING NUMBER B-6 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,072.9 E 2,588.6

LOGGED BY KRR
GROUND ELEVATION 530.8

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 530.8 | 0.0 | | Brown silty clay, trace coarse to fine sand, stiff, low plasticity, moist CL | AU-1 0.0-2.0 | | 18.1 ○ | |
| | | | | SS-2 2.0-4.0 10"R | 3 4 4 4 | 14.8 ○ ✳ | |
| 526.8 | 4.0 | | Dark gray silty clay, trace coarse to fine sand, stiff, medium plasticity, wet CL | SS-3 4.0-6.0 10"R | 1 3 4 5 | 23.8 ○ ✳ | |
| | | | | SS-4 6.0-8.0 24"R | 2 2 2 3 | ✳ 23.6 ○ | |
| 521.8 | 9.0 | | | 3T-5 8.0-10.0 20"R | | ✳ | |
| | | | Brown silty clay, trace to little fine sand, soft to medium stiff, medium plasticity, wet CL | SS-6 10.0-12.0 24"R | | ✳ 20.8 ○ | |
| | | | Lenses of fine sand in SS-6 | | | | |
| | | | | SS-7 12.0-14.0 24"R | 1 2 1 1 | ✳ 25.4 ○ | |
| | | | Lenses of fine sand in SS-7 | | | | |
| | | | | SS-8 14.0-16.0 24"R | WOH 1 1 2 | ✳ 25.0 ○ | |
| 514.8 | 16.0 | | Gray silty clay, trace coarse to fine sand, soft, low to medium plasticity, wet CL | SS-9 16.0-18.0 24"R | WOH 1 1 1 | ✳ 29.3 ○ | |
| | | | | SS-10 18.0-20.0 24"R | WOH 1 1 2 | ✳ 23.5 □○△ | SS-10: LL = 25 PL = 20 PI = 5 |
| 510.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 8/3/92 ENDED 8/3/92

REMARKS
WOH = Weight of Hammer

WATER LEVEL (ft.)
▽ 22.0' during drilling.
▽ 9.0' after drilling.
▽

| PATRICK ENGINEERING INC. | BORING NUMBER | B-6 | SHEET 2 OF 2 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 5,072.9 E 2,588.6 | |

LOGGED BY **KRR**

GROUND ELEVATION **530.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 510.8 | 20.0 | | Gray silty clay, trace coarse to fine sand, soft, low to medium plasticity, wet, fill CL | SS-11 20.0-22.0 24"R | WOH 1 1 1 | ✳ 24.4 | PI = 5 |
| 508.3 | 22.5 | | Gray clayey silt to clayey sand, very loose, poorly graded, saturated CL-ML/SC | SS-12 22.0-24.0 24"R | WOH WOH 1 2 | 20.3 | Water level at 22.0' during drilling. |
| | | | | SS-13 24.0-26.0 24"R | 1 1 1 1 | 27.1 | |
| | | | | SS-14 26.0-28.0 24"R | 1 1 1 1 | 24.6 | SS-14 Gravel = 0% Sand = 44% Silt or clay = 56% |
| | | | | SS-15 28.0-30.0 24"R | WOH 1 1 1 | 21.2 | |
| 500.8 | 30.0 | | Gray fine sand, trace coarse to medium sand, trace fine gravel, very loose, poorly graded, saturated SP | SS-16 30.0-32.0 24"R | 1 1 1 1 | 25.6 | |
| 498.8 | 32.0 | | Gray coarse to fine sand, trace to little coarse to fine gravel, trace silt, medium dense to dense, well graded, saturated SW/SW-SM | SS-17 32.0-34.0 24"R | 10 16 15 15 | 8.4 | Blow-in at 32.0'. |
| 496.3 | 34.5 | | Gray silty clay to clay, hard, medium to high plasticity, moist to dry CL/CH | SS-18 34.0-36.0 24"R | 6 8 20 41 | ✳ 15.9 | |
| | | | | SS-19 36.0-38.0 14"R | 40 62 100+ /2" | 8.9 | Hard drilling. Water level at 9.0' after drilling. |
| 493.3 | 37.5 | | Gray shale | | | | |
| 492.8 | 38.0 | | End of Boring at 38.0'. | | | | Borehole was tremie grouted using Volclay grout immediately after drilling. |

| | | |
|---|---|---|
| DRILLING CONTRACTOR **Patrick Drilling** | REMARKS | WATER LEVEL (ft.) |
| DRILLING METHOD **4-1/4" I.D. HSA.** | **WOH = Weight of Hammer.** | ▽ **22.0'** during drilling. |
| DRILLING EQUIPMENT **CME-55/ATV** | | ▼ **9.0'** after drilling. |
| DRILLING STARTED **8/3/92** ENDED **8/3/92** | | ▼ |

**PATRICK ENGINEERING INC.**

BORING NUMBER B-7 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,743.9 E 2,684.2

LOGGED BY KRR
GROUND ELEVATION 523.3

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|
| 523.3 | 0.0 | | Brownish-gray to brown silty clay, trace coarse to fine sand, trace roots, very soft, medium plasticity, wet, fill CL | AU-1 0.0-2.0 | | |
| 522.1 | 1.2 | | Gray silty clay, trace to little fine sand, very soft, medium plasticity, wet, fill CL | SS-2AB 2.0-4.0 24"R | WOH | |
| 519.8 | 3.5 | | Gray clayey fine sand, little silt, very loose, poorly graded, saturated, fill SC | SS-3 4.0-6.0 4"R | WOH | |
| 518.3 | 5.0 | | Gray silty clay, trace to little fine sand, very soft, mucky, medium plasticity, wet, fill. CL | SS-4 6.0-8.0 24"R | WOH | SS-4 Gravel = 0% Sand = 33% Silt or clay = 67% |
| | | | | SS-5 8.0-10.0 18"R | WOH | |
| | | | Lenses of fine sand and wood fragments in SS-6. | SS-6 10.0-12.0 18"R | WOH WOH WOH 6 | |
| 510.8 | 12.5 | | Gray silty clay, trace to little fine sand, stiff, medium plasticity, wet CL | SS-7 12.0-14.0 20"R | WOH WOH 2 2 | Water level at 12.0' during drilling. |
| 508.3 | 15.0 | | Gray clayey silt and fine sand, loose, nonplastic, saturated CL-ML | SS-8 14.0-16.0 24"R | WOH WOH 2 3 | |
| | | | | SS-9 16.0-18.0 24"R | 2 2 2 2 | SS-9 Gravel = 0% Sand = 38% Silt or clay = 62% |
| | | | | SS-10 18.0-20.0 24"R | 1 2 1 2 | |
| 503.3 | 20.0 | | | | | |

Water Content: PL □ - - - ○ - - - △ LL; 10 20 30 40 50
Unconfined Compressive Strength (TSF) ✳: 1 2 3 4 5

Water Content values: 25.9, 27.3, 22.8, 36.7, 24.4, 28.1, 29.9, 24.1, 21.0, 18.2, 20.2

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 6-1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 8/5/92 ENDED 8/5/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽ 12.0' during drilling.

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-7** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,743.9 E 2,684.2**

LOGGED BY **KRR**
GROUND ELEVATION **523.3**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 503.3 | 20.0 | | Gray clayey silt and fine sand, loose, nonplastic, saturated CL-ML/SC | SS-11 20.0-22.0 24"R | 1 1 1 1 | 21.7 ○ | |
| | | | | 3T-12 22.0-24.0 20"R | | | Gray fine sand at bottom of Shelby tube. |
| 499.8 | 23.5 | | Gray fine sand, trace silt, medium dense to dense, poorly graded, saturated SP | SS-13 24.0-26.0 24"R | 10 14 14 22 | | Artesian conditions. |
| 496.8 | 26.5 | | Gray coarse to fine sand, trace coarse to fine gravel, trace silt, loose, well graded, saturated SW | SS-14 26.0-28.0 24"R | WOH | | |
| 494.8 | 28.5 | | Gray shale, massive, good | SS-15AB 28.0-30.0 16"R | 10 52 100+ /"4 | 12.3 ○ | Drilled to 30.0' then, switched to PQ coring. |
| | | | | PQ-16 30.0-35.0 60"R | | | RQD = 80% |
| 488.3 | 35.0 | | End of Boring at 35.0'. | | | | Borehole was grouted using Volclay grout after completion of drilling. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/5/92** ENDED **8/5/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **12.0' during drilling.**
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-8** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,565.9 E 2,706.2**

LOGGED BY **KRR**
GROUND ELEVATION **523.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 523.8 | 0.0 | | Brown silty clay, trace fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | | 21.0 | |
| | | | | SS-2 2.0-4.0 24"R | 1 1 2 2 | ✳ 30.7 | |
| | | | | 3T-3 4.0-6.0 24"R | | ✳ | |
| | | | | SS-4 6.0-8.0 24"R | 1 2 2 3 | ✳ 25.6 | |
| | | | Fine sand lenses in SS-4 | | | | Water Level at 6.0' during drilling. |
| | | | | SS-5 8.0-10.0 24"R | 1 2 2 3 | ✳ 10.7 | |
| | | | Trace coarse to fine sand and trace coal in SS-5 | | | | |
| 513.3 | 10.5 | | | SS-6 10.0-12.0 24"R | 2 3 3 4 | ✳ 34.2 | |
| | | | Gray and olive silty clay to clay, trace fine sand very soft to medium stiff, medium to high plasticity, wet CL/CH | 3T-7 12.0-14.0 24"R | | ✳ | |
| | | | | SS-8 14.0-16.0 24"R | 1 1 1 3 | ✳ 44.5 | |
| | | | Mucky at 16.0' | SS-9 16.0-18.0 24"R | 2 1 1 1 | ✳ 50.2 | |
| | | | Mucky at 18.0' | SS-10 18.0-20.0 24"R | WOH WOH WOH WOH | ✳ 46.8 | |
| 503.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/15/92** ENDED **8/15/92**

REMARKS
**WOH = Weight of Hammer**

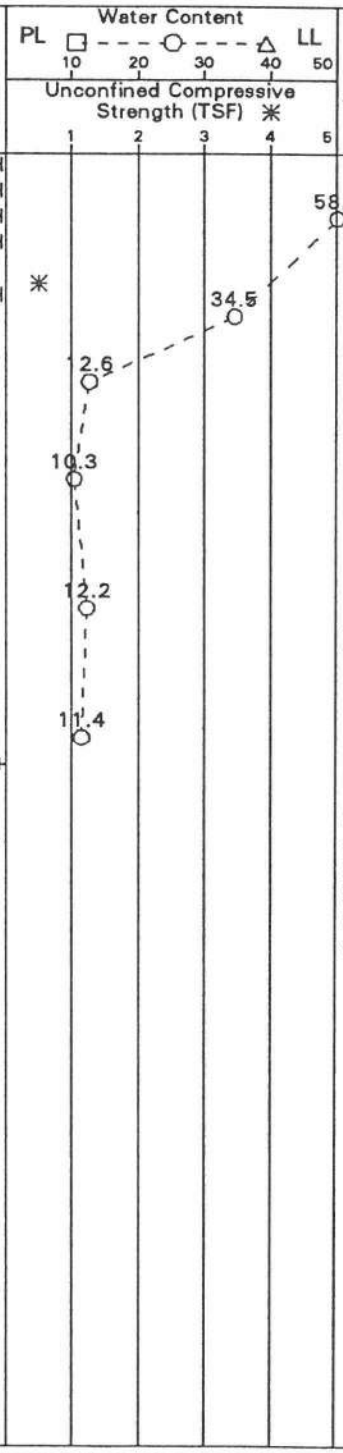
WATER LEVEL (ft.)
▽ **6.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-8** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,565.9 E 2,706.2**

LOGGED BY **KRR**
GROUND ELEVATION **523.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 503.8 | 20.0 | | Gray clay, trace silt, very soft, medium to high plasticity, wet CL/CH | SS-11 20.0-22.0 24"R | WOH WOH WOH WOH |
| 501.8 | 22.0 | | | | |
| 501.2 | 22.6 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-12ABC 22.0-24.0 24"R | WOH 5 6 15 |
| 500.6 | 23.2 | | Gray fine sand, little silt, medium to dense, poorly graded, saturated SM | SS-13 24.0-26.0 24"R | 3 11 18 22 |
| | | | Gray coarse to fine sand, trace coarse to fine gravel, trace to little silt, medium dense to dense, well graded, saturated SW-SM/SM | SS-14 26.0-28.0 24"R | 6 9 19 17 |
| | | | | SS-15AB 28.0-30.0 24"R | 5 12 23 100+ |
| 494.8 | 29.0 | | Gray shale, soft | | |
| 493.8 | 30.0 | | End of Boring at 30.0' | | |




NOTES & TEST RESULTS

Artesian conditions.

Borehole was tremie grouted using Volclay grout immediately after completion of drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/15/92** ENDED **8/15/92**

REMARKS
**WOH = Weight of Hammer**

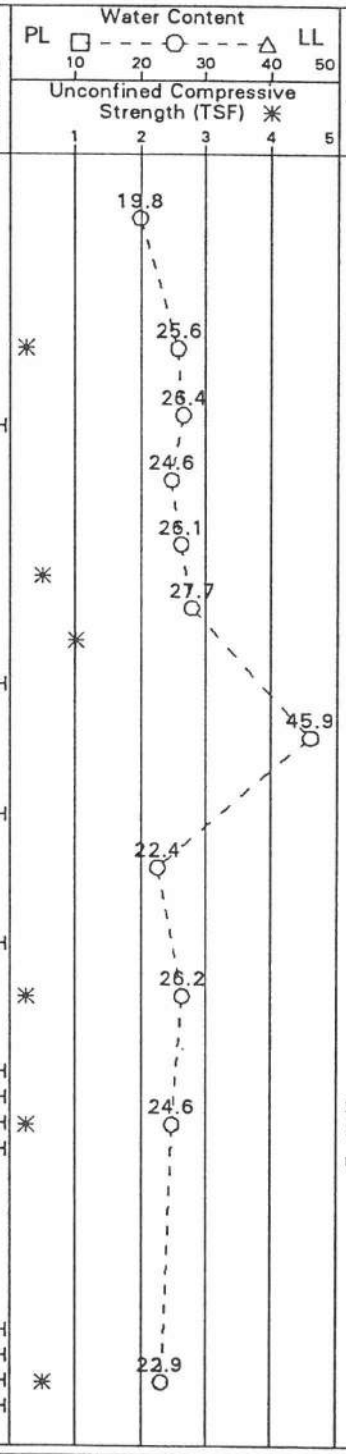
WATER LEVEL (ft.)
▽ **6.0'** during drilling
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER B-9 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 4,690.7 E 2,506.0

LOGGED BY KRR
GROUND ELEVATION 522.7

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 522.7 | 0.0 | | Brown silty clay, trace fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | |
| | | | | SS-2 2.0-4.0 24"R | 1 1 1 2 |
| | | | | SS-3AB 4.0-6.0 24"R | WOH 1 2 1 |
| 517.7 | 5.0 | | Brown silty clay to clayey fine sand, soft, low plasticity, wet CL/SC | | |
| 516.7 | 6.0 | | Brown and tan silty clay trace coarse to fine sand, soft, medium plasticity, wet CL | SS-4 6.0-8.0 24"R | 2 3 2 4 |
| 515.7 | 7.0 | | Gray silty clay to clayey silt, trace fine sand, medium soft, medium plasticity, wet CL | SS-5 8.0-10.0 24"R | WOH 1 1 2 |
| 513.9 | 8.8 | | Gray fine sand, some silt, wood fragments present, very loose, poorly graded, saturated SM | SS-6 10.0-12.0 24"R | WOH 1 1 2 |
| 512.7 | 10.0 | | Gray clayey sand, little silt, very loose, poorly graded, saturated SC | | |
| 510.3 | 12.4 | | Trace shells and fine gravel at 12.0' Gray silty clay, trace to little fine sand, soft, medium plasticity, wet CL | SS-7 12.0-14.0 24"R | WOH 1 1 1 |
| | | | | SS-8 14.0-16.0 24"R | WOH WOH WOH WOH |
| | | | | 3T-9 16.0-18.0 24"R | |
| | | | Fine sand lenses | SS-10 18.0-20.0 24"R | WOH WOH WOH WOH |




| NOTES & TEST RESULTS |
|---|
| SS-8: CEC = 10.7 meq/100gm |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME 55/ATV
DRILLING STARTED 8/14/92 ENDED 8/14/92

REMARKS
WOH = Weight of Hammer

WATER LEVEL (ft.)
▽ 9.0' after drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER B-9 SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 4,690.7 E 2,506.0

LOGGED BY KRR
GROUND ELEVATION 522.7

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 502.7 | 20.0 | | Gray silty clay, some fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | WOH 1 1 2 | 19.8 | |
| 502.2 | 20.5 | | Gray clayey fine sand and silt, very loose, poorly graded, saturated SC | SS-12 22.0-24.0 24"R | WOH WOH 1 2 | 22.2 | |
| | | | Wood fragments and trace organics present in SS-12 | | | | |
| 498.2 | 24.5 | | Gray coarse to fine sand, trace coarse to fine gravel, trace silt, medium dense, well graded, saturated SW-SM | SS-13 24.0-26.0 24"R | WOH WOH 13 5 | 12.2 | |
| 495.7 | 27.0 | | Gray shale | SS-14 26.0-28.0 24"R | 3 4 40 73 | 11.8 | |
| 494.7 | 28.0 | | End of Boring at 28.0' | | | | Water level at 9.0' immediately after drilling. Borehole was tremie grouted immediately after completion of drilling. |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME 55/ATV
DRILLING STARTED 8/14/92 ENDED 8/14/92

REMARKS
WOH = Weight of Hammer

WATER LEVEL (ft.)
▽ 9.0' after drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-10** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,589.2 E 2,463.3**

LOGGED BY **KRR**
GROUND ELEVATION **523.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 523.6 | 0.0 | | Brown silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 24.3 | |
| | | | | SS-2 2.0-4.0 24"R | 2 2 2 2 | ✳ 24.7 | |
| | | | | SS-3 4.0-6.0 24"R | 1 2 3 3 | ✳ 25.7 | |
| | | | | 3T-4 6.0-8.0 24"R | | ✳ | |
| 516.1 | 7.5 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-5 8.0-10.0 24"R | WOH 1 2 2 | ✳ 27.2 | |
| | | | 1" lense of fine sand at 9.0' | SS-6 10.0-12.0 24"R | WOH 1 2 1 | ✳ 25.1 | |
| | | | | SS-7 12.0-14.0 24"R | 1 1 1 1 | ✳ 27.2 | Water level at 12.0' during drilling. |
| | | | Mucky at 14.0' | SS-8 14.0-16.0 24"R | WOH 1 1 1 | ✳ 24.1 | |
| | | | | SS-9 16.0-18.0 24"R | WOH WOH WOH 1 | ✳ 25.5 | |
| | | | | SS-10 18.0-20.0 24"R | WOH 1 1 2 | 23.8 | |
| 503.6 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/15/92** ENDED **8/15/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **12.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-10** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,589.2 E 2,463.3**

LOGGED BY **KRR**
GROUND ELEVATION **523.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 503.6 | 20.0 | | Gray silty clay, trace to little fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | WOH 1 1 2 |
| | | | | SS-12 22.0-24.0 24"R | WOH 1 1 3 |
| 499.4 | 24.2 | | Gray coarse to fine sand, trace coarse to fine gravel, trace silt, loose to medium dense, well graded, saturated SW-SM/SM | SS-13AB 24.0-26.0 24"R | 6 7 4 4 |
| 498.1 | 25.5 | | Gray shale, soft Hard at 26.5' | SS-14 26.0-27.0 13"R | 11 43 100+ /1" |
| 496.6 | 27.0 | | End of Boring 27.0' | | |

Water Content: PL ☐ - - - ○ - - - △ LL (10 20 30 40 50)
Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)
23.4 ✳ 20.8 ✳ 20.0 10.5

NOTES & TEST RESULTS

Artesian conditions immediately after drilling.

Borehole was tremie grouted using Volclay grout immediately after completion of drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/15/92** ENDED **8/15/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **12.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-11** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,775.2 E 2,391.2**

LOGGED BY **KRR**
GROUND ELEVATION **523.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 523.6 | 0.0 | | Brown silty clay, trace fine sand, soft to stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 21.4 ○ | |
| | | | Mottled at 2.0' | SS-2 2.0-4.0 24"R | 2 1 2 3 | ✳ 21.9 ○ | |
| | | | Tan at 4.0' | SS-3 4.0-6.0 24"R | 2 2 2 3 | ✳ 24.0 ○ | |
| | | | | 3T-4 6.0-8.0 22"R | | ✳ | |
| 515.2 | 8.4 | | Gray silty clay, trace fine sand, soft, medium plasticity, moist CL | SS-5 8.0-10.0 24"R | 1 1 1 2 | ✳ 29.3 ○ | |
| | | | | SS-6 10.0-12.0 24"R | 1 2 2 2 | ✳ 26.8 ○ | |
| | | | | 3T-7 12.0-14.0 22"R | | ✳ | |
| | | | | SS-8 14.0-16.0 24"R | WOH 1 1 1 | ✳ 24.7 ○ | |
| | | | | SS-9 16.0-18.0 24"R | WOH 1 2 2 | ✳ 23.7 ○ | Water level at 16.0' during drilling. |
| | | | Fine sand pockets in SS-10 | SS-10 18.0-20.0 24"R | WOH 1 1 2 | ✳ 21.7 ○ | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/14/92** ENDED **8/14/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **16.0'** during drilling.
▽
▽

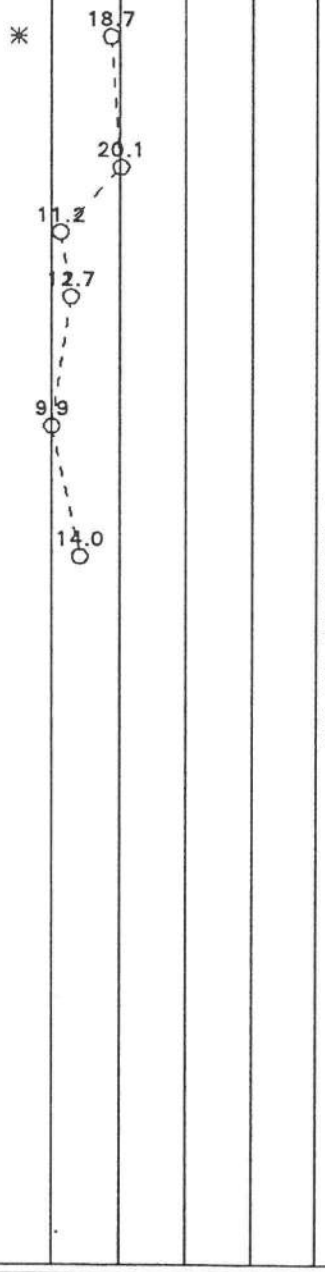
**PATRICK ENGINEERING INC.**

BORING NUMBER **B-11** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,775.2 E 2,391.2**

LOGGED BY **KRR**
GROUND ELEVATION **523.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 503.6 | 20.0 | | Gray silty clay, trace to little fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | 1 2 2 3 |
| 501.8 | 21.8 | | Gray fine sand and silty, loose to medium dense, poorly graded, saturated SM | SS-12AB 22.0-24.0 24"R | 1 3 8 11 |
| 500.4 | 23.2 | | Gray coarse to fine sand, little coarse to fine gravel, trace silt, medium dense, well graded, saturated SW-SM/SM | SS-13 24.0-26.0 24"R | 14 13 15 15 |
| | | | Clayey at 26.0' | SS-14 26.0-28.0 24"R | 5 6 16 12 |
| 495.4 | 28.2 | | Gray shale, soft | SS-15 28.0-29.2 14"R | 8 18 100+ /2" |
| 494.4 | 29.2 | | End of Boring at 29.2' | | |

Water Content: PL □ - - - ○ - - - △ LL (10 20 30 40 50)
Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)




NOTES & TEST RESULTS

Water level at ground surface immediately after drilling.
Borehole was tremie grouted using Volclay grout immediately after completion of drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/14/92** ENDED **8/14/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **16.0'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-12** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,924.2 E 2,210.8**

LOGGED BY **KRR**
GROUND ELEVATION **524.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.9 | 0.0 | | Brown silty clay, trace fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | | 20.7 | |
| 522.6 | 2.3 | | | SS-2AB 2.0-4.0 24"R | 1 2 1 2 | ✳ 28.1 26.3 | Water level at 3.0' during drilling. |
| 521.9 | 3.0 | | Brown clayey silt to silty sand, loose, poorly graded, saturated CL-ML/SM | | | | |
| | | | Brown and tan silty clay, trace to little fine sand, soft, medium plasticity, wet CL | SS-3 4.0-6.0 22"R | 1 2 2 2 | ✳ 27.6 | |
| 518.9 | 6.0 | | Brown and tan clayey fine sand, little silt, very loose, poorly graded, saturated SC | SS-4 6.0-8.0 12"R | 1 1 2 3 | 23.3 | |
| 517.4 | 7.5 | | Gray silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | SS-5 8.0-10.0 22"R | 1 1 1 2 | ✳ 28.5 | |
| | | | Lenses of fine sand in SS-5 | | | | |
| | | | Trace wood fragments in SS-6 | SS-6 10.0-12.0 24"R | 1 2 2 2 | ✳ 30.1 | |
| | | | | 3T-7 12.0-14.0 24"R | | ✳ | |
| | | | | SS-8 14.0-16.0 24"R | 1 1 1 1 | ✳ 24.7 | |
| | | | | SS-9 16.0-18.0 24"R | 1 1 2 3 | ✳ 26.4 | |
| | | | | SS-10 18.0-20.0 24"R | WOH 1 1 1 | ✳ 25.4 | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D.**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/14/92** ENDED **8/14/92**

REMARKS
**WOH = Weight of Hammer**

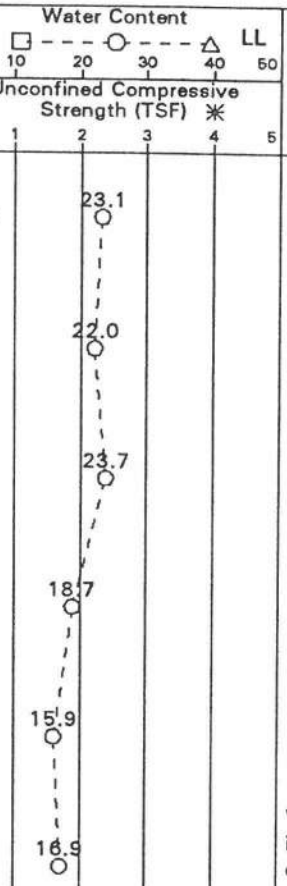
WATER LEVEL (ft.)
▽ **3.0'** during drilling
▽ **4.3'** immediately after drilling
▽

# PATRICK ENGINEERING INC.

BORING NUMBER **B-12** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,924.2 E 2,210.8**

LOGGED BY **KRR**
GROUND ELEVATION **524.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 504.9 | 20.0 | | Gray, silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | WOH 1 1 2 |
| | | | Little to some fine sand from 23.0' | SS-12 22.0-24.0 24"R | WOH 1 1 2 |
| 500.4 | 24.5 | | Gray fine sand, some silt, very loose, poorly graded, saturated SM | SS-13 24.0-26.0 24"R | WOH WOH 1 2 |
| 498.9 | 26.0 | | Gray coarse to fine sand, trace to little coarse to fine gravel, trace silt, loose to medium dense, well graded, saturated SW-SM | SS-14 26.0-28.0 24"R | 2 3 3 3 |
| | | | | SS-15 28.0-30.0 24"R | 2 3 11 11 |
| 494.9 | 30.0 | | Gray shale, soft | SS-16 30.0-31.0 12"R | 22 100+ |
| 493.9 | 31.0 | | End of Boring at 31.0' | | |




NOTES & TEST RESULTS

Water level at 4.3' immediately after drilling.

Borehole was tremie grouted using Volclay grout immediately after completion of drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D.**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/14/92** ENDED **8/14/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **3.0'** during drilling
▽ **4.3'** immediately after drilling
▽

# PATRICK ENGINEERING INC.

BORING NUMBER **B-13** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,524.7 E 2,275.9**

LOGGED BY **KRR**
GROUND ELEVATION **523.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 523.8 | 0.0 | | Brown silty clay, trace coarse to fine sand, soft to medium stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 22.0 | |
| | | | Brown and tan from 2.0' | SS-2 2.0-4.0 24"R | 1 2 2 3 | 26.0 | |
| | | | Little fine sand in SS-3 | SS-3 4.0-6.0 24'R | 2 1 2 2 | 24.9 | |
| 516.8 | 7.0 | | Gray silty clay, trace coarse to fine sand, medium stiff, medium plasticity, wet CL | 3T-4 6.0-8.0 24"R | | | Water level at 7.0' during drilling. |
| | | | | SS-5 8.0-10.0 24"R | 2 2 2 2 | 24.9 | |
| | | | | SS-6 10.0-12.0 24"R | WOH 1 2 3 | 30.5 | |
| | | | | 3T-7 12.0-14.0 24"R | | | |
| 509.8 | 14.0 | | Gray silty clay, trace to little fine sand, very soft to soft, medium plasticity, wet CL | SS-8 14.0-16.0 24"R | WOH 1 1 1 | 22.5 | |
| | | | | SS-9 16.0-18.0 24"R | WOH WOH WOH WOH | 23.2 | |
| | | | | SS-10 18.0-20.0 24"R | WOH WOH 1 1 | 24.6 | |
| 503.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/4/92** ENDED **8/4/92**

REMARKS
**WOH = Weight of Hammer**

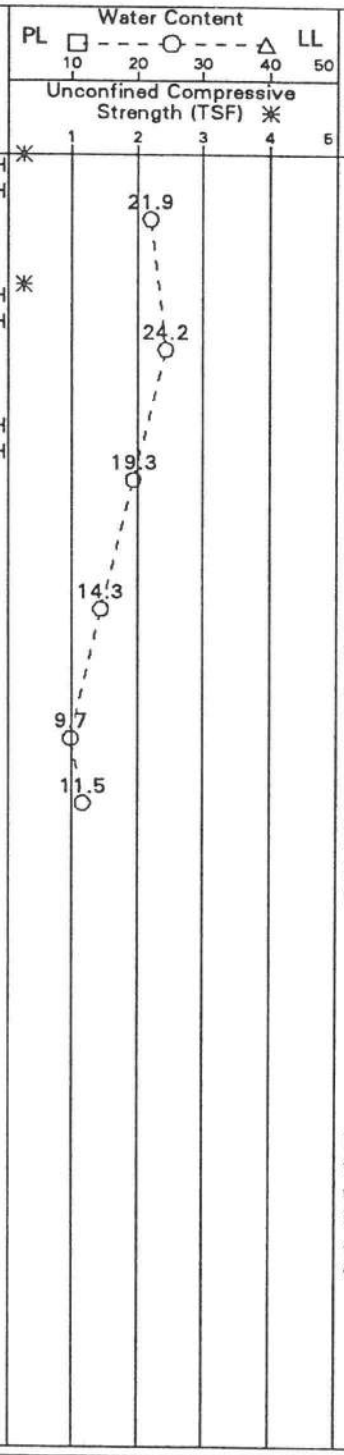
WATER LEVEL (ft.)
▽ **7.0'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-13** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,524.7 E 2,275.9**

LOGGED BY **KRR**
GROUND ELEVATION **523.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 503.8 | 20.0 | | Gray silty clay, trace little fine sand, very soft to soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | WOH WOH 1 1 |
| | | | | SS-12 22.0-24.0 24"R | WOH WOH 1 1 |
| 499.3 | 24.5 | | Gray clayey fine sand, some silt, very loose, poorly graded, saturated SC | SS-13 24.0-26.0 24"R | WOH WOH 1 2 |
| 497.8 | 26.0 | | Gray coarse to fine sand, little coarse to fine gravel, little silt, medium dense to dense, well graded, saturated SM | SS-14 26.0-28.0 24"R | 4 4 12 19 |
| | | | | SS-15AB 28.0-30.0 24"R | 15 22 42 58 |
| 494.5 | 29.3 | | Gray shale, massive, excellent | PQ-16 30.0-35.0 60"R | |
| 488.8 | 35.0 | | End of Boring at 35.0' | | |




NOTES & TEST RESULTS

SS-14:
Gravel = 16%
Sand = 65%
Silt or clay = 19%
Artesian conditions. Water found to overflow.

Auger refusal at 30.0'. Switched to PQ coring.
RQD = 100%

Borehole was tremie grouted using Volclay grout immediately after completion of drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/4/92** ENDED **8/4/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **7.0'** during drilling.
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER **B-14** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 3,763.9 E 2,791.1**

LOGGED BY **KRR**
GROUND ELEVATION **572.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 572.7 | 0.0 | | Brown silty clay, trace fine sand, very stiff, low to medium plasticity, moist to wet CL | AU-1 0.0-2.0 | | 17.5 | |
| | | | | SS-2 2.0-4.0 22"R | 3 4 4 6 | 14.2 ✳ | |
| | | | Trace coarse to medium sand, trace fine gravel from 4.0' | SS-3 4.0-6.0 24"R | 4 6 9 11 | 20.4 ✳ | |
| | | | | SS-4 6.0-8.0 24"R | 5 6 7 7 | 20.3 ✳ | |
| | | | | 3T-5 8.0-10.0 24"R | | | |
| | | | Silty sand at 10.0' | SS-6 10.0-12.0 24"R | 4 6 6 4 | 12.4 ✳ | |
| | | | Little to some sand in SS-6 | | | | |
| 560.2 | 12.5 | | Dark gray to black organic silty clay, trace fine sand, very stiff, medium plasticity, wet OL | SS-7 12.0-14.0 24"R | 4 7 9 15 | 40.5 ✳ | |
| 558.2 | 14.5 | | Coal | SS-8 14.0-16.0 24"R | 7 18 32 34 | 49.8 | |
| | | | | SS-9 16.0-18.0 18"R | 22 39 50+ | 22.7 | SS-9 driven 18" only. |
| 553.7 | 19.0 | | Gray shale | SS-10AB 18.0-20.0 24"R | 12 10 16 18 | 16.4 | |
| 552.7 | 20.0 | | | | | 13.4 | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/17/92** ENDED **8/17/92**

REMARKS

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-14** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 3,763.9 E 2,791.1**

LOGGED BY **KRR**
GROUND ELEVATION **572.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 552.7 | 20.0 | | Gray shale. | SS-11 20.0-22.0 2"R | 10 11 15 24 | | Auger refusal of 22.1'. Water was not encountered during or immediately after drilling. Borehole was grouted using Volclay grout immediately after completion of drilling. |
| 550.7 | 22.0 | | End of Boring at 22.1'. | SS-12 22.0-22.1 2"R | 100 +/2" | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/17/92** ENDED **8/17/92**

REMARKS

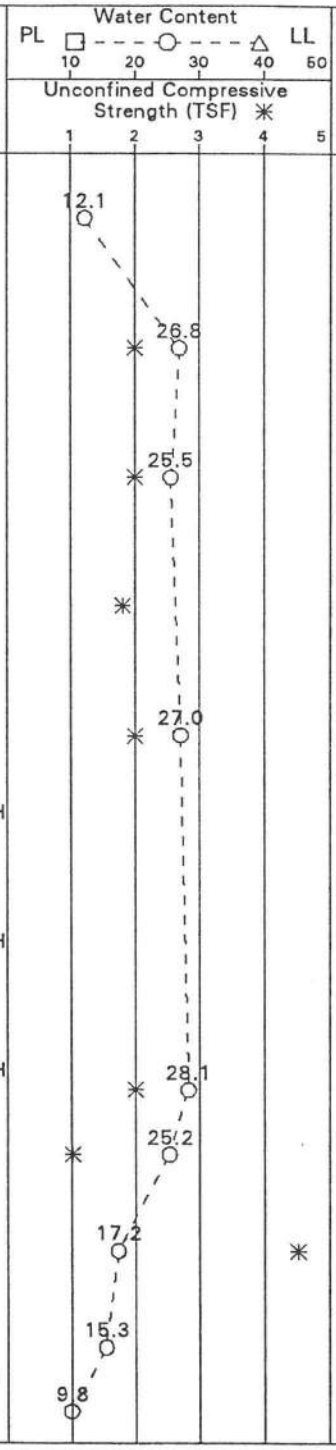
WATER LEVEL (ft.)

# PATRICK ENGINEERING INC.

BORING NUMBER B-15 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,579.6 E 1,752.7

LOGGED BY KRR
GROUND ELEVATION 536.7

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 536.7 | 0.0 | | Brown silty clay, trace coarse to fine sand, stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | |
| | | | | SS-2 2.0-4.0 14"R | 7 6 8 9 |
| | | | | SS-3 4.0-6.0 24"R | 4 6 6 9 |
| | | | | 3T-4 6.0-8.0 14"R | |
| | | | Brown and olive at 8.0'. | SS-5AB 8.0-10.0 24"R | 2 2 4 5 |
| 527.7 | 9.0 | | Brown fine sand, trace silt, loose, poorly graded, saturated SP-SM/SM | SS-6 10.0-12.0 18"R | WOH 2 2 2 |
| | | | | SS-7A/B 12.0-14.0 24"R | WOH 2 2 2 |
| 523.7 | 13.0 | | Dark gray and gray silty clay, trace organics, trace coarse to fine sand, soft, medium plasticity, wet CL/OL | SS-8AB 14.0-16.0 24"R | WOH 1 2 5 |
| 521.7 | 15.0 | | Organics present in SS-8A. Brown and olive silty clay, trace coarse to fine sand, very stiff, low plasticity, moist | SS-9 16.0-18.0 24"R | 5 6 6 4 |
| 520.2 | 16.5 | | CL Brown and olive silty clay to clayey silt, trace to fine sand, hard, low plasticity, moist CL Changed to brown from 19.0'. | SS-10AB 18.0-20.0 24"R | 2 7 20 32 |
| 516.7 | 20.0 | | | | |




NOTES & TEST RESULTS
Water level at 9.0' during drilling.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/21/92** ENDED **8/21/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **9.0'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **B-15** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 5,579.6 E 1,752.7**

LOGGED BY **KRR**
GROUND ELEVATION **536.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 516.7 | 20.0 | | Brown shale, soft. | SS-11 20.0-22.0 8"R | 80 100 +/2" | 9.7 ○ | |
| | | | | SS-12 22.0-24.0 7"R | 31 100 +/1" | 7.8 ○ | |
| 512.7 | 24.0 | | End of Boring at 24.5'. | | | | Auger refusal at 24.5'. Borehole was tremie grouted using Volclay grout immediately after completion of drilling. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/21/92** ENDED **8/21/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **9.0'** during drilling.
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER **CB-1** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,559.1 E 2,663.1**

LOGGED BY **KRR**
GROUND ELEVATION **527.3**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 527.3 | 0.0 | | Dark gray silty clay, trace coarse to fine sand, very stiff, medium plasticity, wet, fill CL | AU-1 0.0-2.0 | | 20.1 | Grass and weeds at the surface. |
| | | | | SS-2 2.0-4.0 16"R | 6 4 4 5 | 19.2 ✳ | |
| | | | Mottled at 4.0' | SS-3 4.0-6.0 20"R | 3 4 8 15 | ✳ 30.3 | |
| 522.3 | 5.0 | | Dark gray organic silty clay, trace fine sand, trace roots and wood fragments, soft to stiff, medium plasticity, wet, fill OL | SS-4 6.0-8.0 24"R | 1 1 2 2 | ✳ 30.2 | |
| | | | | 3T-5 8.0-10.0 24"R | | ✳ ⊡ 29.4 - ○ - - - △ | 3T-5: Dry Den. = 94pcf qu = 0.6tsf LL = 41 PL = 23 k = 1.5 E-07 cm/s |
| | | | | SS-6 10.0-12.0 18"R | 1 2 2 2 | ✳ | |
| 514.5 | 12.8 | | | SS-7ABC 12.0-14.0 24"R | 1 1 2 2 | ✳ 29.9 ✳ 21.2 | |
| 513.8 | 13.5 | | Gray clayey fine sand, trace coarse to medium sand, trace fine gravel, loose, poorly graded, saturated, fill SC | | | | |
| 513.1 | 14.2 | | Dark gray to black organic silty clay, trace coarse to fine sand, wood fragments present, soft, medium plasticity, wet, fill OL | SS-8 14.0-16.0 24"R | 1 2 1 1 | ✳ 35.4 | |
| | | | Dark gray clayey fine sand, trace coarse to medium sand, trace organics, wood fragments present, very loose, poorly graded, saturated, fill SC | SS-9 16.0-18.0 24"R | 1 1 1 1 | 36.3 | |
| 509.3 | 18.0 | | | SS-10AB 18.0-20.0 24"R | 1 1 2 1 | 56.2 | |
| 508.3 | 19.0 | | Gray coarse to fine sand, trace silt, trace organics, very loose, poorly graded, saturated, fill SP-SM | | | | |
| 507.3 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/23/92** ENDED **7/23/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **17.0'** during drilling
▽ **15.5'** after drilling
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-1** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,559.1 E 2,663.1**

LOGGED BY **KRR**
GROUND ELEVATION **527.3**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 507.3 | 20.0 | | Dark to black organic silty clay, wood fragments present, soft, medium dense, wet, fill OL | SS-11 20.0-22.0 24"R | 1 1 2 1 | | |
| 505.3 | 22.0 | | Gray fine sand, trace coarse to medium sand, little to some silt, very loose, poorly graded, saturated SP-SM/SM | SS-12 22.0-24.0 24"R | 1 2 1 2 | | |
| | | | Gray silty sand, little clay, very loose, poorly graded, saturated SM | SS-13 24.0-26.0 24"R | 1 1 1 2 | | SS-13: Gravel = 0% Sand = 69% Silt or clay = 31% |
| | | | | SS-14 26.0-28.0 24"R | WOH 1 1 2 | | |
| 499.3 | 28.0 | | Gray fine sand, trace coarse to medium sand, trace silt, trace coarse to fine gravel, loose, poorly graded, saturated SP/SP-SM | SS-15 28.0-30.0 24"R | WOH 1 3 5 | | |
| | | | Little to some silt, little coarse to medium sand in SS-16 | SS-16 30.0-32.0 24"R | 3 3 4 6 | | |
| 495.3 | 32.0 | | | | | | |
| 495.0 | 32.3 | | Gray coarse to fine sand, trace coarse to fine gravel, dense, well graded, saturated SW | SS-17 32.0-34.0 | 28 100/ 1" | 12.9 ○ | Auger refusal at 32.5'. |
| 494.8 | 32.5 | | Gray shale | | | | |
| | | | End of Boring at 32.5'. | | | | Borehole was tremie grouted immediately after completion of drilling. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/23/92** ENDED **7/23/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **17.0'** during drilling
▽ **15.5'** after drilling
▽

# PATRICK ENGINEERING INC.

BORING NUMBER CB-2 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,427.5 E 2,700.9

LOGGED BY KRR
GROUND ELEVATION 526.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5 | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 526.2 | 0.0 | | Brownish-gray silty clay, trace coarse to fine sand, medium stiff, medium plasticity, wet, fill CL | AU-1 0.0-2.0 | | 21.1 | |
| | | | | SS-2 2.0-4.0 24"R | 2 2 3 3 | ✳ 26.9 | |
| 522.2 | 4.0 | | Dark gray silty clay, trace to little fine sand and very soft to soft, medium plasticity, wet to saturated, fill CL | SS-3 4.0-6.0 24"R | 1 1 2 2 | ✳ 31.6 | |
| | | | | 3T-4 6.0-8.0 18"R | | ✳ | |
| | | | | SS-5 8.0-10.0 24"R | WOH WOH 1 2 | ✳ 28.8 | |
| | | | | SS-6 10.0-12.0 24"R | WOH 1 1 2 | ✳ 28.2 | Water level at 10.0' during drilling. |
| | | | Trace organics at 13.0'. | SS-7 12.0-14.0 24"R | WOH 1 2 2 | ✳ 20.5 | |
| | | | Wood fragments in SS-8 | SS-8 14.0-16.0 24"R | WOH 1 2 2 | ✳ 42.5 | |
| | | | | 3T-9 16.0-18.0 20"R | | ✳ ⊡ - - △ 37.8 | 3T-9: LL = 34 PL = 25 PI = 9 Dry dens. = 80pcf k = 2.4 E-07 cm/s |
| | | | Organics and wood traces at 18.3' | SS-10AB 18.0-20.0 24"R | WOH | ✳ 38.3 | |
| 506.7 | 19.5 | | Gray and olive silty clay to clay, trace | | | ✳ 29.3 | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 8/2/92 ENDED 8/2/92

REMARKS
WOH = Weight of Hammer

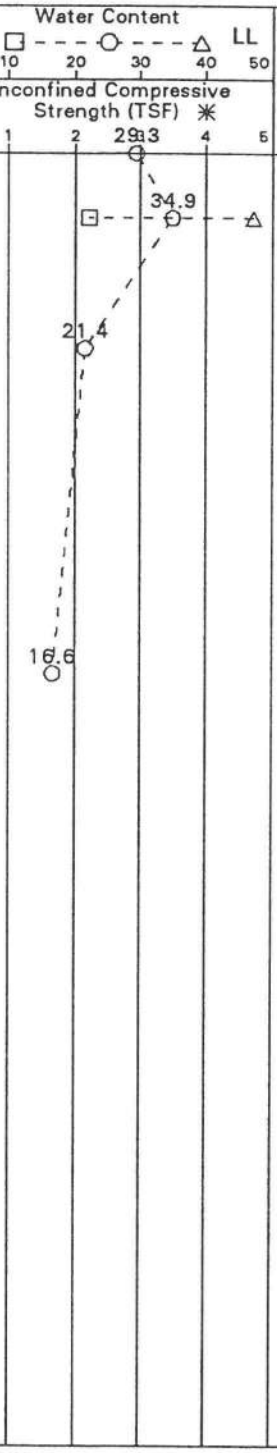
WATER LEVEL (ft.)
▽ 10.0' during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER CB-2 SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,427.5 E 2,700.9

LOGGED BY KRR
GROUND ELEVATION 526.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 506.2 | 20.0 | | fine sand, soft, medium to high plasticity, moist CL/CH | SS-11 20.0-22.0 24"R | WOH 1 1 2 |
| 503.7 | 22.5 | | Gray clayey fine sand, little silt, very loose, poorly graded, saturated SC | SS-12 22.0-24.0 24"R | 2 1 1 WOH |
| 501.7 | 24.5 | | Gray coarse to fine sand, trace fine gravel, trace to little silt, medium dense, poorly graded, saturated SP-SM/SM | SS-13 24.0-26.0 24"R | 1 2 7 15 |
| 499.2 | 27.0 | | Gray silty clay to clay, trace fine sand, hard, medium to high plasticity, dry to moist CL | 26.0-27.5 SS-14 27.5-29.5 24"R | 3 8 22 32 |
| 496.7 | 29.5 | | End of Boring at 29.5' | | |




NOTES & TEST RESULTS

SS-11:
LL = 47
PL = 22
PI = 25

Blow-in at 24.0' water level rose to approximately 3' below ground surface.

Boring was tremie grouted using Volclay grout immediately after drilling completed.

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 8/2/92 ENDED 8/2/92

REMARKS
WOH = Weight of Hammer

WATER LEVEL (ft.)
▽ 10.0' during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-3** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,359.4 E 2,542.3**

LOGGED BY **KRR**
GROUND ELEVATION **525.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.8 | 0.0 | | Brown silty clay, trace coarse to fine sand, stiff, medium plasticity, wet, fill CL | AU-1 0.0-2.0 | | 21.5 | |
| | | | | SS-2 2.0-4.0 20"R | 2 2 3 4 | ✳ 22.7 | |
| | | | | SS-3 4.0-6.0 14"R | 2 2 3 5 | ✳ 25.3 | |
| | | | Dark gray at 4.0' | | | | |
| 519.8 | 6.0 | | Brown and tan clayey silt and fine sand, very loose, poorly graded, wet to saturated, fill CL-ML | SS-4 6.0-8.0 24"R | 2 2 1 1 | 20.5 | SS-4: Gravel = 0% Sand = 48% Silt or Clay = 52% |
| | | | | SS-5 8.0-10.0 14"R | WOH 1 2 2 | 22.5 | |
| 515.5 | 10.3 | | Olive at 10.0' | | | | |
| | | | Dark gray to black organic silty clay, trace coarse to fine sand, wood fragments present, soft, medium plasticity, wet OL | SS-6AB 10.0-12.0 18"R | 2 2 2 3 | 24.9 | |
| 513.8 | 12.0 | | | | | 33.7 | |
| | | | Gray clayey silt and fine sand, very loose, poorly graded, saturated CL-ML | SS-7 12.0-14.0 24"R | WOH WOH WOH WOH | 23.3 | |
| | | | | SS-8AB 14.0-16.0 24"R | WOH 1 2 3 | 21.9 | Water level at 14.0' during drilling. |
| | | | Gray silty sand from 15.0' to 15.5' | | | 22.6 | |
| | | | | SS-9 16.0-18.0 24"R | WOH 1 1 1 | 27. | SS-9: Gravel = 0% Sand = 33% Silt or Clay = 67% |
| | | | | SS-10 18.0-20.0 24"R | WOH WOH WOH WOH | 23.5 | |
| 505.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/2/92** ENDED **8/2/92**

REMARKS
**WOH = Weight of Hammer**

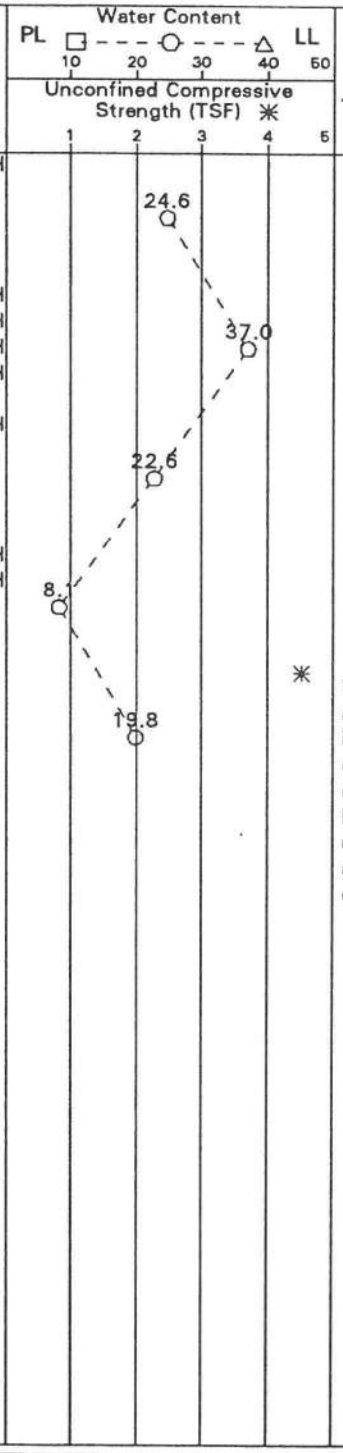
WATER LEVEL (ft.)
▽ **14.0'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-3** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,359.4 E 2,542.3**

LOGGED BY **KRR**
GROUND ELEVATION **525.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 505.8 | 20.0 | | Gray clayey silt and fine sand, very loose, poorly graded, saturated CL-ML/SC | SS-11 20.0-22.0 24"R | WOH 1 1 2 |
| | | | | SS-12 22.0-24.0 24"R | WOH WOH WOH WOH |
| | | | | SS-13 24.0-26.0 24"R | WOH 1 2 2 |
| | | | | SS-14 26.0-28.0 24"R | WOH WOH 12 21 |
| 498.8 | 27.0 | | Gray coarse to fine sand, trace coarse to fine gravel, trace to little silt, medium dense to dense, well graded, saturated SW-SM | SS-15 28.0-30.0 24"R | 4 4 14 29 |
| 496.8 | 29.0 | | Gray silty clay to clay, trace fine sand, hard, medium to high plasticity, dry to moist CL/CH | | |
| 495.8 | 30.0 | | End of Boring at 30.0'. | | |




NOTES & TEST RESULTS

Water level in augers at 4.7' immediately after completion of drilling.
Boring was grouted using Volclay grout after drilling completed.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/2/92** ENDED **8/2/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **14.0'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER CB-4 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,240.9 E 2,490.4

LOGGED BY KRR
GROUND ELEVATION 525.1

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.1 | 0.0 | | Dark gray silty clay, trace coarse to fine sand, roots present, trace organics, stiff, medium plasticity, wet, fill CL | AU-1 0.0-2.0 | | 26.3 | |
| | | | | SS-2 2.0-4.0 12"R | 3 3 4 4 | ✳ 27.8 | |
| 521.1 | 4.0 | | Dark gray to black organic silty clay, trace fine sand, soft, medium to high plasticity, wet to saturated, fill OL/OH | SS-3 4.0-6.0 "R | 1 2 3 4 | ✳ 34.4 | |
| | | | | SS-4 6.0-8.0 10"R | 1 2 2 2 | ✳ 40.9 | |
| | | | Wood fragments in SS-4 | | | | |
| | | | Wood fragments in SS-5 | SS-5 8.0-10.0 4"R | WOH WOH WOH 2 | 35.0 | SS-5 driven on wood. |
| | | | Wood fragments in SS-6A | SS-6AB 10.0-12.0 10"R | 1 1 1 1 | ✳ ✳ 96.4 | |
| 513.3 | 11.8 | | Gray silty clay to clayey silt, trace fine sand, soft to medium stiff, low to medium plasticity, wet CL/CL-ML | | | 31.3 | |
| | | | | SS-7 12.0-14.0 24"R | 1 1 1 1 | ✳ 25.1 | Sample slipped from tube. Obtained a jar sample. |
| | | | | 3T-8 14.0-16.0 10"R | | ✳ 22.8 | |
| | | | | 3T-9 16.0-18.0 24"R | | ✳ 23.8 | 3T-9: LL = 25 PL = 22 PI = 3 Dry dens. = 103pcf k = 4.3 E-07 cm/s |
| | | | | | | 23.6 | |
| | | | | SS-10 18.0-20.0 24"R | WOH WOH WOH 2 | ✳ 24.0 | |
| 505.1 | 20.0 | | 1" fine sand lense at 19.5' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/3/92** ENDED **8/3/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-4** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,240.9 E 2,490.4**

LOGGED BY **KRR**
GROUND ELEVATION **525.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 505.1 | 20.0 | | Gray silty clay to clayey silt, trace fine sand, soft, low to medium plasticity, wet. CL/CL-ML | SS-11 20.0-22.0 24"R | WOH WOH WOH 2 | ✳ ○ 23.9 | Water was not encountered during drilling. |
| 503.1 | 22.0 | | End of Boring at 22.0'. | | | | Borehole was tremie grouted using Volclay grout immediately after completion of drilling. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/3/92** ENDED **8/3/92**

REMARKS
**WOH = Weight of Hammer**

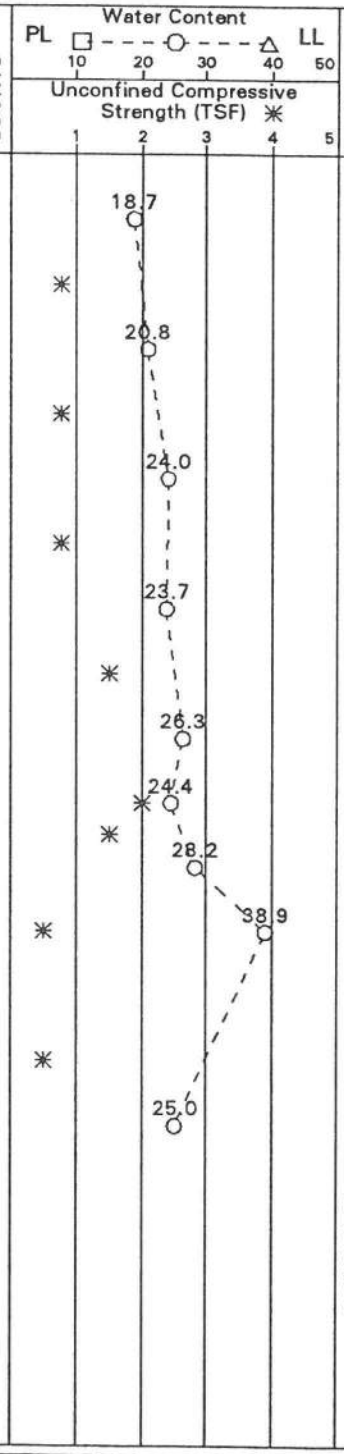
WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER CB-5 SHEET 1 OF 1
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,197.4 E 2,390.9

LOGGED BY KRR
GROUND ELEVATION 523.4

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 523.4 | 0.0 | | Brown and dark gray silty clay, trace coarse to fine sand, medium stiff, low plasticity, moist CL | AU-1 0.0-2.0 | |
| | | | | SS-2 2.0-4.0 10"R | 3 3 3 4 |
| 520.4 | 3.0 | | Brown silty clay, trace fine sand, medium stiff, medium plasticity, wet CL | SS-3 4.0-6.0 20"R | 2 2 2 3 |
| | | | | SS-4 6.0-8.0 24"R | 2 2 2 3 |
| 515.6 | 7.8 | | | | |
| 515.2 | 8.2 | | Brown silty sand, loose, poorly graded, saturated SM | SS-5AB 8.0-10.0 24"R | 2 2 2 2 |
| | | | Brown, gray and olive silty clay, trace fine sand, stiff, medium plasticity, wet CL | SS-6AB 10.0-12.0 24"R | 2 3 2 3 |
| 512.4 | 11.0 | | Gray and olive silty clay, trace fine sand, stiff, medium to high plasticity, wet CL/CH | 3T-7 12.0-14.0 24"R | |
| 511.4 | 12.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-8 14.0-16.0 24"R | 1 2 2 2 |
| 507.4 | 16.0 | | End of Boring at 16.0'. | | |




NOTES & TEST RESULTS

Water level at 8.0' during drilling.

Borehole was tremie grouted using Volclay grout immediately after drilling completed.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/3/92** ENDED **8/3/92**

REMARKS

WATER LEVEL (ft.)
▽ 8.0' during drilling.
▽ ~~No water level after drilling.~~
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-6** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,079.8 E 2,367.5**

LOGGED BY **KRR**
GROUND ELEVATION **527.0**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 527.0 | 0.0 | | Dark gray silty clay, trace coarse to fine sand, roots present, low plasticity, moist | AU-1 0.0-2.0 | | 16.7 ○ | |
| 526.0 | 1.0 | | CL | | | | |
| | | | Brown and dark gray silty clay, trace coarse to fine sand, very stiff, medium plasticity, wet to saturated | SS-2 2.0-4.0 18"R | 4 5 6 5 | 18.4 ○ ✳ | |
| | | | CL | | | | |
| | | | Dark gray and trace organics from 4.0' | SS-3 4.0-6.0 20"R | 6 4 5 7 | 22.5 ○ ✳ | |
| | | | | SS-4 6.0-8.0 8"R | 3 2 4 4 | 34.0 ○ | |
| 518.8 | 8.2 | | | | | | |
| | | | Gray coarse to fine sand, trace fine gravel, little silt, trace coal, very loose, well graded, saturated | SS-5AB 8.0-10.0 18"R | 2 1 1 1 | ✳ 24.4 ○ | Water level at 8.0' during drilling |
| 518.0 | 9.0 | | SM | | | | |
| | | | Gray to light gray silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet | SS-6 10.0-12.0 24"R | WOH 1 1 1 | ✳ 25.0 ○ | |
| | | | CL | | | | |
| | | | Trace organics and little fine sand in SS-5B | 3T-7 12.0-14.0 24"R | | ✳ 26.4 ○ | 3T-7: dry dens. = 99pcf qu = 1.4 tsf k = 5.3 E-7 cm/s |
| | | | | SS-8 14.0-16.0 24"R | WOH 1 1 2 | ✳ 27.0 ○ | |
| | | | | SS-9 16.0-18.0 24"R | WOH 1 1 1 | ✳ 25.1 ○ | |
| | | | | SS-10 18.0-20.0 24"R | 1 1 1 1 | ✳ 27.0 ○ | |
| 507.0 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/25/92** ENDED **7/25/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **8.0'** during drilling
▽
▽

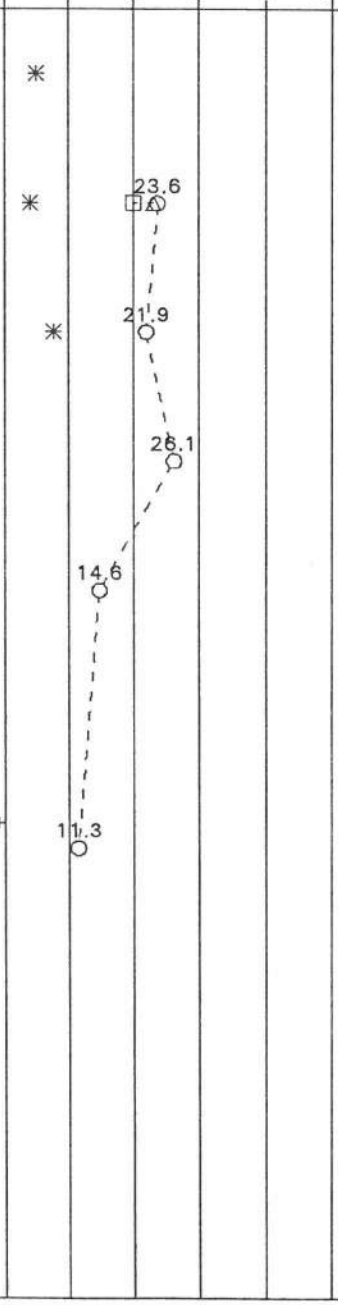
**PATRICK ENGINEERING INC.**

BORING NUMBER CB-6 SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,079.8 E 2,367.5

LOGGED BY KRR
GROUND ELEVATION 527.0

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 507.0 | 20.0 | | Gray silty clay, trace coarse to fine sand, soft, medium plasticity, wet CL | 3T-11 20.0-22.0 24"R | |
| 505.5 | 21.5 | | Gray silty clay to clayey silt, trace to little fine sand, soft, low plasticity, wet CL/CL-ML | SS-12 22.0-24.0 24"R | 1 1 1 1 |
| | | | | SS-13 24.0-26.0 24"R | 1 1 1 2 |
| 501.0 | 26.0 | | Gray clayey sand, some silt, very loose, poorly graded, saturated SC | SS-14 26.0-28.0 24"R | 1 1 1 1 |
| 499.0 | 28.0 | | Gray fine sand, some silt, loose, poorly graded, saturated SM | SS-15 28.0-30.0 24"R | 2 3 4 4 |
| 497.8 | 29.2 | | Gray coarse to fine sand, little fine gravel, little sand, loose, poorly graded, saturated SM | SS-16 30.0-32.0 24"R | 6 6 8 8 |
| 497.0 | 30.0 | | Gray fine sand, trace coarse to medium sand, trace silt, medium dense, poorly graded, saturated SP | SS-17 32.0-34.0 8"R | 13 100+ /2" |
| 496.3 | 30.7 | | Gray coarse to fine sand, little fine gravel, trace silt, medium dense, well graded, saturated SW-SM | | |
| 494.5 | 32.5 | | Gray shale | | |
| 493.0 | 34.0 | | End of Boring at 34.0'. | | |

Water Content: PL □ ---○--- △ LL (10 20 30 40 50)
Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)




NOTES & TEST RESULTS

SS-12:
LL = 23
PL = 20
PI = 3

SS-14:
Gravel = 0%
Sand = 62%
Silt or clay = 38%

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/25/92 ENDED 7/25/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽ 8.0' during drilling
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER CB-7 SHEET 1 OF 1
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 4,938.0 E 2,377.9

LOGGED BY KRR
GROUND ELEVATION 523.8

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 523.8 | 0.0 | | Brown silty clay, trace fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | | 22.2 | |
| | | | | SS-2 2.0-4.0 10"R | 2 3 3 2 | ✳ 28.8 | |
| | | | Mottled and tan from 4.0' | SS-3 4.0-6.0 12"R | 1 2 3 4 | ✳ 25.6 | |
| | | | | SS-4 6.0-8.0 20"R | 2 2 3 3 | ✳ 25.1 | |
| 515.0 | 8.8 | | Gray silty clay, trace coarse to fine sand, stiff, medium plasticity, wet CL | SS-5 8.0-10.0 24"R | WOH 2 3 2 | ✳ ✳ 23.6 | |
| | | | Trace fine sand only from 10.0' | 3T-6 10.0-12.0 20"R | | ✳ | |
| | | | | SS-7 12.0-14.0 24"R | WOH 1 2 2 | ✳ 25.9 | |
| | | | | SS-8 14.0-16.0 24"R | 1 1 2 2 | ✳ 26.4 | Water was not encountered during or immediately after drilling. Borehole was tremie grouted using Volcaly grout immediately after drilling. |
| 507.8 | 16.0 | | End of Boring at 16.0' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/13/92** ENDED **8/13/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)

# PATRICK ENGINEERING INC.

BORING NUMBER **CB-8** SHEET **1** OF **1**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 4,862.3 E 2,564.6**

LOGGED BY **KRR**
GROUND ELEVATION **522.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 522.7 | 0.0 | | Dark gray to black silty organic clay to clay, trace fine sand, soft, medium to high plasticity, wet to saturated, fill OL/OH | AU-1 0.0-2.0 | | 26.7 | |
| | | | | SS-2 2.0-4.0 4"R | 2 2 3 3 | ✳ 30.3 | |
| | | | | SS-3 4.0-6.0 10"R | 1 2 2 1 | ✳ □ - - ○ - △ 31.4 | SS-3: LL = 35 PL = 21 PI = 14 |
| | | | Trace wood fragments in SS-4. | SS-4 6.0-8.0 4"R | 1 1 1 2 | 29.0 | |
| | | | | | | 27.7 | |
| | | | | SS-5AB 8.0-10.0 20"R | 1 1 1 2 | ✳ 28.1 | |
| | | | Trace wood fragements in SS-5B. | | | | |
| 512.9 | 9.8 | | Gray clayey fine sand, trace coarse to medium sand, little silt, very loose, poorly graded, moist SC | SS-6 10.0-12.0 8"R | WOH 1 1 1 | 23.0 | |
| 510.7 | 12.0 | | Gray silty fine sand, very loose, poorly graded, moist SM | SS-7 12.0-14.0 20"R | 1 1 1 2 | 18.3 | |
| 508.9 | 13.8 | | Gray silty clay to clayey silt, trace coarse to fine sand, soft, medium plasticity, wet CL/CL-ML | SS-8 14.0-16.0 20"R | 1 1 1 2 | ✳ 22.0 | Tube pushed at 18.0' but no recovery. Then pushed split spoon. No water during drilling. W.L immediately after completion of drilling. Borehole was grouted using volclay grout immediately after drilling. |
| | | | | SS-9 16.0-18.0 22"R | 1 1 2 2 | ✳ 24.1 | |
| | | | | SS-10 18.0-20.0 20"R | | ✳ 22.3 | |
| 502.7 | 20.0 | | End of Boring at 20.0' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-9** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 4,799.8 E 2,736.2**

LOGGED BY **KRR**
GROUND ELEVATION **525.5**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.5 | 0.0 | | Brown and dark gray silty clay, trace coarse to fine sand, roots and wood fragments present, very stiff, medium plasticity, wet, fill | AU-1 0.0-2.0 | | 23.6 | |
| | | | CL | SS-2 2.0-4.0 14"R | 7 8 11 12 | 22.1 ✳ | |
| | | | | SS-3 4.0-6.0 6"R | 4 3 2 3 | ✳ 29.9 | SS-3: CEC = 18.1 meq/100g |
| 520.7 | 4.8 | | Dark gray to black organic silty clay, trace fine sand, wood fragments present, soft to medium stiff, medium plasticity, wet, fill. | SS-4 6.0-8.0 6"R | 2 3 3 4 | ✳ 30.7 | |
| | | | OL | SS-5 8.0-10.0 10"R | 1 2 2 2 | ✳ 34.2 | |
| | | | | SS-6AB 10.0-12.0 20"R | 1 1 1 1 | 29.2 ✳ 20.2 | |
| 513.9 | 11.6 | | | | | | |
| 513.5 | 12.0 | | Gray fine sand, trace coarse to medium sand, little silt, trace shells, very loose, poorly graded, fill | SS-7 12.0-14.0 24"R | WOH 1 2 2 | ✳ 29.9 | |
| | | | SM | | | | |
| 511.3 | 14.2 | | Dark gray organic silty clay, trace fine sand, wood fragments present, soft, medium plasticity, wet, saturated, fill | SS-8 14.0-16.0 18"R | WOH 1 1 1 | 30.3 | Water level at 14.0' during drilling. |
| | | | SC | | | | |
| | | | Gray clayey fine sand, little silt, very loose, poorly graded, saturated, fill | | | | |
| 509.3 | 16.2 | | SC | | | | |
| | | | Gray silty clay, trace to little fine sand, soft, medium plasticity, wet | SS-9 16.0-18.0 20"R | WOH WOH 1 1 | ✳ 26.0 | |
| | | | CL | SS-10 18.0-20.0 22"R | WOH 1 2 2 | 25.2 | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55-ATV**
DRILLING STARTED **8/13/92** ENDED **8/13/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽ **14.0'** during drilling.
▼ **5.0'** after drilling.

**PATRICK ENGINEERING INC.**

BORING NUMBER **CB-9** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,799.8 E 2,736.2**

LOGGED BY **KRR**
GROUND ELEVATION **525.5**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 505.5 | 20.0 | | Gray silty clay, trace to little fine sand, medium stiff, medium plasticity, wet CL | 3T-11 20.0-22.0 24"R | | ✳ | |
| 503.5 | 22.0 | | Gray silty fine sand, loose, poorly graded, saturated SM | SS-12 22.0-24.0 24"R | 3 2 2 2 | | |
| 501.0 | 24.5 | | Gray coarse to fine sand, trace fine gravel, trace to little silt, loose, poorly graded, saturated SP-SM/SM | SS-13 24.0-26.0 24"R | 1 1 3 4 | ○ 21.8 | Blow-in at 26.0' |
| 499.5 | 26.0 | | End of Boring at 26.0' | | | | Water level at 5.0' immediately after drilling. |
| | | | | | | | Borehole was tremie grouted using Volclay grout immediately after completion of drilling. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55-ATV**
DRILLING STARTED **8/13/92** ENDED **8/13/92**

REMARKS
**WOH = Weight of Hammer**

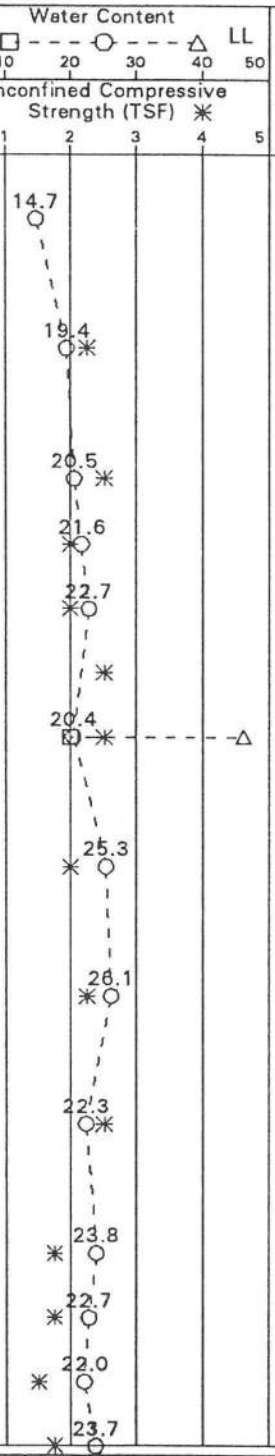
WATER LEVEL (ft.)
▽ **14.0'** during drilling
▼ **5.0'** after drilling
▼

**PATRICK ENGINEERING INC.**

BORING NUMBER P-1D SHEET 1 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 4,806.1 E 1,973.1

LOGGED BY KRR
GROUND ELEVATION 553.4

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 553.4 | 0.0 | | Brown and dark gray silty clay, some coarse to fine sand, trace fine gravel, very stiff, medium plasticity, moist to wet, fill CL | AU-1 0.0-2.0 | |
| | | | Trace coarse to fine sand from 2.0' Trace roots in SS-2 | SS-2 2.0-4.0 14"R | 1 2 3 5 |
| | | | Light olive at 4.0' | SS-3 4.0-6.0 16"R | 2 4 6 10 |
| 546.9 | 6.5 | | Dark gray to black organic silty clay, trace coarse to fine sand, very stiff, medium plasticity, moist to wet, fill OL | SS-4ABC 6.0-8.0 18"R | 4 4 9 10 |
| | | | | SS-5 8.0-10.0 20"R | 3 6 4 6 |
| | | | Mottled at 11.0' | SS-6 10.0-12.0 20"R | 3 3 5 6 |
| 541.4 | 12.0 | | Dark gray to black organic clay to silty clay, trace wood fragments and coal, trace fine sand, very stiff, medium plasticity, wet, fill OL | SS-7 12.0-14.0 24"R | 2 3 5 6 |
| | | | | SS-8 14.0-16.0 24"R | 3 3 5 6 |
| | | | | SS-9 16.0-18.0 19"R | 4 5 8 8 |
| 535.2 | 18.2 | | Brown silty clay, trace coarse to fine sand, trace fine gravel, stiff, medium plasticity, wet, fill CL | SS-10ABC 18.0-20.0 24"R | 1 2 4 5 |
| 534.4 | 19.0 | | | | |
| 533.4 | 20.0 | | | | |




NOTES & TEST RESULTS

SS-5:
LL = 46
PL = 20
PI = 26

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/20/92 ENDED 7/20/92

REMARKS
WOH = Weight of Hammer

WATER LEVEL (ft.)
▽ 39.0' during drilling
▽ 38.0' after drilling
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-1D** SHEET **2** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,806.1 E 1,973.1**

LOGGED BY **KRR**
GROUND ELEVATION **553.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 533.4 | 20.0 | | Dark gray organic silty clay, trace wood and coal fragments, stiff, medium plasticity, wet OL | SS-11 20.0-22.0 24"R | 2 7 7 9 | 20.7 | |
| | | | Dark gray to black organic silty clay, trace fine sand, trace wood fragments and coal, stiff, medium plasticity, wet, fill OL | SS-12 22.0-24.0 24"R | 2 6 7 9 | 22.0 | |
| | | | Brownish-gray, olive and black from 23.0'-23.5' and 24.0'-25.0' | SS-13AB 24.0-26.0 24"R | 3 3 6 7 | 20.9 26.4 | |
| | | | Changed to dark gray and black from 25.0' | SS-14AB 26.0-28.0 24"R | 4 5 8 8 | 31.6 35.7 | |
| 526.4 | 27.0 | | Trace wood fragments in SS-14A | | | | |
| 525.4 | 28.0 | | Black to dark gray organic silty clay to clayey silt, trace to little fine sand, medium dense, moist, fill OL/CL-ML | SS-15 28.0-30.0 2"R | 1 2 3 3 | 72.8 | Disturbed sample. |
| | | | Black to dark gray organic clay to silty clay, roots present, trace fine sand, medium stiff, medium to high plasticity, wet, fill OL/OH | SS-16 30.0-32.0 24"R | 2 2 2 2 | 30.1 | |
| | | | | 3T-17 32.0-34.0 24"R | | | |
| | | | Wood fragments in SS-18 | SS-18 34.0-36.0 24"R | 1 3 3 3 | 35.4 | |
| | | | Wood fragments in SS-19 | SS-19 36.0-38.0 24"R | 1 2 3 3 | 25.8 22.4 | |
| 514.9 | 38.5 | | | SS-20 38.0-40.0 24"R | 2 2 2 3 | 31.2 22.4 | Water level at 39.0' during drilling. |
| 513.9 | 39.5 | | Brownish-gray and olive clayey sand, trace fine gravel, loose, well graded, saturated SC | | | | |
| 513.4 | 40.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/20/92** ENDED **7/20/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **39.0'** during driling
▼ **38.0'** after drilling

| PATRICK ENGINEERING INC. | BORING NUMBER | P-1D | SHEET 3 OF 3 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill-Hydrogeo. Invest. - 496B | |
| | LOCATION | N 4,806.1 E 1,973.1 | |

LOGGED BY **KRR**

GROUND ELEVATION **553.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 513.4 | 40.0 | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, wet CL | SS-21 40.0-42.0 24"R | WOH 1 2 2 | 22.1 | |
| | | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, wet CL<br>Gray and olive from 42.0' | SS-22 42.0-44.0 24"R | 2 3 4 4 | | |
| | | | | SS-23 44.0-46.0 24"R | 2 2 2 2 | 21.0 | Ceased drilling on 07/20/92. |
| | | | Little fine sand in 3T-24 | 3T-24 46.0-48.0 24"R | | | Resumed drilling on 07/21/92. |
| 504.4 | 49.0 | | | SS-25AB 48.0-50.0 24"R | 1 1 3 4 | 21.8<br>20.8 | SS-25B:<br>Gravel = 0%<br>Sand = 64%<br>Silt or clay = 36% |
| 502.6 | 50.8 | | Gray clayey fine sand, little silt, loose, poorly graded, saturated SC | SS-26AB 50.0-52.0 24"R | WOH 2 2 1 | | |
| 501.9 | 51.5 | | Gray fine sand, some silt, trace coarse to medium sand, trace coarse to fine gravel, very loose, poorly graded, saturated. SM | | | | |
| 501.4 | 52.0 | | | | | | |
| 500.9 | 52.5 | | Gray coarse to fine sand, trace silt, very loose, poorly graded, saturated SP | SS-27 52.0-52.5 7"R | 41 120/1" | 11.2 | Auger refusal at 52.5'. |
| | | | Gray Shale | | | | Water level at 38.0' immediately after drilling. |
| | | | End of Boring at 52.5'. | | | | |
| | | | | | | | Piezometer was installed after completion of drilling. See as-built diagram P-6D for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/20/92** ENDED **7/20/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **39.0'** during driling
▼ **38.0'** after drilling
▼

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-1S** SHEET **1** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,821.3 E 1,973.9**

LOGGED BY **KRR**
GROUND ELEVATION **553.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5 | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 553.4 | 0.0 | | Drilled to 36.0' without sampling (See Boring Log P-1D for soil conditions from 0' to 36') | | | | |

DRILLING CONTRACTOR **Patrick Drillling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/21/92** ENDED **7/21/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-1S** SHEET **2** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,821.3 E 1,973.9**

LOGGED BY **KRR**
GROUND ELEVATION **553.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 533.4 | 20.0 | | Drilled to 36.0' without sampling (See Boring Loag P-1D for soil conditions from 0' to 36') | | | | |
| 517.4 | 36.0 | | Black to dark gray organic silty clay, trace wood fragments, trace coarse to fine sand, stiff, medium plasticity, wet, fill | SS-1 36.0-38.0 20"R | 2 3 3 5 | ✳ ○ 32.2 | Water in SS-2A |
| 515.4 | 38.0 | | OL | | | | SS-2A: Gravel = 2% Sand = 65% Silt or clay = 33% |
| 514.7 | 38.7 | | Gray clayey fine sand, little silt, trace coarse to medium sand, loose, poorly graded, saturated | SS-2AB 38.0-40.0 24"R | 2 1 2 2 | ○ 18.7 ✳ ○ 23.5 | |
| | | | SC | | | | |

DRILLING CONTRACTOR **Patrick Drillling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/21/92** ENDED **7/21/92**

REMARKS

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER P-1S SHEET 3 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 4,821.3 E 1,973.9

LOGGED BY KRR
GROUND ELEVATION 553.4

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 513.4 | 40.0 | | Gray silty clay, trace fine sand, medium stiff to stiff, medium plasticity, wet CL | SS-3 40.0-42.0 24"R | 3 3 4 5 | ✳ 22.6 ○ | No water immediately after drilling. |
| 511.4 | 42.0 | | End of Boring at 42.0'. | | | | Piezometer P-1S was installed after completion of drilling. Refer to as-built diagram P-1S for details. |

DRILLING CONTRACTOR Patrick Drillling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/21/92 ENDED 7/21/92

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-2D SHEET 1 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,256.0 E 1,975.9

LOGGED BY KRR
GROUND ELEVATION 553.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 553.9 | 0.0 | | Brown coarse to fine sand, some silt, well graded, dry, fill | AU-1AB 0.0-2.0 | |
| 552.9 | 1.0 | | SM | | |
| | | | Dark gray to black silty clay, trace fine sand, trace organics, very stiff, low plasticity, moist, fill | SS-2 2.0-4.0 10"R | 5 7 9 9 |
| | | | CL | | |
| 549.9 | 4.0 | | Mottled brown silty clay, trace coarse to fine sand, trace fine gravel, very stiff, medium plasticity, wet, fill | SS-3 4.0-6.0 12"R | 3 4 4 6 |
| | | | CL | | |
| | | | | SS-4 6.0-8.0 16"R | 4 5 8 10 |
| 545.9 | 8.0 | | Dark gray silty clay, trace organics, trace coarse to fine sand, very stiff, medium plasticity, wet, fill | SS-5 8.0-10.0 14"R | 2 4 6 7 |
| | | | OL | | |
| 543.9 | 10.0 | | Brown and dark gray silty clay, trace coarse to fine sand, very stiff, medium plasticity, wet, fill | SS-6 10.0-12.0 14"R | 3 4 6 7 |
| | | | CL | | |
| | | | Brown and gray at 12.0' | SS-7 12.0-14.0 20"R | 2 4 4 7 |
| | | | Mottled brown from 14.0' | 3T-8 14.0-16.0 20"R | |
| | | | | SS-9 16.0-18.0 22"R | 4 6 9 10 |
| | | | | SS-10 18.0-20.0 22"R | 2 3 6 6 |
| 533.9 | 20.0 | | Dark brown from 19.0' | | |

Water Content: PL □ - - - ○ - - - △ LL; 10 20 30 40 50
Unconfined Compressive Strength (TSF) ✳: 1 2 3 4 5

Plotted values: 4.8, 16.2, 16.7, 20.7, 22.5, 21.9, 20.5, 24.5, 23.9, 16.4

NOTES & TEST RESULTS

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/22/92** ENDED **7/22/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **28.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-2D SHEET 2 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,256.0 E 1,975.9

LOGGED BY KRR
GROUND ELEVATION 553.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 533.9 | 20.0 | | Dark brown silty clay, trace to little fine sand, very stiff, medium plasticity, wet, fill | SS-11 20.0-22.0 22"R | 6 5 7 8 |
| 532.9 | 21.0 | | CL | | |
| | | | Dark gray silty clay, trace fine sand, trace wood fragments and roots, very stiff, medium plasticity, wet, fill | SS-12 22.0-24.0 24"R | 2 3 3 5 |
| 530.7 | 23.2 | | CL/OL | | |
| | | | Changed to brownish-gray and olive at 22.0' | | |
| | | | Dark brown silty clay, trace coarse to fine sand, soft to stiff, medium plasticity, wet, fill | SS-13 24.0-26.0 24"R | 2 2 2 3 |
| | | | CL | | |
| | | | Mottled from 25.0' | SS-14 26.0-28.0 24"R | 2 3 4 3 |
| | | | | 3T-15 28.0-30.0 24"R | |
| | | | | SS-16 30.0-32.0 24"R | WOH 1 1 1 |
| | | | Mucky at 32.0' | SS-17 32.0-34.0 24"R | 1 2 2 2 |
| | | | | SS-18 34.0-36.0 24"R | 1 2 2 2 |
| | | | | SS-19ABC 36.0-38.0 24"R | 2 2 3 4 |
| 516.9 | 37.0 | | | | |
| 516.4 | 37.5 | | Brown clayey fine sand, some silt, loose, poorly graded, saturated | | |
| | | | SC | | |
| | | | Dark gray silty clay, trace coarse to fine sand, trace fine gravel, trace shells, very stiff, medium plasticity, wet | SS-20 38.0-40.0 24"R | 2 2 3 6 |
| 513.9 | 40.0 | | CL | | |

Water Content: PL □ - - - ○ - - - △ LL (10 20 30 40 50)
Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)

| NOTES & TEST RESULTS |
|---|
| 3T-15: Dry Dens = 99.1 pcf k = 7.3E-07 cm/s |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/22/92** ENDED **7/22/92**

REMARKS
**WOH - Weight of Hammer.**

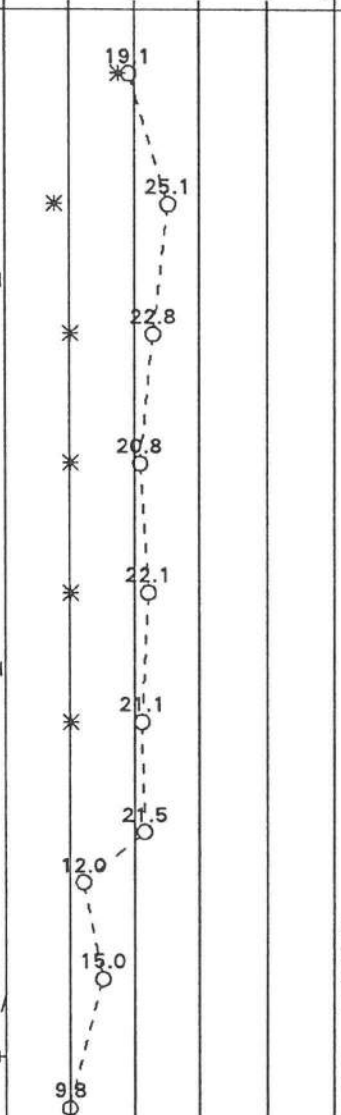
WATER LEVEL (ft.)
▽ **28.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-2D SHEET 3 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,226.0 E 1,975.9

LOGGED BY KRR
GROUND ELEVATION 553.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 513.9 | 40.0 | | Dark gray to gray silty clay, trace fine sand, medium to stiff, medium plasticity, wet CL | SS-21 40.0-42.0 24"R | 2 4 4 5 |
| | | | | SS-22 42.0-44.0 24"R | 2 2 2 3 |
| | | | Pockets of sand at 43.6' Light gray and olive from 44.0' | SS-23 44.0-46.0 24"R | WOH 1 3 3 |
| | | | | SS-24 46.0-48.0 24"R | 2 1 4 4 |
| | | | Little fine sand in SS-25 1" fine sand lense at 48.5 | SS-25 48.0-50.0 24"R | 1 2 2 2 |
| | | | | SS-26 50.0-52.0 24"R | WOH |
| | | | Gray and little to some fine sand from 51.0' | SS-27AB 52.0-54.0 24"R | 5 8 8 8 |
| 500.9 | 53.0 | | Gray clayey coarse to fine sand, little silt, medium dense, well graded, saturated SC | | |
| 499.9 | 54.0 | | | SS-28ABC 54.0-56.0 20"R | 4 7 40 18+/ 2" |
| 499.4 | 54.5 | | Gray coarse to fine sand, trace silt, medium dense, well graded, saturated SW | | |
| 498.9 | 55.0 | | | | |
| 498.1 | 55.8 | | Gray coarse to fine sand, trace silt, medium dense, poorly graded, saturated SP/SP-SM | | |
| 497.4 | 56.5 | | | SS-29 56.0-57.3 6"R | 100+ |
| | | | Gray clayey coarse to fine sand, little silt, trace coarse to fine gravel, dense, well graded, saturated SC | | |
| | | | Gray siltstone/shale | | |
| | | | End of Boring at 56.5'. | | |




NOTES & TEST RESULTS

SS-28A:
Gravel = 3%
Sand = 91%
Silt or clay = 6%

Piezometer P-2D was installed after completion of drilling. Refer to as-built diagram P-2D for more details.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/22/92** ENDED **7/22/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **28.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-2S** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,237.1 E 1,976.3**

LOGGED BY **KRR**
GROUND ELEVATION **533.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5 | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 533.9 | 0.0 | | Drilled to 26.0' without sampling. See Boring Log P-2D for details on soils encountered from 0' to 26' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/22/92** ENDED **7/22/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-2S SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,237.1 E 1,976.3

LOGGED BY KRR
GROUND ELEVATION 533.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 513.9 | 20.0 | | Drilled to 26.0' without sampling. See Boring Log P-2d for details on soils encountered from 0' to 26' | | | | |
| 507.9 | 26.0 | | Brown silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-1 26.0-28.0 24"R | 3 3 4 5 | ✳ | 25.9 ○ |
| | | | | SS-2 28.0-30.0 24"R | 1 1 2 3 | ✳ | 27.0 ○ Piezometer P-2S was installed immediately after completion of drilling. Refer to as-built diagram P-2S for more details. |
| 503.9 | 30.0 | | End of Boring at 30.0'. | | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/22/92 ENDED 7/22/92

REMARKS

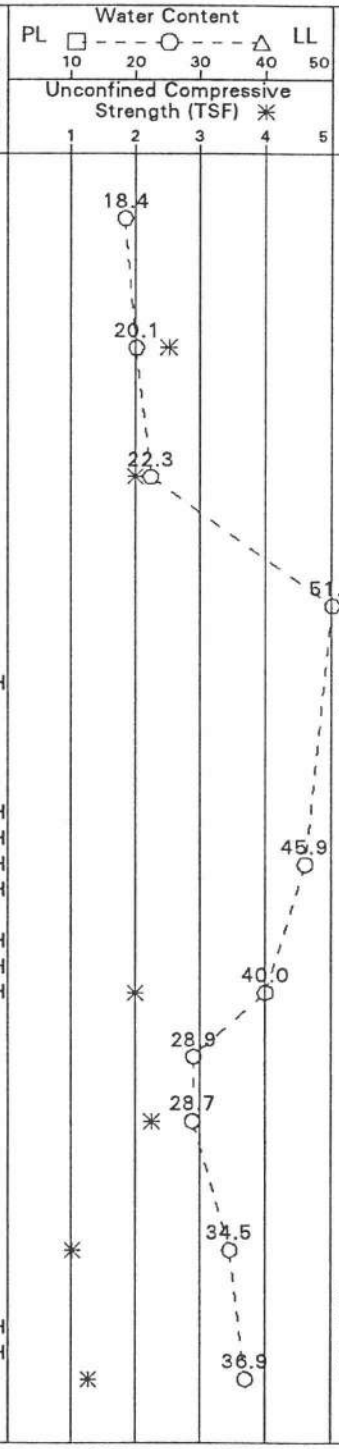
WATER LEVEL (ft.)
▽
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER P-3D SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,672.5 E 2,645.4

LOGGED BY KRR
GROUND ELEVATION 530.5

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 530.5 | 0.0 | | Brownish gray silty clay, trace coarse to fine sand, very stiff, low plasticity, moist, fill CL | AU-1 0.0-2.0 | |
| | | | Dark gray and brown at 3.0', trace fine gravel and coal in SS-2 | SS-2 2.0-4.0 20"R | 4 5 5 7 |
| | | | Trace coal and organics in SS-3 | SS-3 4.0-6.0 14"R | 3 4 4 5 |
| 524.0 | 6.5 | | Dark gray to black clayey sand to silty sand, trace organics, loose, poorly graded, saturated, fill SC/SM | SS-4 6.0-8.0 8"R | 2 2 3 3 |
| | | | | SS-5 8.0-10.0 0"R | WOH 1 1 1 |
| | | | | SS-6 10.0-12.0 6"R | WOH WOH WOH WOH |
| 518.5 | 12.0 | | Dark gray organic silty clay, trace fine sand, wood fragments present, medium to high plasticity, wet to saturated, fill OL | SS-7AB 12.0-14.0 24"R | WOH WOH WOH 3 |
| 517.0 | 13.5 | | Brown to brownish gray silty clay, trace coarse to fine sand, stiff to very stiff, medium to high plasticity, wet CL | SS-8 14.0-16.0 24"R | 2 3 3 4 |
| | | | | 3T-9 16.0-18.0 20"R | |
| | | | | SS-10 18.0-20.0 24"R | WOH WOH 2 2 |
| 510.5 | 20.0 | | | | |




NOTES & TEST RESULTS

Water level at 8.0' while drilling.

3T-9:
Dry dens = 89.2 pcf
k = 1.3E-08 cm/s

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/17/92** ENDED **8/17/92**

REMARKS
**WOH - Weight of Hammer.**

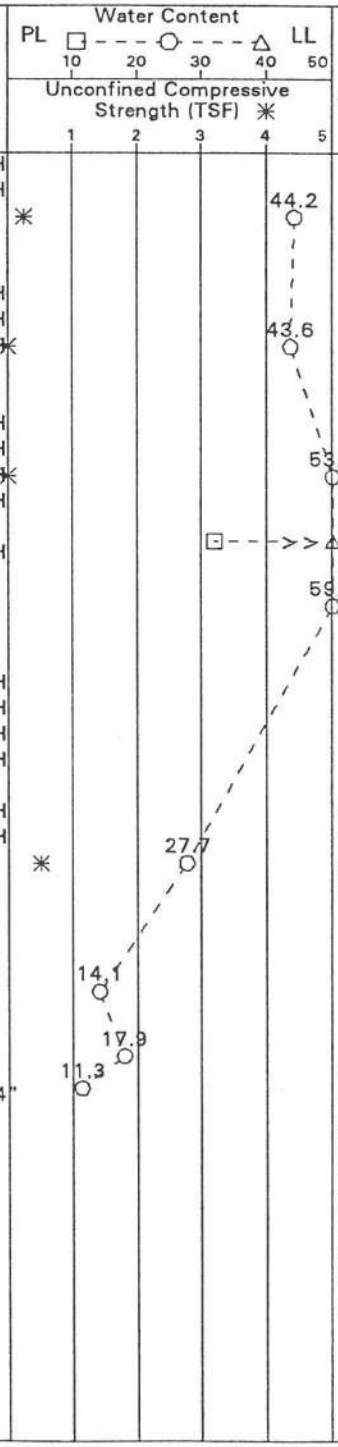
WATER LEVEL (ft.)
▽ **8.0'** during drilling
▽ **14.0'** after drilling
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-3D SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,672.5 E 2,645.4

LOGGED BY KRR
GROUND ELEVATION 530.5

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 510.5 | 20.0 | | Brownish-gray silty clay, trace coarse to fine sand, stiff, medium plasticity, wet | SS-11 20.0-22.0 24"R | WOH WOH 2 2 |
| 509.5 | 21.0 | | CL | | |
| | | | Gray clay to silty clay, trace fine sand, very soft to soft, mucky, medium to high plasticity, wet to saturated | SS-12 22.0-24.0 24"R | WOH WOH WOH 1 |
| | | | CH | SS-13 24.0-26.0 24"R | WOH WOH WOH WOH |
| | | | | SS-14 26.0-28.0 24"R | WOH 1 1 1 |
| 502.5 | 28.0 | | Gray silty fine sand, very loose, poorly graded, saturated | SS-15 28.0-30.0 24"R | WOH WOH WOH WOH |
| | | | SM | | |
| 500.5 | 30.0 | | Gray silty clay to clayey silt, little fine sand, soft, low to medium plasticity, wet | SS-16 30.0-32.0 24"R | WOH WOH 1 1 |
| | | | CL/CL-ML | | |
| 498.5 | 32.0 | | Gray fine sand, little silt, very loose, poorly graded, saturated | SS-17AB 32.0-34.0 24"R | 1 1 7 10 |
| 497.5 | 33.0 | | SM | | |
| 497.0 | 33.5 | | Gray coarse to fine sand and silt, trace coarse to fine gravel, medium dense, well graded, saturated | SS-18 34.0-35.0 10"R | 42 100/4" |
| | | | SM | | |
| 495.5 | 35.0 | | Gray shale | | |
| | | | End of Boring at 35.0' | | |




NOTES & TEST RESULTS

SS-13:
LL = 71
PL = 32
PI = 39

SS-17B:
Gravel = 0%
Sand = 58%
Silt or Clay = 42%

Water level at 14.0' immediately after drilling. Piezometer was installed immediatley after drilling. Refer to As-Built Diagram P-3D for more details.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/17/92** ENDED **8/17/92**

REMARKS
**WOH - Weight of Hammer.**

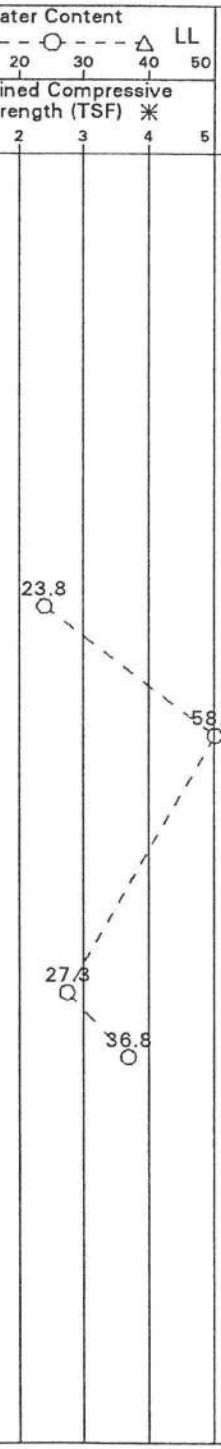
WATER LEVEL (ft.)
▽ **8.0'** during drilling
▼ **14.0'** after drilling

**PATRICK ENGINEERING INC.**

BORING NUMBER P-3S SHEET 1 OF 1
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,672.5 E 2,651.4

LOGGED BY KRR
GROUND ELEVATION 530.5

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 530.5 | 0.0 | | Drilled without sampling to 6.0'. Refer to Boring Log P-3D for soil conditions from 0' to 6'. | | |
| 524.5 | 6.0 | | Brown and dark gray silty clay, trace coarse to fine sand, trace fine gravel, trace coal, trace organics, soft, medium plasticity, wet CL/OL | SS-1 6.0-8.0 14"R | 2 2 2 3 |
| 522.5 | 8.0 | | Dark gray to black silty sand, trace organics, wood fragments present, very loose, poorly graded, saturated SM | SS-2 8.0-10.0 24"R | WOH 1 1 1 |
| | | | | SS-3 10.0-12.0 24"R | WOH WOH WOH WOH |
| 518.5 | 12.0 | | Gray and olive silty clay, trace to fine sand, trace organics, soft, medium plasticity, wet CL | SS-4AB 12.0-14.0 24"R | WOH 1 2 3 |
| 517.5 | 13.0 | | | | |
| 516.5 | 14.0 | | Brown silty clay, trace to fine sand, stiff, medium plasticity, wet to saturated CL | | |
| | | | End of Boring at 14.0' | | |




NOTES & TEST RESULTS

Soil conditions were consistent with soil conditions encountered in P-3D based on soil cuttings.

SS-3:
Gravel = 0%
Sand = 55%
Silt or Clay = 45%

Piezometer was installed immediately after drilling. Refer to As-Built Diagram P-3S for more details.

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME 55/ATV
DRILLING STARTED 8/17/92 ENDED 8/17/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER P-4 SHEET 1 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,156.3 E 2,880.7

LOGGED BY KRR
GROUND ELEVATION 535.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL 10 20 30 40 50; Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5 | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 535.9 | 0.0 | | Brown silty clay, trace coarse to fine sand, stiff to very stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 25.3 | |
| | | | | SS-2 2.0-4.0 24"R | 3 4 5 5 | ✳ 24.6 | |
| | | | Mottled from 4.0' | SS-3 4.0-6.0 20"R | 2 2 3 4 | ✳ 29.6 | |
| | | | | 3T-4 6.0-8.0 24"R | | ✳ | |
| | | | | SS-5 8.0-10.0 24"R | 3 3 4 8 | 20.5 ✳ | |
| | | | Brownish gray at 10.0' | SS-6 10.0-12.0 24"R | 3 4 6 10 | 26.5 ✳ | |
| | | | | SS-7 12.0-14.0 24"R | 4 4 6 8 | 25.0 ✳ | |
| | | | | 3T-8 14.0-16.0 24"R | | ✳ | |
| 519.9 | 16.0 | | Gray clay to silty clay, trace fine sand, very soft to stiff, medium to high plasticity, wet to saturated CH/CL | SS-9 16.0-18.0 24"R | 4 4 5 7 | ✳ 33.9 | |
| | | | | SS-10 18.0-20.0 24"R | 1 2 2 3 | ✳ 40.2 | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/16/92** ENDED **8/16/92**

REMARKS
**WOH = Weight of Hammer**

WATER LEVEL (ft.)
▽ **34.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-4 SHEET 2 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,156.3 E 2,880.7

LOGGED BY KRR
GROUND ELEVATION 535.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 515.9 | 20.0 | | Gray clay, trace silt, mucky, very soft, high plasticity, moist to wet CH | 3T-11 20.0-22.0 24"R | | ✳ | 3T=11: Dry Dens.=78.2 pcf k=2.9 E-08cm/s |
| | | | Very mucky at 22.0' | SS-12 22.0-24.0 24"R | WOH WOH WOH ✳ 1 | 50.4 | |
| | | | | SS-13 24.0-26.0 24"R | WOH WOH WOH ✳ 2 | 34.4 | |
| | | | Silty clay lenses at 26.0' | SS-14 26.0-28.0 24"R | WOH WOH WOH ✳ 1 | 46.6 | |
| | | | | SS-15 28.0-30.0 24"R | WOH WOH 1 ✳ 1 | 52.6 | |
| | | | | SS-16 30.0-32.0 24"R | WOH WOH WOH ✳ 1 | 52.6 □ - - - → ○ | SS-16: LL = 67 PL = 30 PI = 37 |
| | | | | SS-17 32.0-34.0 24"R | WOH WOH WOH ✳ 1 | 52.6 | |
| 501.9 | 34.0 | | Gray coarse to fine sand, some fine gravel, trace silt, trace coal, medium dense to dense, poorly graded, saturated SW-SM | SS-18 34.0-36.0 24"R | WOH 6 11 27 | | Water level at 34.0' during drilling. |
| | | | | SS-19 36.0-38.0 24"R | 7 8 7 7 | | Blow-in 36.0' washed off with water. SS-19: Gravel = 23% Sand = 69% Silt or Clay = 8% |
| | | | | SS-20 38.0-40.0 24"R | 8 7 7 8 | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/16/92** ENDED **8/16/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽ **34.0'** during drilling
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-4 SHEET 3 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 5,156.3 E 2,880.7

LOGGED BY KRR
GROUND ELEVATION 535.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 495.9 | 40.0 | | Gray coarse to fine sand, some fine gravel, trace silt, medium dense, well graded, saturated SW-SM | SS-21 40.0-42.0 24"R | 6 7 8 8 | ○ 15.1 | Piezometer was installed immediately after completion of drilling. Refer to as-built diagram P-4 for more details. |
| 493.6 | 42.3 | | Gray shale, soft | SS-22 42.0-43.0 10"R | 11 100 +/4" | | |
| 492.9 | 43.0 | | End of Boring at 43.0' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/16/92** ENDED **8/16/92**

REMARKS
**WOH = Weight of Hammer.**

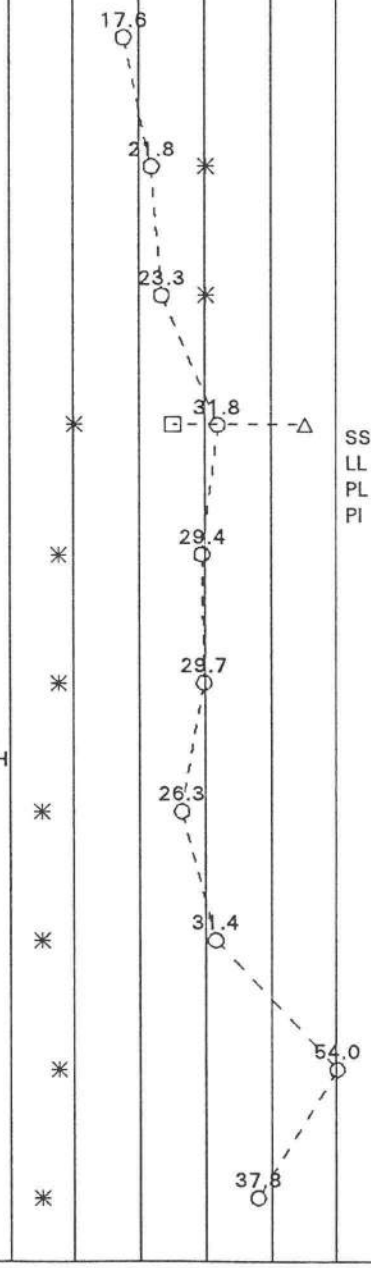
WATER LEVEL (ft.)
▽ **34.0'** during drilling
▽
▽

| PATRICK ENGINEERING INC. | BORING NUMBER | P-5D | SHEET 1 OF 2 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 4,516.7 E 2,885.0 | |

LOGGED BY **KRR**

GROUND ELEVATION **534.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 534.9 | 0.0 | | Brown silty clay, trace fine sand, soft, low plasticity, moist, fill CL | AU-1 0.0-2.0 | | 17.6 | |
| 532.4 | 2.5 | | Dark gray to black organic silty clay, trace coarse to fine sand, trace roots, soft to very soft, medium to high plasticity, wet to saturated, fill OL | SS-2 2.0-4.0 20"R | 3 4 6 9 | 21.8 | |
| | | | | SS-3 4.0-6.0 24"R | 3 6 11 12 | 23.3 | |
| | | | | SS-4 6.0-8.0 24"R | 3 4 5 5 | 31.8 | SS-4: LL = 45 PL = 25 PI = 20 |
| | | | | SS-5 8.0-10.0 24"R | 2 3 2 4 | 29.4 | |
| | | | | SS-6 10.0-12.0 24"R | 2 3 3 2 | 29.7 | |
| | | | Changed from organic silty clay to organic clayey silt from 12.0'. | SS-7 12.0-14.0 24"R | WOH 2 3 2 | 26.3 | |
| | | | | SS-8 14.0-16.0 22"R | 1 2 2 3 | 31.4 | |
| | | | Wood fragments in SS-9 | SS-9 16.0-18.0 24"R | 2 2 2 3 | 54.0 | |
| | | | | SS-10 18.0-20.0 18"R | 1 1 2 2 | 37.8 | |
| 514.9 | 20.0 | | | | | | |



DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/16/92** ENDED **8/16/92**

REMARKS
**WOH = Weight of Hammer.**

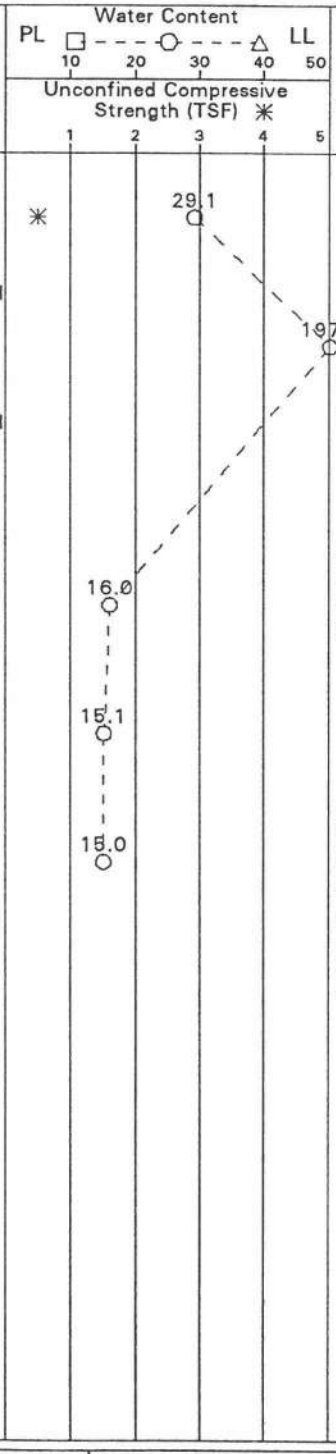
WATER LEVEL (ft.)
▽ **22.0'** during drilling
▼
▼

# PATRICK ENGINEERING INC.

BORING NUMBER **P-5D** SHEET **2** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill - Hydrogeo Invest. - 496B**
LOCATION **N 4,516.7 E 2,885.0**

LOGGED BY **KRR**
GROUND ELEVATION **534.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 514.9 | 20.0 | | Dark gray to black organic silty clay, trace coarse to fine sand, soft, medium to high plasticity, wet to saturated, fill OL | SS-11 20.0-22.0 24"R | 2 2 3 4 |
| 512.9 | 22.0 | | Little coarse to fine sand, trace fine gravel and wood fragments present in SS-11 | SS-12AB 22.0-24.0 24"R | WOH 1 1 1 |
| | | | Gray fine sand, little to some silt, very loose, poorly graded, saturated SM | | |
| | | | Wood in SS-12B | SS-13 24.0-26.0 24"R | WOH 1 3 2 |
| 509.9 | 25.0 | | Gray coarse to fine sand, some fine gravel, little silt, loose, well graded, saturated SM | SS-14AB 26.0-28.0 24"R | 1 3 5 6 |
| 507.6 | 27.3 | | Gray shale, soft | SS-15 28.0-30.0 20"R | 10 12 14 15 |
| | | | | SS-16 30.0-32.0 22"R | 16 18 22 26 |
| 502.9 | 32.0 | | End of Boring at 32.0' | | |




NOTES & TEST RESULTS

Water level at 22.0' during drilling.

SS-14A
Gravel = 29%
Sand = 54%
Silt or clay = 17%

Piezometer was installed immediately after completion of drilling. Refer to As-Built Diagram P-5D for more details.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/16/92** ENDED **8/16/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽ **22.0'** during drilling
▽
▽

| PATRICK ENGINEERING INC. | BORING NUMBER | P-5S | SHEET 1 OF 1 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 4,510.7 E 2,887.0 | |

LOGGED BY KRR

GROUND ELEVATION 534.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 534.9 | 0.0 | | Drilled to 8.0' without sampling. Refer to Boring Log P-5D for soil conditions from 0.0' to 8.0'. | | | | Soil conditions are consistent with soil conditions encountered in P-5D based on soil cuttings. |
| 526.9 | 8.0 | | Dark gray to black organic silty clay, trace fine sand, soft, medium to high plasticity, wet to saturated, fill OL | SS-1 8.0-10.0 10"R | 2 2 2 3 | ✳ 35.2 | 3T-2: Dry den. = 95.2 pcf k = 7.6 E-08 cm/s |
| | | | | 3T-2 10.0-12.0 16"R | | ✳ 26.0 | |
| 522.9 | 12.0 | | End of Boring at 12.0' | | | | No water was found during or immediately after drilling. Piezometer was constructed immediately after drilling. Refer to As-Built Diagram P-5S for more details. |

DRILLING CONTRACTOR Patrick Engineering
DRILLING METHOD 3-1/4" I.D. HSA
DRILLING EQUIPMENT CME 55/ATV
DRILLING STARTED 8/16/92 ENDED 8/16/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6D** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,717.0 E 2,186.8**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.8 | 0.0 | | Brown silty clay, trace to little fine sand, soft, medium plasticity, wet CL | AU-1 0.0-2.0 | | 22.2 | |
| | | | Mottled at 2.0' | SS-2 2.0-4.0 18"R | 2 1 2 3 | ✳ 21.2 | |
| | | | | SS-3 4.0-6.0 20"R | 1 1 2 2 | ✳ 21.7 | |
| 518.3 | 6.5 | | | SS-4AB 6.0-8.0 18"R | 1 2 2 2 | ✳ 22.0 | |
| 517.3 | 7.5 | | Brown, clayey, fine sand, little to some silt, loose, poorly graded, saturated SC | | | 25.4 | Water level at 6.0' during drilling. |
| | | | Brown mottled silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-5 8.0-10.0 10"R | 1 1 2 2 | ✳ 21.7 | Wood fragments in SS-5. |
| 514.8 | 10.0 | | Gray silty clay, trace fine sand, soft to medium stiff, medium plasticity, wet CL | SS-6 10.0-12.0 20"R | 3 1 1 1 | ✳ 23.8 | |
| | | | | SS-7 12.0-14.0 20"R | 2 2 2 2 | ✳ 28.3 | |
| | | | | SS-8 14.0-16.0 22"R | 1 2 4 3 | ✳ 24.1 | |
| | | | | SS-9 16.0-18.0 24"R | 2 2 2 2 | ✳ 24.7 | |
| | | | | 3T-10 18.0-20.0 24"R | | ✳ | |
| 504.8 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

REMARKS
**WOH = Weight of Hammer**

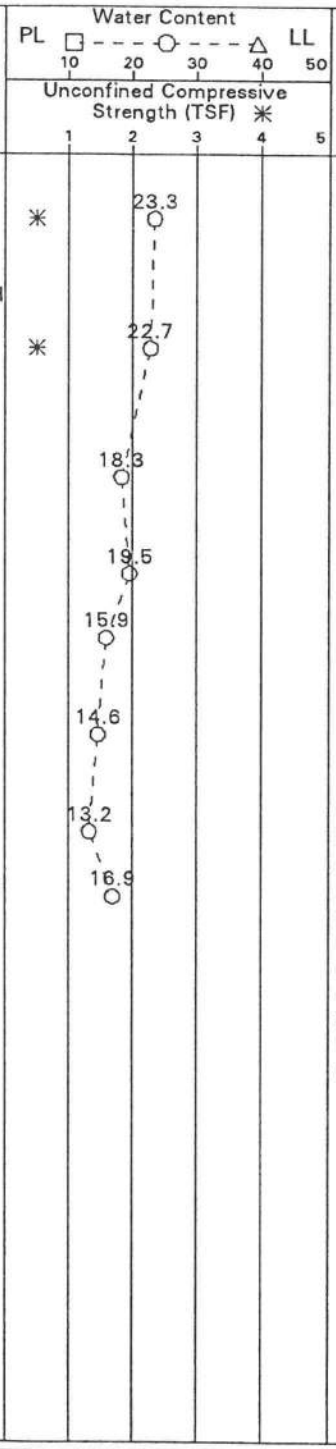
WATER LEVEL (ft.)
▽ **6.0'** during drilling
▽ **1.0'** after drilling
▽

# PATRICK ENGINEERING INC.

BORING NUMBER P-6D SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,717.0 E 2,186.8

LOGGED BY KRR
GROUND ELEVATION 524.8

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 504.8 | 20.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-11 20.0-22.0 24"R | 1 2 2 1 |
| | | | | SS-12 22.0-24.0 24"R | WOH 1 2 1 |
| 501.8 | 23.0 | | Little fine sand in SS-12 | | |
| | | | Gray clayey silt, trace fine sand, loose, wet to saturated CL-ML/ML | SS-13 24.0-26.0 24"R | 2 3 4 4 |
| | | | | SS-14AB 26.0-28.0 24"R | 4 4 7 10 |
| 497.3 | 27.5 | | | | |
| 496.8 | 28.0 | | Gray fine sand, trace coarse to medium sand, some silt, medium dense, poorly graded, saturated SM | SS-15 28.0-30.0 24"R | 7 7 18 9 |
| | | | Gray coarse to fine sand, trace coarse to fine gravel, some silt, medium dense, well graded, saturated SM | SS-16AB 30.0-32.0 22"R | 13 16 17 100 + |
| 493.3 | 31.5 | | | | |
| 492.8 | 32.0 | | Gray shale | | |
| | | | End of Boring at 32.0' | | |




NOTES & TEST RESULTS

Water level at 1.0' immediately after drilling.
Piezometer was installed immediatley after completion of drilling.
Refer to As-Built Diagram P-6D for more information.

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME 55/ATV
DRILLING STARTED 8/12/92 ENDED 8/12/92

REMARKS
WOH - Weight of Hammer.

WATER LEVEL (ft.)
▽ 6.0' during drilling.
▼ 1.0' after drilling.

**PATRICK ENGINEERING INC.**

BORING NUMBER P-6S SHEET 1 OF 1
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,725.7 E 2,191.4

LOGGED BY KRR
GROUND ELEVATION 524.9

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5 | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.9 | 0.0 | | Drilled to 4.0' without sampling. Refer to Boring Log P-6D for soil conditions from 0.0' to 4.0'. | | | | Brown silty clay based on soil cuttings up to 4.0'. |
| 520.9 | 4.0 | | Brown silty clay, trace to little fine sand, medium stiff, medium plasticity, wet CL | 3T-1 4.0-6.0 14"R | | ✳ | SS-2A: Gravel = 0% Sand = 14% Silt or clay = 86% |
| 518.4 | 6.5 | | Gray clayey fine sand, some silt, loose, poorly graded, saturated SC | SS-2AB 6.0-8.0 24"R | 2 1 1 2 | ✳ 23.4 22.6 | Water level at 7.0' during drilling |
| 515.4 | 9.5 | | Brown and tan silty clay to clayey silt, little fine sand, soft to medium stiff, medium plasticity, wet CL/CL-ML | SS-3AB 8.0-10.0 20"R | 2 2 1 2 | ✳ 28.2 21.0 | Water level at 3.0' immediately after drilling. |
| 514.9 | 10.0 | | 2" fine sand lense at 8.5' | | | 27.6 | Piezometer was installed immediately after completion of drilling. Refer to As-Built Diagram P-6S for more details. |
| | | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, wet CL | | | | |
| | | | End of Boring at 10.0' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/12/92** ENDED **8/12/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **7.0'** during drilling.
▽ **3.0'** after drilling.
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6R** SHEET **1** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,719.5 E 2,175.7**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 524.8 | 0.0 | | Drilled to top of bedrock at 32.5 feet without sampling. Refer to Boring Log P-6D for soil conditions above top of bedrock. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/5/92** ENDED **8/6/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-6R** SHEET **2** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,719.5 E 2,175.7**

LOGGED BY **KRR**
GROUND ELEVATION **524.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 504.8 | 20.0 | | Drilled to top of bedrock at 32.5 feet without sampling. Refer to Boring Log P-6D for soil conditions above top of bedrock. | | | | |
| | | | | | | | Ceased drilling at 32.5' on 8/5/92. Switched to PQ coring and cored on 8/6/92. |
| 492.3 | 32.5 | | Gray shale, massive, excellent | PQ-1 32.5-38.5 72"R | | | RQD = 100% |
| | | | | PQ-2 38.5-42.5 48"R | | | RQD = 100% |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **8/5/92** ENDED **8/6/92**

REMARKS

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER P-6R SHEET 3 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 4,719.5 E 2,175.7

LOGGED BY KRR
GROUND ELEVATION 524.8

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 484.8 | 40.0 | | Gray shale, massive, excellent | | | | |
| 482.3 | 42.5 | | End of Boring at 42.5'. | | | | Piezometer P-6R was installed immediately after completion of drilling. Refer to as-built diagram P-6R for more details. |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 6-1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 8/5/92 ENDED 8/6/92

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

| PATRICK ENGINEERING INC. | BORING NUMBER | P-7D | SHEET 1 OF 2 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 5,342.8 E 2,432.5 | |

LOGGED BY KRR

GROUND ELEVATION 526.5

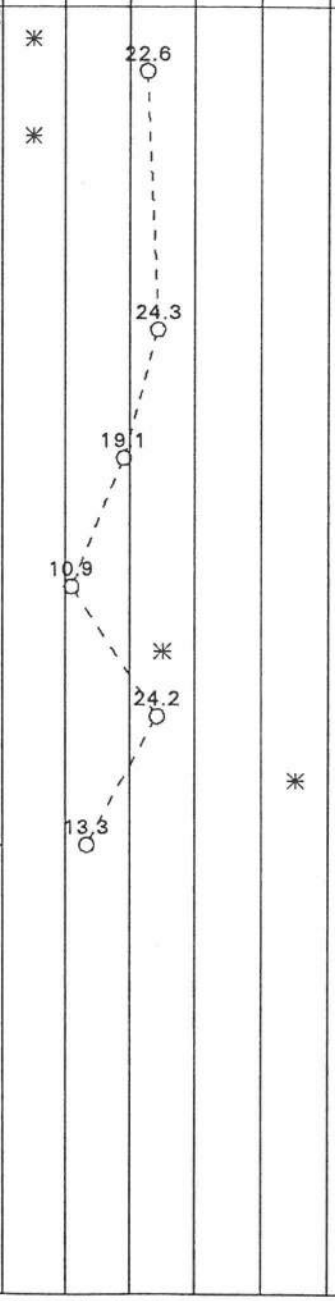
| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 526.5 | 0.0 | | Brown silty clay, trace fine sand, stiff to very stiff, medium plasticity, wet CL | AU-1 0.0-2.0 | | 19.2 | |
| | | | Mottled from 2.0'. | SS-2 2.0-4.0 24"R | 3 3 4 5 | 17.6 | SS-3: LL=33 PL=19 PI=14 |
| | | | | SS-3 4.0-6.0 24"R | 2 3 4 4 | 21.7 | |
| | | | | SS-4 6.0-8.0 24"R | 5 5 5 6 | 25.3 | SS-4: CEC = 16.5 meq/100g |
| | | | | 3T-5 8.0-10.0 24"R | | 22.6 | 3T-5: Dry dens=101pcf k=2.0 E-07 cm/s |
| | | | | SS-6AB 10.0-12.0 24"R | 2 1 2 2 | 24.8 | SS-6B: Gravel = 0% Sand = 52% Silt or Clay = 48% |
| 515.0 | 11.5 | | | | | | |
| 514.5 | 12.0 | | Brown clayey fine sand, little silt, loose, poorly graded, moist SC | | | 23.1 | |
| | | | Gray silty clay, trace fine sand, soft to stiff, low to medium plasticity, wet CL | SS-7 12.0-14.0 24"R | 2 2 3 3 | 28.9 | |
| | | | | SS-8 14.0-16.0 24"R | WOH 1 1 1 | 26.9 | SS-8: LL = 29 PL = 22 PI = 7 |
| | | | | SS-9 16.0-18.0 24"R | 2 2 2 2 | 25.1 | |
| | | | | SS-10 18.0-20.0 24"R | WOH 1 1 1 | 23.6 | |
| 506.5 | 20.0 | | | | | | |

| | | |
|---|---|---|
| DRILLING CONTRACTOR Patrick Drilling | REMARKS | WATER LEVEL (ft.) |
| DRILLING METHOD 4-1/4" I.D. HSA. | WOH - Weight of Hammer. | ▽ 20.0' during drilling. |
| DRILLING EQUIPMENT CME-55/ATV | | ▽ |
| DRILLING STARTED 7/30/92 ENDED 7/30/92 | | ▼ |

| PATRICK ENGINEERING INC. | BORING NUMBER | P-7D | SHEET 2 OF 2 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 5,342.8 E 2,432.5 | |

LOGGED BY KRR

GROUND ELEVATION 526.5



| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 506.5 | 20.0 | | Gray silty clay, trace fine sand, soft, low to medium plasticity, wet CL | SS-11 20.0-22.0 24"R | WOH 1 1 1 | ✳ 22.6 | Water level at 20.0' during drilling. |
| | | | | 3T-12 22.0-24.0 20"R | | ✳ | |
| 502.5 | 24.0 | | Gray clayey silt, some fine sand, loose, poorly graded, saturated CL-ML | SS-13 24.0-26.0 24"R | 1 2 1 3 | 24.3 | SS-13: Gravel = 0% Sand = 34% Silt or Clay = 66% |
| 500.5 | 26.0 | | Gray fine sand, some silt, very loose, poorly graded, saturated SM | SS-14 26.0-28.0 18"R | 1 1 1 1 | 19.1 | |
| 497.5 | 29.0 | | | SS-15 28.0-30.0 20"R | 1 1 1 3 | 10.9 | |
| | | | Gray coarse to fine sand, some coarse to fine gravel, little silt, loose, well graded, saturated SW-SM/SM | SS-16 30.0-32.0 20"R | 2 2 4 11 | ✳ 24.2 | SS-16: Gravel = 27% Sand = 59% Silt or clay = 14% |
| 495.5 | 31.0 | | Gray silty clay to clay, trace fine sand, very stiff to hard, medium to high plasticity, moist CL/CH | | | | |
| 494.0 | 32.5 | | | SS-17 32.0-34.0 15"R | 28 115 200+ /3" | ✳ 13.3 | |
| 493.3 | 33.2 | | Gray shale | | | | |
| | | | End of Boring at 33.2'. | | | | Piezometer was installed immediately after completion of drilling. Refer to as-built diagram P-7D for more details. |

| | | |
|---|---|---|
| DRILLING CONTRACTOR Patrick Drilling | REMARKS | WATER LEVEL (ft.) |
| DRILLING METHOD 4-1/4" I.D. HSA. | WOH - Weight of Hammer. | ▽ 20.0' during drilling. |
| DRILLING EQUIPMENT CME-55/ATV | | ▽ |
| DRILLING STARTED 7/30/92 ENDED 7/30/92 | | ▽ |

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7S** SHEET **1** OF **1**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,337.1 E 2,426.3**

LOGGED BY **KRR**
GROUND ELEVATION **526.3**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 526.3 | 0.0 | | Drilled to 10.0' without sampling. Refer to Boring Log P-7D for soil conditions from 0' to 10'. | | | | Soil conditions from 0' to 10' were consistent with the soil conditions encountered at P-7D based on soil cuttings. |
| 516.3 | 10.0 | | | | | | |
| 515.8 | 10.5 | | Brown mottled silty clay, trace fine sand, stiff, medium plasticity, wet | SS-1ABC 10.0-12.0 24"R | 3 | ✳ | SS-1B: Gravel = 0% Sand = 43% Silt or Clay = 57% |
| 515.3 | 11.0 | | CL | | 2 | ✳ 24.3 ○ | |
| | | | Gray clayey silt to clayey sand, loose, poorly graded, moist | | 2 | | |
| 514.1 | 12.2 | | SC/ML | SS-2 12.0-14.0 24"R | 2 | ✳ | Water was not encountered during or immediately after drilling. |
| | | | Brown silty clay, trace fine sand, stiff, medium plasticity, wet | | 3 | 28.1 ○ | |
| | | | CL | | 3 | | |
| 512.3 | 14.0 | | Gray silty clay, medium fine sand, stiff, medium plasticity, wet | | 4 | | Piezometer P-6S was installed after completion of drilling. Refer to as-built diagram P-6S for details. |
| | | | CL | | | | |
| | | | End of Boring at 14.0'. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/30/92** ENDED **7/30/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7M** SHEET **1** OF **1**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,337.0 E 2,432.8**

LOGGED BY **KRR**
GROUND ELEVATION **525.9**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.9 | 0.0 | | Drilled to 16.0' without sampling. Refer to Boring Log P-6D for soil conditions from 0' to 16'. | | | | Soil conditions from 0' to 16' were consistent with soil conditions in P-6D based on soil cuttings. |
| | | | | | | | 3T-2: Dry dens. = 101 pcf k = 1.5 E-07 cm/s |
| 509.9 | 16.0 | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-1 16.0-18.0 24"R | 1 1 1 2 | ✳ | Piezometer P-7M was installed immediately after completion of drilling. Refer to as-built diagram P-7M for more details. |
| | | | | 3T-2 18.0-20.0 20"R | | ✳ | |
| 505.9 | 20.0 | | End of Boring at 20.0'. | | | | |

22.0 ○ / 20.1 ○ \ \ 22.5 ○

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/30/92** ENDED **7/30/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7R** SHEET **1** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,326.9 E 2,424.5**

LOGGED BY **KRR**
GROUND ELEVATION **525.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 525.4 | 0.0 | | Drilled to 34.0' (auger refusal) without sampling. Refer to Boring Log P-7D for soil conditions from 0' to 34'. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/31/92** ENDED **7/31/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-7R SHEET 2 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill-Hydrogeo. Invest. - 496B
LOCATION N 5,326.9 E 2,424.5

LOGGED BY KRR
GROUND ELEVATION 525.4

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5 | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 505.4 | 20.0 | | Drilled to 34.0' (auger refusal ) without sampling. Refer to Boring Log P-7D for soil conditions from 0' to 34'. | | | | Soil conditions are consistent with soil conditions encountered at P-7D based on soil cuttings. |
| 491.4 | 34.0 | | Gray shale, massive, strongly cemented, excellent | PQ-1 34.0-39.0 60"R | | | Changed to PQ coring from 34.0'. RQD = 100% |
| | | | | PQ-2 39.0-44.0 | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 6-1/4" I.D. HSA.
DRILLING EQUIPMENT CME-55/ATV
DRILLING STARTED 7/31/92 ENDED 7/31/92

REMARKS

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-7R** SHEET **3** OF **3**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 5,326.9 E 2,424.5**

LOGGED BY **KRR**
GROUND ELEVATION **525.4**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 485.4 | 40.0 | | Gray shale, massive, stongly cemented, excellent | 60"R | | | RQD = 100% |
| 481.4 | 44.0 | | End of Boring at 44.0'. | | | | Piezometer was installed immediately after completion of coring. Refer to as-built diagram P-7R for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **6-1/4" I.D. HSA.**
DRILLING EQUIPMENT **CME-55/ATV**
DRILLING STARTED **7/31/92** ENDED **7/31/92**

REMARKS

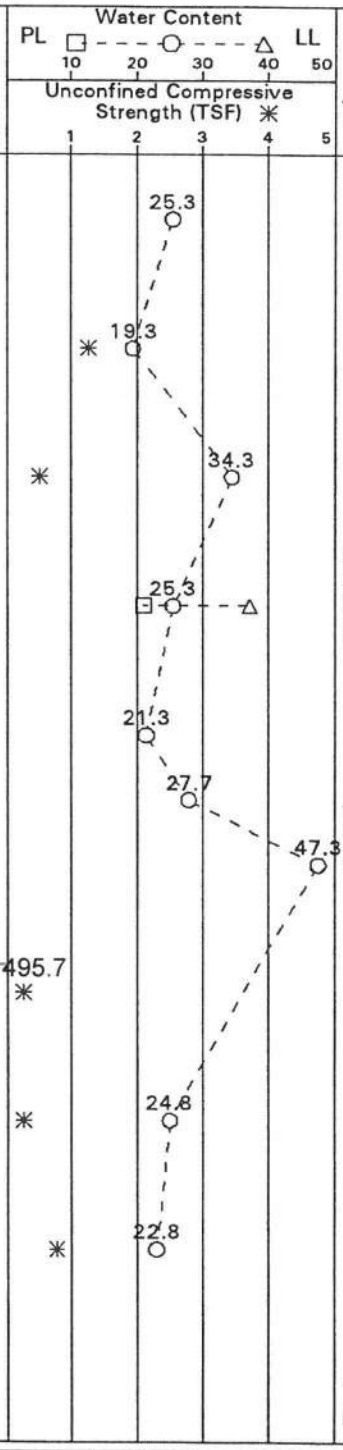
WATER LEVEL (ft.)
▽
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER P-8D SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,939.7 E 2,482.7

LOGGED BY KRR
GROUND ELEVATION 522.7

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS |
|---|---|---|---|---|---|
| 522.7 | 0.0 | | Brown to brownish-gray silty clay, trace fine sand, stiff, medium plasticity, wet, fill CL | AU-1 0.0-2.0 | |
| | | | | SS-2 2.0-4.0 8"R | 2 2 3 3 |
| 518.2 | 4.5 | | Dark gray organic silty clay, trace fine sand, wood fragments present, soft, medium plasticity, wet to saturated, fill OL | SS-3 4.0-6.0 10"R | 1 2 1 1 |
| | | | Chunks of wood in SS-4 | SS-4 6.0-8.0 8"R | 1 2 1 1 |
| 514.7 | 8.0 | | Gray silty sand, little clay, loose, poorly graded, moist, fill SM | SS-5AB 8.0-10.0 24"R | 2 1 2 2 |
| 513.9 | 8.8 | | Gray clayey sand, little silt, loose, poorly graded, moist, fill SC | SS-6 10.0-12.0 20"R | 1 1 1 2 |
| 513.2 | 9.5 | | Dark gray to black organic silty clay, wood fragments present, medium to high plasticity, wet to saturated, fill OL/OH | | |
| 510.5 | 12.2 | | Chunks of wood and lenses of sand in SS-6 | SS-7 12.0-14.0 24"R | 1 1 2 1 |
| | | | Gray silty clay, trace fine sand, soft, medium plasticity, wet CL | SS-8 14.0-16.0 24"R | 1 1 1 1 |
| | | | | 3T-9 16.0-18.0 20"R | |
| | | | | 3T-10 18.0-20.0 0"R | |




NOTES & TEST RESULTS

SS-4:
LL = 37
PL = 21
PI = 16

Water level at 10.0' during drilling.

Tube pushed but no recovery.

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/13/92** ENDED **8/13/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **10.0'** during drilling
▽ **8.0'** after drilling
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-8D SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,939.7 E 2,482.7

LOGGED BY KRR
GROUND ELEVATION 522.7

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 502.7 | 20.0 | | Gray silty clay, trace to little fine sand, soft, medium plasticity, wet CL | 3T-11 20.0-22.0 14"R | | | |
| 500.7 | 22.0 | | | | | | |
| 499.9 | 22.8 | | Gray silty fine sand, very loose, poorly graded, saturated SM | SS-12AB 22.0-24.0 24"R | WOH WOH WOH 13 | | SS-13A Gravel = 34% Sand = 50% Silt or clay = 16% |
| | | | Gray coarse to fine sand and coarse to fine gravel, little silt, medium dense, well graded, saturated SW-SM/SM | SS-13AB 24.0-26.0 24"R | 15 16 12 12 | ✳ | |
| 497.2 | 25.5 | | Gray silty clay, trace fine sand, hard, medium to high plasticity, moist CL/CH | | | 18.2 ○ | |
| 496.2 | 26.5 | | | SS-14 26.0-27.0 6"R | 10 28 100+ | / 13/8 ○ | |
| 495.7 | 27.0 | | Gray shale | | | | Auger refusal at 27'. |
| | | | End of Boring at 27.0' | | | | Water level at 8.0' immediately after drillling. Piezometer was installed immediately after drilling. Refer to As-Built Diagram P-8D for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/13/92** ENDED **8/13/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)
▽ **10.0'** during drilling
▽ **8.0'** after drilling
▽

| PATRICK ENGINEERING INC. | BORING NUMBER | P-8S | SHEET 1 OF 1 |
|---|---|---|---|
| | CLIENT | City of Springfield CWLP | |
| | PROJECT & NO. | FGDS Landfill - Hydrogeo Invest. - 496B | |
| | LOCATION | N 4,933.1 E 2,486.0 | |

LOGGED BY KRR

GROUND ELEVATION 522.8

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 522.8 | 0.0 | | Drilled to 6.0' without sampling. Refer to Boring Log P-8D for soil conditions from 0.0' to 6.0'. | | | | |
| 516.8 | 6.0 | | Dark gray silty clay, trace fine sand, organics and wood fragments present, soft, medium plasticity, wet, fill OL | SS-1 6.0-8.0 8"R | 1 1 1 1 | 27.6 | |
| 514.8 | 8.0 | | Gray clayey fine sand, little silt, loose, poorly graded, moist SC | SS-2AB 8.0-10.0 14"R | 1 2 1 2 | 24.7 | SS-3: Gravel = 0% Sand = 12% Silt or clay = 26% |
| 513.3 | 9.5 | | Dark gray to black organic silty clay, trace medium to fine sand, wood fragments present, soft, medium plasticity, wet to saturated OL | SS-3 10.0-12.0 16"R | 1 2 1 2 | 89.0 41.0 | |
| 510.8 | 12.0 | | End of Boring at 12.0' | | | | Water was not encountered during or immediately after drilling. Piezometer was installed after completion of drilling. Refer to As-Built Diagram P-8S for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 55/ATV**
DRILLING STARTED **8/13/92** ENDED **8/13/92**

REMARKS
**WOH - Weight of Hammer.**

WATER LEVEL (ft.)

**PATRICK ENGINEERING INC.**

BORING NUMBER P-9D SHEET 1 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,446.3 E 2,422.4

LOGGED BY KRR
GROUND ELEVATION 553.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 553.2 | 0.0 | | Dark brown silty clay, trace fine sand, low plasticity, moist, fill CL | | | | |
| 551.7 | 1.5 | | Brown mottled silty clay, trace fine sand, stiff to hard, medium plasticity, moist, fill CL | AU-1 1.0-1.5 | | 14.8 | |
| | | | Trace sulfur waste | SS-2 2.0-4.0 12"R | 2 2 4 5 | 18.1 | |
| | | | | SS-3 4.0-6.0 12"R | 3 4 5 7 | 16.1 | |
| | | | | SS-4 6.0-8.0 18"R | 3 3 6 10 | 15.1 | |
| | | | | SS-5 8.0-10.0 18"R | 4 5 6 8 | 15.4 | |
| | | | | SS-6 10.0-12.0 18"R | 4 5 5 7 | 20.5 | |
| | | | | SS-7 12.0-14.0 4"R | 2 2 4 5 | 16.4 | |
| | | | | 3T-8 14.0-16.0 24"R | | | 3T-8: Dry Den. = 102.3 pcf k = 1.3 E-08 cm/s |
| | | | | SS-9 16.0-18.0 18"R | 3 4 6 6 | 19.5 | |
| 534.7 | 18.5 | | | SS-10 18.0-20.0 12"R | 4 6 9 11 | 18.7 | |
| 533.2 | 20.0 | | Dark brown silty clay, trace fine sand, very stiff, low to medium plasticity, moist to wet, fill | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 75**
DRILLING STARTED **8/18/92** ENDED **8/18/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽ **32.5'** during drilling.
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-9D SHEET 2 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,446.3 E 2,422.4

LOGGED BY KRR
GROUND ELEVATION 553.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 533.2 | 20.0 | | CL<br>Dark brown silty clay, trace fine sand, very stiff, low to medium plasticity, moist to wet, fill<br>CL | SS-11<br>20.0-22.0<br>18"R | 7<br>10<br>14<br>16 | ○ 19.9 ✳ | |
| | | | | SS-12<br>22.0-24.0<br>12"R | 3<br>3<br>4<br>8 | ○ 22.7 ✳ | |
| | | | | SS-13<br>24.0-26.0<br>18"R | 2<br>3<br>4<br>6 | ✳ ○ 22.7 | |
| 526.9 | 26.3 | | Brown silty clay, trace fine sand, stiff, medium plasticity, wet<br>CL | SS-14<br>26.0-28.0<br>20"R | 2<br>3<br>3<br>4 | ✳ ○ 25.0 | |
| | | | | SS-15<br>28.0-30.0<br>24"R | 1<br>2k<br>2<br>3 | ✳ ○ 24.6 | |
| | | | | SS-16<br>30.0-32.0<br>24"R | WOH<br>WOH<br>2<br>3 | ✳ ○ 25.6 | |
| 521.2 | 32.0 | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, wet<br>CL | SS-17<br>32.0-34.0<br>24"R | WOH<br>WOH<br>WOH<br>WOH | ✳ ○ 28.3 | Water level at 32.5 feet during drilling. |
| | | | | SS-18<br>34.0-36.0<br>24"R | WOH<br>WOH<br>1<br>3 | ✳ ○ 23.9 | |
| | | | | SS-19<br>36.0-38.0<br>24"R | WOH<br>WOH<br>1<br>2 | ✳ ○ 26.9 | |
| 514.6 | 38.6 | | | SS-20<br>38.0-40.0<br>24"R | WOH<br>WOH<br>2<br>3 | ○ 32.8 | |
| 513.2 | 40.0 | | Gray silty clay to clayey silt and medium to fine sand, very soft, medium plasticity, wet | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME 75**
DRILLING STARTED **8/18/92** ENDED **8/18/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽ **32.5'** during drilling.
▽
▽

# PATRICK ENGINEERING INC.

BORING NUMBER P-9D SHEET 3 OF 3
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,446.3 E 2,422.4

LOGGED BY KRR
GROUND ELEVATION 553.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 513.2 | 40.0 | | CL/CL-ML<br>Gray silty clay to clayey silt and medium to fine sand, very soft, medium plasticity, wet<br>CL/CL-ML | SS-21<br>40.0-42.0<br>24"R | WOH<br>WOH<br>WOH<br>1 | 29.6 | |
| | | | | SS-22<br>42.0-44.0<br>24"R | WOH<br>WOH<br>WOH ✳<br>2 | 24.1 | |
| | | | | SS-23<br>44.0-46.0<br>24"R | WOH<br>WOH<br>WOH<br>WOH | 24.9 | |
| | | | | SS-24<br>46.0-48.0<br>24"R | WOH<br>WOH<br>WOH ✳<br>WOH | 24.4 | |
| | | | | SS-25<br>48.0-50.0<br>24"R | WOH<br>WOH<br>1 ✳<br>2 | 21.3 | |
| | | | | SS-26<br>50.0-52.0<br>24"R | WOH<br>WOH<br>WOH ✳<br>WOH | 20.7 | SS-26:<br>Gravel = 0%<br>Sand = 33%<br>Silt = 53%<br>Clay = 14% |
| 501.2 | 52.0 | | Gray silty sand, very loose, poorly graded, saturated<br>SM | SS-27<br>52.0-54.0<br>24"R | WOH<br>WOH<br>1<br>1 | | SS-29A<br>Gravel = 22%<br>Sand = 66%<br>Silt or clay = 12% |
| | | | | SS-28<br>54.0-56.0<br>24"R | WOH<br>WOH<br>3<br>7 | | |
| 497.9 | 55.3 | | Gray coarse to fine sand, some fine gravel, very loose to loose, poorly graded, saturated<br>SP-SM/SM | SS-29AB<br>56.0-58.0<br>24"R | 6<br>9<br>17<br>32 | | |
| 495.7 | 57.5 | | Gray shale | | | | Piezometer was installed immediately after drilling. Refer to As-built Diagram P-9D for details. |
| 495.2 | 58.0 | | End of Boring at 58.0' | | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4-1/4" I.D. HSA
DRILLING EQUIPMENT CME 75
DRILLING STARTED 8/18/92 ENDED 8/18/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽ 32.5' during drilling.
▼
▼

**PATRICK ENGINEERING INC.**

BORING NUMBER **P-9S** SHEET **1** OF **2**
CLIENT **City of Springfield CWLP**
PROJECT & NO. **FGDS Landfill-Hydrogeo. Invest. - 496B**
LOCATION **N 4,447.3 E 2,415.6**

LOGGED BY **SAS**
GROUND ELEVATION **553.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 553.1 | 0.0 | | Drilled to 34' without sampling. See Boring Log P-9D for details. | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" ID HSA**
DRILLING EQUIPMENT **CME 75**
DRILLING STARTED **8/19/92** ENDED **8/19/92**

REMARKS

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER P-9S SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,447.3 E 2,415.6

LOGGED BY KRR
GROUND ELEVATION 553.1

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 533.1 | 20.0 | | | | | | |
| 519.1 | 34.0 | | Gray silty clay, trace fine sand, medium stiff, medium plasticity, moist to wet CL | 3T-1 34.0-36.0 24"R | | ✳ 24.1 ○ | 3T-1: Dry dens. = 101.2 pcf k = 1.3 E-06cm/s |
| 516.1 | 37.0 | | End of Boring at 37.0' | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" ID HSA**
DRILLING EQUIPMENT **CME 75**
DRILLING STARTED **8/19/92** ENDED **8/19/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER LP-1 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,326.5 E 2,639.9

LOGGED BY JSV
GROUND ELEVATION 564.6

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 564.6 | 0.0 | | Intermediate cover, fill | | | | |
| 563.6 | 1.0 | | Light gray sludge, fill | | | | |
| 551.6 | 13.0 | | Gray sludge, dry, fill | SS-1 13.0-15.0 19"R | 4 7 8 6 | | |
| 544.6 | 20.0 | | | | | | |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4" I.D. HSA
DRILLING EQUIPMENT CME-75/ATV
DRILLING STARTED 7/25/92 ENDED 7/25/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER LP-1 SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,326.5 E 2,639.9

LOGGED BY JSV
GROUND ELEVATION 564.6

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 544.6 | 20.0 | | Dark gray sludge, saturated, fill | SS-2 20.0-22.0 22"R | 6<br>10<br>7<br>6 | | |
| 542.6 | 22.0 | | End of Boring at 22.0'. | | | | Leachate piezometer was installed immediatelt after completion of drilling. Refer to as-built diagram LP-1 for details. |

DRILLING CONTRACTOR Patrick Drilling
DRILLING METHOD 4" I.D. HSA
DRILLING EQUIPMENT CME-75/ATV
DRILLING STARTED 7/25/92 ENDED 7/25/92

REMARKS
WOH = Weight of Hammer.

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER LP-2 SHEET 1 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,257.5 E 2,365.8

LOGGED BY JSV
GROUND ELEVATION 568.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 568.2 | 0.0 | | Intermediate cover, fill | | | | |
| 567.2 | 1.0 | | Light gray sludge, fill | | | | |
| 555.2 | 13.0 | | Light gray sludge, dry, fill | SS-1 13.0-15.0 15"R | 9 34 60 | | |
| 548.2 | 20.0 | | | | | | |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-75/ATV**
DRILLING STARTED **7/25/92** ENDED **7/25/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽
▽
▽

**PATRICK ENGINEERING INC.**

BORING NUMBER LP-2 SHEET 2 OF 2
CLIENT City of Springfield CWLP
PROJECT & NO. FGDS Landfill - Hydrogeo Invest. - 496B
LOCATION N 4,257.5 E 2,365.8

LOGGED BY JSV
GROUND ELEVATION 568.2

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL □ - - - ○ - - - △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5) | NOTES & TEST RESULTS |
|---|---|---|---|---|---|---|---|
| 548.2 | 20.0 | | Light gray sludge, saturated, fill | SS-2 20.0-22.0 19"R | 9 10 12 26 | | |
| 546.2 | 22.0 | | End of Boring at 22.0'. | | | | Leachate piezometer was installed immediately after completion of drilling. Refer to as-built diagram LP-2 for more details. |

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4-1/4" I.D. HSA**
DRILLING EQUIPMENT **CME-75/ATV**
DRILLING STARTED **7/25/92** ENDED **7/25/92**

REMARKS
**WOH = Weight of Hammer.**

WATER LEVEL (ft.)
▽
▽
▽

# APPENDIX A2:
## FGDS UNIT 2 LANDFILL MONITOR WELL LOGS

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring R-101

Project Name: Monitoring Well Installations Date of Boring: January 15, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | W | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| *Note 1 | | | | | | | |
| Silty clay to clayey silt, light brown, light grey | 5 | 1-SS | 35% | | | | |
| | | 2-SS | 100% | | | | |
| | 10 | | | | | | |
| 13.0'-13.2': Brown sand, fine to medium | | 3-SS | 75% | | | | While Drilling |
| Silty clay, grey, mottled brown | 15 | | | | | | |
| | | 4-SS | 100% | | | | |
| Silt to clayey silt, grey, brown, some sand, fine to medium | 20 | | | | | | |
| | | 5-SS | 100% | | | | |
| | 25 | | | | | | |
| | | 6-SS | 100% | | | | |
| | 30 | | | | | | |
| Shale, grey, brown (weathered) | | 7-SS | 100% | | | | |
| End of Boring | | | | | | | |
| *Note 1: 0"-6" Brown silty clay with organics | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring R-102

Project Name: Monitoring Will Installations Date of Boring: January 11, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| *Note 1 | | | | | | | |
| Clayey silt, light brown, light grey | 5 | 1-SS | 100% | | | | |
| | | 2-SS | 80% | | | | |
| Silty clay, grey, mottled brown | 10 | 3-SS | 100% | | | | |
| Clayey silt to silt, dark grey, some sand, fine | 15 | 4-SS | 100% | | | | |
| | 20 | 5-SS | 75% | | | | ▽ While Drilling |
| | 25 | 6-SS | 100% | | | | |
| | 30 | 7-SS | 75% | | | | |
| | 35 | | | | | | |
| Sand, fine to medium, grey | | 8-SS | 100% | | | | |
| Shale, grey, weathered | | | | | | | |
| End of Boring | | | | | | | |

*Note 1: Dark brown silty clay with organcis

PSI A-100-2

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring R-103

Project Name: Monitoring Well Installations Date of Boring: January 13, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| *Note 1 | | | | | | | |
| Clayey silt, light brown, light grey, with white streaks | | 1-SS | 100% | | | | |
| | 5 | | | | | | |
| | | 2-SS | 100% | | | | |
| | 10 | | | | | | |
| | | 3-SS | 100% | | | | |
| | 15 | | | | | | ▽ While Drilling |
| | | 4-SS | 100% | | | | |
| 19'-19.5' - Grey sand, fine | | | | | | | |
| | 20 | | | | | | |
| Silty clay, some sand, fine, organics, grey | | 5-SS | 100% | | | | |
| | 25 | | | | | | |
| (Coal fragments from 22'-29') | | 6-SS | 100% | | | | |
| | 30 | | | | | | |
| Shale, grey, weathered | | 7-SS | 100% | | | | |
| End of Boring | | | | | | | |
| *Note 1: Black silty clay with organcis | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring G-104

Project Name: Monitoring Well Installations Date of Boring: January 12, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Clayey silt with coal fragments, organics, mottled brown | 5 | 1-SS | 100% | | | | |
| | | 2-SS | 100% | | | | |
| | 10 | | | | | | |
| Silty clay, black to dark brown, some organics to 16' | | 3-SS | 75% | | | | |
| | 15 | | | | | | |
| | | 4-SS | 100% | | | | ▽ While Drilling |
| | 20 | | | | | | |
| Grey sand, fine to coarse | | 5-SS | 60% | | | | |
| Silty clay, trace sand, grey | 25 | | | | | | |
| | | 6-SS | 100% | | | | |
| Silty sand, grey, fine to medium | 30 | | | | | | |
| | | 7-SS | 60% | | | | |
| | 35 | | | | | | |
| Shale, grey, weathered | | 8-SS | 100% | | | | |
| End of Boring | | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring G-105

Project Name: Monitoring Well Installations Date of Boring: January 9, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay to clayey silt, trace organics, brown (fill) | 5 | 1-SS | 20% | | | | |
| | 10 | 2-SS | 35% | | | | |
| | | 3-SS | 25% | | | | |
| Silty clay, drak grey to black, some organics | 15 | | | | | | |
| Silty clay to clay, grey, mottled brown, trace sand | 20 | 4-SS | 100% | | | | |
| | | 5-SS | 40% | | | | |
| Silty clay with sand, fine to medium, brown | 25 | 6-SS | 35% | | | | ▽ While Drilling |
| | 30 | 7-SS | 40% | | | | |
| | 35 | 8-SS | 100% | | | | |
| Silty clay, trace sand, dark grey, fine | 40 | 9-SS | 100% | | | | |
| | 45 | | | | | | |

PSI A-100-9

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring G-105 (Continued)

Project Name: Monitoring Well Installations Date of Boring: January 9, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| Silty clay, some sand, fine, dark grey | 45 | 10-SS | 100% | | | | |
| 48'-48.7': Grey sand, fine to medium | 50 | 11-SS | 80% | | | | |
| Shale, grey, weathered | | | | | | | |
| End of Boring | | | | | | | |

# Professional Service Industries, Inc.

## RECORD OF SUBSURFACE EXPLORATION

Boring G-106

Project Name: Monitoring Well Installations Date of Boring: February 23, 1990

Site: CWLP Ash Disposal Facility Project No.: 020-05001

| DESCRIPTION | DEPTH | SAMPLE | N | $Q_u$ | $Q_p$ | $M_c$ | REMARKS |
|---|---|---|---|---|---|---|---|
| SURFACE | | | | | | | |
| Silty clay, brown, moist, trace organics | 5 | 1-SS | 75% | | | 24 | ▽ 0 HR |
| Silty clay, grey, mottled brown | | 2-SS | 100% | | | 26 | |
| Sand, fine to course, brown, wet | 10 | 3-SS | 100% | | | 37 | |
| Silty clay to clayey silt, grey, trace sand, fine | 15 | | | | | 25 | |
| | | 4-SS | 100% | | | 27 | |
| | 20 | 5-SS | 100% | | | 23 | |
| | 25 | 6-SS | 70% | | | | |
| Sand, fine to medium, trace silt, grey, wet | 30 | | | | | | |
| | | 7-SS | 50% | | | | |
| Shale, grey, hard | | | | | | 9 | |
| END OF BORING | 35 | | | | | | |

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Coordinates
Northing: 3728.6
Easting: 2315.7

**Boring Information:**
Boring No.: G110
Well No.: G110
Surf. Elev.: 554.5
Depth Information:
Total: 59.5
Auger: 59.5
Rotary: N/A
Dates:
Start: 7/12/93
Finish: 7/12/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 55

**Personel:**
Geologist: B. Hunsberger
Driller: M. Moore
Helper (s): R. Smith

Sample Type: ▯ - Continuous Barrel ⊠ - Split Spoon ⧄ - Shelby Tube ▮▮ - Core ▭ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/[q_s]$ (in tsf) | % Moisture |
|---|---|---|---|---|---|---|---|
| | 1 | | 1A | 3.2' | | 3.5 | |
| | | | | | | 2.75 | |
| 5 | 2 | | 2A | | | | |
| | | | 2B | | | 2.8 | |
| | | | | | | 2.5 | |
| | | | 2C | 5.0' | | 0.8 | |
| | 3 | | | | | | |
| 10 | | | | 1.4' | | | |
| | 4 | | 4A | | | 0.7 | |
| | | | | | | 0.5 | |
| | | | | 2.8' | | 0.85 | |
| | 5 | | 5A | | | 3.25 | |
| 15 | | | | | | | |
| | | | | | | 2.75 | |
| | | | | | | 2.25 | |
| | | | 5B | | | 2.0 | |
| | | | | 4.8' | | 2.8 | |
| | 6 | | | | | 1.8 | |
| | | | | | | 2.2 | |
| 20 | | | | | | 1.8 | |

Borehole Detail: Concrete Plug; Cement/Bentonite Grout

| Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|
| | Gravel backfill-*access road.* | | 554.5 |
| | Dark gray silty CLAY, little sand and gravel, with rootlets. | | 549.5 |
| | Dark gray-black clayey SILT, some fine sand, rootlets. | | |
| | Dark gray-black silty CLAY, soft, with rootlets, some fine sand. | | 544.5 |
| | Dark gray, very moist silty CLAY-clayey SILT, numerous plant and wood fragments *(appears to be original grade).* | | 539.5 |
| | | | 534.5 |

NOTE: ▽ = groundwater encountered while drilling.

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Coordinates
Northing: 3728.6
Easting: 2315.7

**Boring Information:**
Boring No.: G110
Well No.: G110
Surf. Elev.: 554.5
Depth Information:
Total: 59.5
Auger: 59.5
Rotary: N/A
Dates:
Start: 7/12/93
Finish: 7/12/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 55

**Personel:**
Geologist: B. Hunsberger
Driller: M. Moore
Helper (s): R. Smith

Sample Type: ▯ – Continuous Barrel ⊠ – Split Spoon ⧄ – Shelby Tube ▯▯ – Core ▭ – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/[q_s]$ (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 534.5 |
| | 8 | | 8A | | | 1.7 | | | | Dark gray silty CLAY, moist, trace fine sand, little organics. | | |
| | | | 8B | 5.0' | | 1.6 | | | | Gray mottled light gray-brown silty CLAY, little fine sand, some plant roots. | | |
| 25 | 7 | | | 2.0' | | | | | | | | 529.5 |
| | | | 8A | | | 0.7 | | | | | | |
| | 8 | | 8B | | | 2.0<br>1.2 | | | | | | |
| | | | | 3.0' | | 1.3 | | | | | | |
| | | | | | | 2.2 | | | | | | |
| 30 | | | 9A | | | 2.2 | | | | Gray mottled brown silty CLAY, trace fine sand, little organics. | | 524.5 |
| | 9 | | | | | 2.2<br>2.75 | | | | | | |
| | | | | | | 2.75 | | | | | | |
| | | | 9B | 5.0' | | 1.75 | | | | Gray clayey SILT. | | |
| | | | | | | 0.75 | | | | | | |
| | | | 10A | | | 0.3 | | | | | | |
| 35 | | | | | | 0.2 | | | | | | 519.5 |
| | 10 | | | | | 0.2 | | | | Gray CLAY, very soft, some organic clay strata present. *(* The clay was too soft for the pocket penetrometer).* | | |
| | | | | | | * | | | | | | |
| | | | | | | * | | | | | | |
| | | | | 5.0' | | * | | | | | | |
| | 11 | | 11A | | | | | | | | | |
| 40 | | | | | | | | | | | | 514.5 |

Cement/Bentonite Grout

Bentonite Seal

NOTE: ⊻ = groundwater encountered while drilling.

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

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Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Coordinates
Northing: 3728.6
Easting: 2315.7

**Boring Information:**
Boring No.: G110
Well No.: G110
Surf. Elev.: 554.5
Depth Information:
Total: 59.5
Auger: 59.5
Rotary: N/A
Dates:
Start: 7/12/93
Finish: 7/12/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 55

**Personel:**
Geologist: B. Hunsberger
Driller: M. Moore
Helper (s): R. Smith

Sample Type: ▯ – Continuous Barrel ☒ – Split Spoon ⧄ – Shelby Tube ▯▯ – Core ☐ – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/[q_s]$ (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Bentonite Seal | | | | 514.5 |
| | 11 | | 11B | 5.0' | | | | | | Gray fine silty SAND, little clay. | | |
| 45 | | | 12A | | | | | | | | | 509.5 |
| | 12 | | 12B | 5.0' | | | | Filter Pack and/or Formation Sand | | | | |
| 50 | | | | | | | | | | Gray, fine clayey SAND, some silt. | | 504.5 |
| | 13 | | 13A | 5.0' | | | | | | | | |
| 55 | | | | | | | | | | | | 499.5 |
| | 14 | | | 0.0' | | | | Bentonite Seal | | Gray shale with muscovite mica. *(Since there was no recovery in Run # 14, the bedrock contact was determined at the depth the down pressure increased from 300 psi to 1500 psi on the auger column.)* | | |
| | 15 | ☒ | 15A | 0.7' | 10 31 | | | | | | | |
| 60 | | | | | | | | | | *E.O.B.=59.5 feet* | | 494.5 |

NOTE: ⏚ = groundwater encountered while drilling.

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 4,445.0
Easting: 2,249.0

**Boring Information:**
Boring No.: G-111
Well No.: G-111
Surf. Elev.: 553.6
Depth Information:
Total: 59.60
Auger: 59.60
Rotary: 0.00
Dates:
Start: 7/20/93
Finish: 7/21/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 45 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personel:**
Geologist: R. Hasenyager
Driller: A. Weisenhofer
Helper (s): K. Doetzel

Sample Type: - Continuous Barrel - Split Spoon - Shelby Tube - Core - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u$ / [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Very dark brown, slightly moist, clayey SILT with roots, other organic matter, and trace sand. | | 553.6 |
| | 1 | | | | | | | Concrete Plug | | Brown, soft, slightly moist, silty CLAY, with trace sand. | | |
| 5 | | | | 0.0 | | | | | | | | 548.6 |
| | 2 | | | | | 3.25 | | | | | | |
| | | | | | | 4.50 | | | | | | |
| 10 | | | | 5.0 | | | | | | | | 543.6 |
| | 3 | | | | | (1.50) 1.75 | | Cement/Bentonite Grout | | Dark brown, moist, plastic, silty CLAY, with trace sand. | | |
| | | | | | | 0.75 | | | | | | |
| | | | | | | | | | | Brown, moist, plastic, silty CLAY, with trace sand. | | |
| 15 | | | | 5.0 | | | | | | | | 538.6 |
| | 4 | | | | | | | | | Brown mottled gray, moist, plastic, silty CLAY, With trace sand and organic matter. | | |
| | | | | 1.3 | | | | | | | | |
| | 5 | | | | | 1.75 | | | | Black dry, friable, clayey SILT, with no sand or pebbles. | | |
| | | | | | | (1.10) | | | | | | |
| 20 | | | | 3.0 | | 1.00 | | | | | | 533.6 |

NOTE: ▽ = water level 13 hours after completion.
Torvane values are actual dial readings.

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

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AEEI No.: 93-118

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Easting: 2,249.0

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Boring No.: G-111
Well No.: G-111
Surf. Elev.: 553.6
Depth Information:
Total: 59.60
Auger: 59.60
Rotary: 0.00
Dates:
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Finish: 7/21/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 45 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personel:**
Geologist: R. Hasenyager
Driller: A. Weisenhofer
Helper (s): K. Doetzel

Sample Type: ▯ - Continuous Barrel ⊠ - Split Spoon ⧄ - Shelby Tube ▮▯ - Core ▯ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/[q_s]$ (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cement/Bentonite Grout | | | | 533.6 |
| | 6 | | | 2.0 | | [3.40] | | | | Brown mottled gray, moist, plastic, silty CLAY, with trace sand and organics. *Soil sample contained 1,170 ppm sulfate.* | | |
| | 7 | | | | | | | | | | | |
| 25 | | | | 3.0 | | 2.10 | | | | | | 528.6 |
| | 8 | | | | | | | | | | | |
| 30 | | | | 5.0 | | | | | | ▽-- *Free water during drilling* Brown, very moist, clayey SILT with some sand (fine-grained). *Very thin SAND (fine-grained) seam at 30.1'* | | 523.6 |
| | 9 | | | | | | | | | Brown, mottled gray, very moist, clayey SILT, with some sand (fine- grained) and trace organics. | | |
| 35 | | | | 5.0 | | | | | | | | 518.6 |
| | 10 | | | 2.0 | | [0.85] | | | | Gray, very moist, sandy SILT. | | |
| | 11 | | | | | 0.50 | | | | Reddish brown, moist clayey SILT, with trace organics. | | |
| | | | | | | 0.75 | | | | Gray, very moist, clayey SILT, with sand (very fine- to fine- grained). *Sandier zones at 38.2'-38.3' and 38.5'-38.8'* | | |
| 40 | | | | 3.0 | | | | | | | | 513.6 |

NOTE: ▽ = water level 13 hours after completion.
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## Field Boring Log

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**Boring Information:**
Boring No.: G-111
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Surf. Elev.: 553.6
Depth Information:
Total: 59.60
Auger: 59.60
Rotary: 0.00
Dates:
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Finish: 7/21/93

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**Personel:**
Geologist: R. Hasenyager
Driller: A. Weisenhofer
Helper (s): K. Doetzel

Sample Type: ▯ - Continuous Barrel ⊠ - Split Spoon ▨ - Shelby Tube ▮ - Core ☐ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/(q_s)$ (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | *Roots at 39.3'* | | 513.6 |
| | 12 | | | 2.0 | | | | | | Gray, saturated, clayey SILT, with some sand (very fine-grained). | | |
| | 13 | | | | | 0.25<br>[0.35]<br>0.25 | | | | | | |
| 45 | | | | 5.0 | | | | | | | | 508.6 |
| | 14 | | | | | | | | | Gray, saturated, silty SAND (very fine- to fine-grained). | | |
| | | | | | | | | | | Gray, saturated, sandy SILT. | | |
| | | | | | | | | | | Gray, saturated, silty SAND (very fine- to fine-grained). | | |
| 50 | | | | 5.0 | | | | | | | | 503.6 |
| | 15 | | | | | | | | | Gray, saturated, SAND (very fine- to fine-grained), with some silt. | | |
| | | | | | | | | | | Gray, saturated, silty SAND (very fine- to fine-grained). | | |
| | | | | | | | | | | Gray, very moist, interbedded clayey SILT, with some sand (very-fine grained) and silty SAND (very fine- to fine-grained). | | |
| 55 | | | | 4.0 | 32 | | | | | Gray, saturated, silty SAND (fine- to coarse-grained) and PEBBLE (very fine- to medium-grained). | | 498.6 |
| | 16 | | | | 41 | | | | | | | |
| | | | | | 27 | | | | | | | |
| | 17 | | | 2.0 | 17 | | | | | *Shale and sandstone fragments more abundant in lower 1.0'* | | |
| | | | | | 8 | | | | | | | |
| | | | | | 14 | | | | | | | |
| | | | | 1.7 | 12 | | | | | | | |
| | 18 | | | | 60+ | | | | | Gray, slightly moist, hard, massive, SHALE. *Bedrock* | | |
| 60 | | | | | | | | | | *E.O.B. = 59.6 feet* | | 493.6 |

Borehole Detail: Cement/Bentonite Grout; Bentonite Seal; Filter Pack

NOTE: ▼ = water level 13 hours after completion.
Torvane values are actual dial readings.

SKS ENGINEERS, INC.
2900 N. MARTIN LUTHER KING JR. DRIVE
DECATUR, ILLINOIS 62526

# SOIL BORING LOG



Date 05/26/2009

SKS Project No. 911607

ROUTE _____ DESCRIPTION CWLP / Landfill Well Replacement LOGGED BY T. Mathias/EK/AL

SECTION N/A LOCATION Springfield, IL SEC. ____ TWP. _____ RNG. _____ PM

COUNTY Sangamon DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Safety Hammer

STRUCT. NO. _____
Station _____

BORING NO. R111
Station _____
Offset _____
Ground Surface Elev. _____ ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter _____ ft
Upon Completion _____ ft
After _____ Hrs _____ ft

GRASS

BLIND DRILLED TO 44.5 FT.

| DEPTH (ft) | BLOWS (/6") | UCS Qu (tsf) | MOIST (%) | DEPTH (ft) | BLOWS (/6") | UCS Qu (tsf) | MOIST (%) |
|---|---|---|---|---|---|---|---|
| -5 | | | | -25 | | | |
| -10 | | | | -30 | | | |
| -15 | | | | -35 | | | |
| -20 | | | | -40 | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

SKS ENGINEERS, INC.
2900 N. MARTIN LUTHER KING JR. DRIVE
DECATUR, ILLINOIS 62526

# SOIL BORING LOG



Date 05/26/2009

ROUTE _____ DESCRIPTION SKS Project No. 911607 CWLP / Landfill Well Replacement LOGGED BY T. Mathias/EK/AL

SECTION N/A LOCATION Springfield, IL SEC. ____ TWP. _____ RNG. _____ PM

COUNTY Sangamon DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Safety Hammer

STRUCT. NO. _____
Station _____

BORING NO. R111
Station _____
Offset _____
Ground Surface Elev. _____ ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter _____ ft
Upon Completion _____ ft
After _____ Hrs _____ ft

| DEPTH (ft) | BLOWS (/6") | UCS Qu (tsf) | MOIST (%) | DEPTH (ft) | BLOWS (/6") | UCS Qu (tsf) | MOIST (%) |
|---|---|---|---|---|---|---|---|
| BLIND DRILLED TO 44.5 FT. | | | | | | | |
| 44.5 Gray, Saturated Sandy Silt | | | | | | | |
| 46.5 Saturated, Silty Fine Sand | | | | | | | |
| 49.5 Gray, Saturated, Silty Fine Sand | | | | | | | |
| 54.5 Gray, Saturated, Silty Fine Sand, with Gravel | | | | | | | |
| 59.5 END OF BORING @ 59.5 FT. | | | | | | | |

2" Groundwater Monitor Well Installed

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 4,450.9
Easting: 2,560.6

**Boring Information:**
Boring No.: G-112
Well No.: G-112
Surf. Elev.: 552.7
Depth Information:
Total: 57.80
Auger: 57.80
Rotary: 0.00
Dates:
Start: 7/21/93
Finish: 7/23/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 45 – 4¼" HSA /w 5 foot continuous barrel sampler.

**Personel:**
Geologist: R. Hasenyager
Driller: A. Weisenhofer
Helper (s): K. Doetzel

Sample Type: – Continuous Barrel – Split Spoon – Shelby Tube – Core – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/[q_s]$ (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Very dark brown, slightly moist, clayey SILT with roots, other organic matter, and trace sand. | | 552.7 |
| | 1 | | | 0.0 | | | | Concrete Plug | | Brown, soft, slightly moist, silty CLAY, with trace sand. | | |
| 5 | | | | | | | | | | | | 547.7 |
| | 2 | | | 1.3 | | | | | | | | |
| 10 | | | | | | | | Cement/Bentonite Grout | | | | 542.7 |
| | 3 | | | 5.0 | | 1.25 | | | | Dark brown, slightly moist, plastic, silty CLAY, with trace sand. | | |
| | | | | | | 1.00 | | | | Brown, moist, plastic, silty CLAY, with trace sand. | | |
| 15 | | | | | | | | | | | | 537.7 |
| | 4 | | | 1.7 | | 1.75 | | | | Brown mottled gray, moist, plastic, silty CLAY, with trace sand and organic matter. | | |
| | 5 | | | 3.0 | | 1.50 | | | | | | |
| | | | | | | 4.25 | | | | Black, moist, friable, clayey SILT, with no sand or pebbles. | | |
| 20 | | | | | | | | | | | | 532.7 |

NOTE: $\dot{\Upsilon}$ = water level 14 hours after completion.
Torvane values are actual dial readings.

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

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AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
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Easting: 2,560.6

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Well No.: G-112
Surf. Elev.: 552.7
Depth Information:
Total: 57.80
Auger: 57.80
Rotary: 0.00
Dates:
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| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u/[q_s]$ (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 532.7 |
| | 6 | | | 5.0 | | 4.00<br>2.75<br>[1.00]<br>1.50 | | Cement/Bentonite Grout | | Brown mottled gray, slightly moist, plastic, silty CLAY, with trace sand and organics. | | |
| 25 | 7 | | | 2.0 | | | | | | | | 527.7 |
| | 8 | | | 3.0 | | 0.50<br>0.50 | | | | Brown mottled gray, slightly moist, plastic, silty CLAY, with trace sand and organic matter. | | |
| 30 | | | | | | | | | | ▽-- *Free water during drilling* | | 522.7 |
| | 9 | | | 5.0 | | 0.75<br>[0.38]<br>[0.30]<br>0.50<br>0.75 | | | | | | |
| 35 | | | | | | | | | | | | 517.7 |
| | 10 | | | 5.0 | | [0.60]<br>1.25<br>1.25<br>[0.47] | | | | Dark gray, moist, clayey SILT, with trace sand.<br>Reddish brown, moist, clayey SILT, with trace organic matter.<br>Greenish gray, very moist, silty CLAY, with trace sand. *High-angle, dry, parting surfaces at 38.7', 39.1', and 39.5'* | | |
| 40 | | | | | | | | | | | | 512.7 |

NOTE: ▽ = water level 14 hours after completion.
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**Location:**
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**Boring Information:**
Boring No.: G-112
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Surf. Elev.: 552.7
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Start: 7/21/93
Finish: 7/23/93

**Drilling Contractor:**
Name: AE Exploration Corp.
City: Springfield, IL
Equipment: CME 45 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personel:**
Geologist: R. Hasenyager
Driller: A. Weisenhofer
Helper (s): K. Doetzel

Sample Type: - Continuous Barrel - Split Spoon - Shelby Tube - Core - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_u$ / [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 512.7 |
| | 11 | | | 3.0 | | 0.50 | | Cement/Bentonite Grout | | *Wood chips and small twigs at 41.4'* | | |
| | | | | | | 0.25 [0.10] | | | | Gray, very moist, clayey SILT, with trace sand. *Small (2-3 mm.)* Bivalvia *and* Gastropoda *throughout bed.* | | |
| | 12 | | | 2.0 | | | | | | Gray, saturated, soft, sandy SILT. | | |
| 45 | | | | | | | | | | | | 507.7 |
| | 13 | | | 3.0 | | 0.25 | | | | Gray, saturated, silty SAND (very fine- to fine-grained). | | |
| | | | | | | [0.22] 0.25 | | | | Gray, very moist, plastic, sandy SILT. | | |
| | 14 | | | 2.0 | | | | Bentonite Seal | | Gray, saturated, silty SAND (very fine- to fine-grained). SAND (fine-grained) seams at 46.5' and 46.8'. | | |
| 50 | | | | | | | | | | | | 502.7 |
| | 15 | | | 4.5 | | [0.35] 0.50 | | | | Gray, very moist, clayey SILT, with organics and trace sand. Thin SAND (fine-grained) seams at 53.7' and 53.9'. *Decreasing organic content with depth. No organics lower 0.5'.* | | |
| | | | | | | [0.30] 0.50 | | | | | | |
| | | | | | | 0.50 | | Filter Pack | | | | |
| 55 | | | | | | | | | | | | 497.7 |
| | 16 | | | 1.5 | | | | | | Gray, very moist, sandy SILT. | | |
| | | | | | | | | | | Gray, saturated, silty SAND (fine- to coarse-grained) and PEBBLE (very fine- to medium-grained). *Shale and sandstone fragments upper 0.3'* | | |
| | 17 | | | | | | | | | Gray, slightly moist, hard, massive, SHALE. *Bedrock* | | |
| | | | | | | | | | | *E.O.B. = 57.8 feet* | | |
| 60 | | | | | | | | | | | | 492.7 |

NOTE: ▽ = water level 14 hours after completion.
Torvane values are actual dial readings.

# RAPPS

ENGINEERING and APPLIED SCIENCE

821 SOUTH DURKIN – SPRINGFIELD IL 62704 – (217)787-2118

## BORING LOG

Site Name: FGDS Development Landfill — Boring No: AW-1

Drilling Firm: Reynolds Drilling Corp. — Drilling Method: HSA — Surface Elev: 552.85

Logged By: KJM — Checked By: KJM — Date Started: 12/29/08 — Completed: 12/30/08

| DEPTH | Material Description<br>Classification System | Sampling<br>Tube No. | Type | % Rec. | Tests<br>OVM (ppm) | Qu t/sf PEN | Moist | Comments | Well | DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Fill (not sampled) | | 5' CONTINUOUS SAMPLER | | | | | | | 0 |
| 5 | | | | | | | | | | 5 |
| 10 | | | | | | | | Blind drilled to 15' | | 10 |
| 15 | Gray to brown silty clay fill; Moist; Soft to firm; Sand, pebbles & coal fragments | 1 | | 100 | | | | | | 15 |
| 20 | Plant debris | 2 | | 100 | | | | | | 20 |
| 25 | Dk. brown to gray clayey silt; Moist; Firm to hard; Laminated | 3 | | 100 | | | | Base of fill @ 23.6' | | 25 |
| 30 | | | | | | | | | | 30 |

Water Level_____ after_____ hrs.

# RAPPS

ENGINEERING and APPLIED SCIENCE

821 SOUTH DURKIN – SPRINGFIELD IL 62704 – (217)787-2118

# BORING LOG

Site Name: FGDS Development Landfill — Boring No: AW-1

Drilling Firm: Reynolds Drilling Corp. — Drilling Method: HSA — Surface Elev: 552.85

Logged By: KJM — Checked By: KJM — Date Started: 12/29/08 — Completed: 12/30/08

| DEPTH | Material Description<br>Classification System | Sampling<br>Tube No. | Type | % Rec. | Tests<br>OVM (ppm) | Qu t/sf PEN | Moist | Comments | Well | DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | Trace fine sand; Mottled | 4 | 5' CONTINUOUS SAMPLER | 100 | | | | Wet seam @ 32.2'<br>Wet seam @ 33.3' | | 30 |
| 35 | Softer | 5 | | 100 | | | | | | 35 |
| | Gray fine to coarse sand; Moist to wet; Clayey and silty zones; Trace gravel | 6 | | 90 | | | | | | |
| 40 | | | | | | | | | | 40 |
| 45 | | 7 | | 80 | | | | | | 45 |
| 50 | Pebbles | | | | | | | | | 50 |
| | Dark gray shale; Weathered/broken | 8 | | 25 | | | | Increased resistance | | |
| 55 | End of boring @ 54.34' | | | | | | | Refusal | | 55 |
| 60 | | | | | | | | | | 60 |

Water Level_____ after_____ hrs.

# RAPPS

ENGINEERING and APPLIED SCIENCE

821 SOUTH DURKIN – SPRINGFIELD IL 62704 – (217)787-2118

## BORING LOG

Site Name: FGDS Development Landfill — Boring No: AW-2

Drilling Firm: Reynolds Drilling Corp. — Drilling Method: HSA — Surface Elev: 526.68

Logged By: KJM — Checked By: KJM — Date Started: 1/2/09 — Completed: 1/2/09

| DEPTH | Material Description<br>Classification System | Sampling<br>Tube No. | Type | % Rec. | Tests<br>OVM (ppm) | Qu t/sf PEN | Moist | Comments | Well | DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Dark brown silty clay; Moist; Firm | 1 | 5' CONTINUOUS SAMPLER | 100 | | | | | | 0 |
| 5 | Sandy | 2 | | 100 | | | | Water on bit | | 5 |
| 10 | Lt. brown to gray mottled clayey silt; Moist; Firm; Trace sand; Fe oxidation stains | 3 | | 100 | | | | | | 10 |
| | Dark gray silt; Moist; Firm | | | | | | | | | |
| 15 | Softer; Trace sand | 4 | | 100 | | | | | | 15 |
| 20 | Sandy | 5 | | 100 | | | | Wet seam @ 19'<br>Wet seam @ 20.7' | | 20 |
| 25 | | 6 | | 100 | | | | | | 25 |
| 30 | Gray fine to medium sand | | | | | | | | | 30 |

Water Level_____ after_____ hrs.

# RAPPS

ENGINEERING and APPLIED SCIENCE

821 SOUTH DURKIN – SPRINGFIELD IL 62704 – (217)787-2118

## BORING LOG

Site Name: FGDS Development Landfill — Boring No: AW-2

Drilling Firm: Reynolds Drilling Corp. — Drilling Method: HSA — Surface Elev: 526.68

Logged By: KJM — Checked By: KJM — Date Started: 1/2/09 — Completed: 1/2/09

| DEPTH | Material Description<br>Classification System | Sampling: Tube No. | Sampling: Type | Sampling: % Rec. | Tests: OVM (ppm) | Tests: Qu tsf PEN | Tests: Moist | Comments | Well | DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | Gravelly @ base<br>End of Boring @ 32.22' | 7 | 5' CONTINUOUS SAMPLER | 100 | | | | Refusal<br>Broken shale in bit | | 30 |
| 35 | | | | | | | | | | 35 |
| 40 | | | | | | | | | | 40 |
| 45 | | | | | | | | | | 45 |
| 50 | | | | | | | | | | 50 |
| 55 | | | | | | | | | | 55 |
| 60 | | | | | | | | | | 60 |

Water Level_____ after_____ hrs.

# RAPPS

ENGINEERING and APPLIED SCIENCE

# BORING LOG

821 SOUTH DURKIN – SPRINGFIELD IL 62704 – (217)787-2118

Site Name: FGDS Development Landfill — Boring No: AW-3

Drilling Firm: Reynolds Drilling Corp. — Drilling Method: HSA — Surface Elev: 537.75

Logged By: KJM — Checked By: KJM — Date Started: 12/30/08 — Completed: 12/31/08

| DEPTH | Material Description<br>Classification System | Sampling: Tube No. | Sampling: Type | Sampling: % Rec. | Tests: OVM (ppm) | Tests: Qu t/sf PEN | Tests: Moist | Comments |
|---|---|---|---|---|---|---|---|---|
| 0 | Dark brown clayey silt; Moist; Firm; Organic debris & plant roots | | | | | | | |
| | Gray to brown mottled silty clay; Moist; Firm; Trace sand; Laminated; Fe oxidation stains | 1 | 5' CONTINUOUS SAMPLER | 100 | | | | |
| 5 | | 2 | | 100 | | | | |
| 10 | | 3 | | 95 | | | | Wet seam @ 11.5' |
| 15 | Gray sandy clay; Moist; Firm; Finely laminated | 4 | | 95 | | | | Water on rods |
| 20 | | 5 | | 80 | | | | |
| 25 | Dark gray sandy silt; Moist; Soft to firm; Some clay | 6 | | 30 | | | | No recovery 26.5'–30' |
| 30 | | | | | | | | |

Well

Water Level _____ after _____ hrs.

# RAPPS

ENGINEERING and APPLIED SCIENCE

821 SOUTH DURKIN – SPRINGFIELD IL 62704 – (217)787-2118

## BORING LOG

Site Name: FGDS Development Landfill — Boring No: AW-3

Drilling Firm: Reynolds Drilling Corp. — Drilling Method: HSA — Surface Elev: 537.75

Logged By: KJM — Checked By: KJM — Date Started: 12/30/08 — Completed: 12/31/08

| DEPTH | Material Description<br>Classification System | Sampling<br>Tube No. | Type | % Rec. | Tests<br>OVM (ppm) | Qu t/sf PEN | Moist | Comments | Well | DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | Dark gray silt; Trace sand | 7 | 5' CONTINUOUS SAMPLER | 100 | | | | | | 30 |
| 35 | Sandy | | | | | | | | | 35 |
| | Gray fine to medium silty sand; Wet; Gravelly @ base | 8 | | 100 | | | | | | |
| 40 | Gray shale | | | | | | | Broken shale in bit<br>No recovery past 40' | | 40 |
| | End of Boring @ 41.83' | 9 | | 0 | | | | Refusal | | |
| 45 | | | | | | | | | | 45 |
| 50 | | | | | | | | | | 50 |
| 55 | | | | | | | | | | 55 |
| 60 | | | | | | | | | | 60 |

Water Level_____ after_____ hrs.

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power – FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,612.8
Easting: 2,130.0

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-1
Well No.: G-121
Surf. Elev.: 553.80

Depth Information:
Total: 56.70
Auger: 56.70
Core: 0.00

Dates:
Start: 05/17/96
Finish: 05/17/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 – 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ – Continuous Barrel ☒ – Split Spoon ⧄ – Shelby Tube ▮ – Core ☐ – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | 2.25 | | Stickup = 1.87' | | Brown with 35% dark brown mottles, dry, firm, silty CLAY, trace sand. | | 553.80 |
| | 1 | | | 5.0 | | 2.25 | | Concrete | | | | |
| | | | | | | 3.25 | | | | | | 550 |
| 5 | | | | | | 2.75 | | | | | | |
| | | | | | | 3.00 | | | | Brown, moist, firm, silty CLAY, trace sand. | | |
| | 2 | | | 5.0 | | 2.25 | | | | Dark brown with 10% greenish blue mottles, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | 2.75 | | | | Brown, moist, firm, silty CLAY, trace sand. | | 545 |
| | | | | | | 3.00 | | | | | | |
| 10 | | | | | | | | | | Dark brown, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | 4.5+ | | | | | | |
| | 3 | | | 5.0 | | 3.00 | | | | | | |
| | | | | | | 2.00 | | | | | | |
| | | | | | | 3.50 | | | | | | 540 |
| 15 | | | | | | | | | | Black, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | 3.25 | | | | Dark brown, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | 4.25 | | | | | | |
| | 4 | | | 5.0 | | 4.00 | | | | Very dark brown, dry, friable, silty CLAY, trace sand, trace roots. *topsoil* | | |
| | | | | | | 3.00 | | | | | | 535 |
| 20 | | | | | | | | | | Brown, moist, firm, silty CLAY, trace sand. | | |

High-solids Bentonite Grout

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power – FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,612.8
Easting: 2,130.0

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-1
Well No.: G-121
Surf. Elev.: 553.80

Depth Information:
Total: 56.70
Auger: 56.70
Core: 0.00

Dates:
Start: 05/17/96
Finish: 05/17/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 – 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ – Continuous Barrel ⊠ – Split Spoon ⧄ – Shelby Tube ▮ – Core ☐ – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 3.00 | | | | Brown, moist, firm, silty CLAY, trace sand. | | |
| | 5 | | | 5.0 | | 2.00 | | | | | | |
| | | | | | | 1.75 | | | | Brown with 40% greenish brown mottles, moist, soft, silty CLAY, trace sand, trace roots. | | |
| | | | | | | 0.75 | | | | Greenish brown, very moist, soft, silty CLAY, trace sand. | | 530 |
| 25 | | | | | | <.50 | | | | Light brown with 15% greenish brown mottles, very moist, firm, silty CLAY, trace sand. | | |
| | 6 | | | 5.0 | | 2.50 | | | | | | |
| | | | | | | 2.50 | | | | | | |
| | | | | | | 2.00 | | | | | | |
| | | | | | | 2.50 | | | | | | 525 |
| 30 | | | | | | 2.00 | | | | | | |
| | | | | | | <.50 | | | | Light brown with 20% light gray mottles, very moist, soft, silty CLAY, trace sand. | | |
| | 7 | | | 5.0 | | 1.25 | | | | | | |
| | | | | | | 1.75 | | | | | | |
| | | | | | | 3.75 | | | | Gray, moist, hard, silty CLAY, with sand. | | 520 |
| 35 | | | | | | 1.00 | | | | Very dark brown, moist, soft, clayey SILT, trace plant fragments. | | |
| | | | | | | <.50 | | | | Dark gray, moist, soft, clayey SILT, trace plant fragements. *more clayey with depth* | | |
| | 8 | | | 5.0 | | <.50 | | | | Very dark gray, moist, soft, silty CLAY, with very fine-grained sand. | | |
| | | | | | | <.50 | | | | | | 515 |
| | | | | | | <.50 | | | | | | |
| 40 | | | | | | <.50 | | | | | | |

Borehole Detail: High-solids Bentonite Grout

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power – FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,612.8
Easting: 2,130.0

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-1
Well No.: G-121
Surf. Elev.: 553.80

Depth Information:
Total: 56.70
Auger: 56.70
Core: 0.00

Dates:
Start: 05/17/96
Finish: 05/17/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 – 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ – Continuous Barrel ⊠ – Split Spoon ⧄ – Shelby Tube ▮▮ – Core ☐ – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Very dark gray, moist, soft, silty CLAY, with very fine-grained sand. | | |
| | | | | | | 1.00 | | | | | | |
| | | | | | | 1.00 | | | | | | |
| | 9 | | | 5.0 | | 1.50 | | | | | | |
| | | | | | | 1.00 | | | | Very dark gray, very moist, soft to firm, sandy/silty CLAY. | | 510 |
| 45 | | | | | | 1.00 | | | | | | |
| | | | | | | | | | | Very dark gray, very moist, soft, silty CLAY, with very fine-grained sand. | | |
| | 10 | | | 5.0 | | 1.00 | | | | | | |
| | | | | | | | | | | Very dark gray, very moist, soft to firm, sandy/silty CLAY. | | 505 |
| 50 | | | | | | 1.00 | | | | | | |
| | 11 | | | 5.0 | | | | | | Very dark gray, wet, soft, clayey, very fine- to fine-grained SAND. | | |
| | | | | | | | | | | Dark gray, very moist, soft, sandy CLAY. | | |
| | | | IIA | | | | | | | Gray, wet, fine- to medium-grained SAND. | | 500 |
| 55 | | | | | 31 | | | | | Gray, moist, firm, clayey SILT, with sand and rock fragments. | | |
| | 12 | | | 1.6 | 34 35 48 | 4.5+ | | | | Gray, dry, hard, SHALE. | | |
| | | | | | | | | | | Gray, dry, hard, fine-grained, SANDSTONE. | | |
| | | | | | | | | | | *End of Boring = 56.70 feet (497.10' MSL)* | | 495 |
| 60 | | | | | | | | | | | | |

Borehole Detail: High-solids Bentonite Grout; Bentonite Chips; Filter Pack

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power - FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,613.2
Easting: 2,305.1

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-2
Well No.: G-122
Surf. Elev.: 552.70

**Depth Information:**
Total: 58.40
Auger: 58.40
Core: 0.00

**Dates:**
Start: 05/20/96
Finish: 05/20/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ - Continuous Barrel ☒ - Split Spoon ⧄ - Shelby Tube ▮ - Core ☐ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Stickup = 1.74' | | | | |
| | | | | | | | | Concrete | | | | |
| | 1 | | | 4.7 | | 3.50 | | | | Brown, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | 3.00 | | | | Very dark brown, moist, firm, silty CLAY, trace sand. | | 550 |
| | | | | | | 3.00 | | | | | | |
| | | | | | | 4.5+ | | | | Brown, moist, hard to firm, silty CLAY, trace sand. | | |
| 5 | | | | | | 3.50 | | | | | | |
| | 2 | | | 5.0 | | 2.50 | | | | | | |
| | | | | | | 3.00 | | | | | | |
| | | | | | | 3.00 | | | | Very dark brown with 40% brown mottles, moist, firm, silty CLAY, trace sand. | | 545 |
| | | | | | | 4.5+ | | | | | | |
| 10 | | | | | | 4.00 | | | | | | |
| | | | | | | 3.25 | | | | Brown, moist, firm, silty CLAY, trace sand. | | |
| | 3 | | | 5.0 | | 2.25 | | | | | | |
| | | | | | | 2.50 | | | | Dark brown with 50% brown mottles, moist, firm, silty CLAY, trace sand. | | 540 |
| | | | | | | 1.25 | | | | | | |
| 15 | | | | | | 2.25 | | | | Very dark brown, firm, moist, silty CLAY, trace sand. | | |
| | | | | | | 3.50 | | | | | | |
| | 4 | | | 5.0 | | 4.25 | | | | Brown, moist, soft, silty CLAY, trace sand. | | |
| | | | | | | 3.25 | | | | Dark brown, moist, soft, silty CLAY, trace sand. | | 535 |
| | | | | | | 3.00 | | | | | | |
| 20 | 5 | | | | | 4.00 | | | | Very dark brown, dry, friable, clayey SILT, trace sand. | | |

High-solids Bentonite Grout

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power - FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,613.2
Easting: 2,305.1

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-2
Well No.: G-122
Surf. Elev.: 552.70

**Depth Information:**
Total: 58.40
Auger: 58.40
Core: 0.00

**Dates:**
Start: 05/20/96
Finish: 05/20/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ - Continuous Barrel ⊠ - Split Spoon ⧄ - Shelby Tube ▮ - Core ☐ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2.00 | | High-solids Bentonite Grout | | Very dark brown, dry, friable, clayey SILT, trace sand. | | |
| | 5 | | | 5.0 | | 2.50 | | | | | | 530 |
| | | | | | | 3.00 | | | | | | |
| | | | | | | 3.00 | | | | | | |
| 25 | | | | | | 2.75 | | | | Black, dry to slightly moist, friable, clayey SILT, trace sand. | | |
| | | | | | | 2.25 | | | | Very dark brown, moist, firm to soft, silty CLAY, trace sand. | | |
| | 6 | | | 5.0 | | 1.00 | | | | | | 525 |
| | | | | | | <.50 | | | | Dark brown, very moist, soft, silty CLAY, trace sand. | | |
| 30 | | | | | | <.50 | | | | | | |
| | | | | | | <.50 | | | | Brownish gray, very moist, soft, silty CLAY, trace sand. | | |
| | 7 | | | 5.0 | | <.50 | | | | | | 520 |
| | | | | | | 1.00 | | | | | | |
| | | | | | | 1.00 | | | | Gray with 25% reddish brown mottles, very moist, soft, silty CLAY, trace sand. | | |
| 35 | | | | | | 1.00 | | | | | | |
| | | | | | | 1.50 | | | | | | |
| | 8 | | | 5.0 | | <.50 | | | | | | 515 |
| | | | | | | 1.25 | | | | | | |
| | | | | | | 1.25 | | | | | | |
| 40 | 9 | | | | | 1.00 | | | | | | |

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power - FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,613.2
Easting: 2,305.1

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-2
Well No.: G-122
Surf. Elev.: 552.70

Depth Information:
Total: 58.40
Auger: 58.40
Core: 0.00

Dates:
Start: 05/20/96
Finish: 05/20/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ - Continuous Barrel ⊠ - Split Spoon ⧄ - Shelby Tube ▮ - Core □ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture |
|---|---|---|---|---|---|---|---|
| 45 | 9 | | | 5.0 | | 1.25 | |
| | | | | | | 1.00 | |
| | | | | | | 1.00 | |
| | | | | | | <.50 | |
| | 10 | | 10A | 5.0 | | 1.50 | |
| | | | | | | 2.00 | |
| 50 | | | | | | 1.00 | |
| | 11 | | 11A | 3.0 | | | |
| 55 | 12 | ⊠ | 12A | 2.0 | 3<br>10<br>12<br>10 | | |
| | 13 | ⊠ | | 1.7 | 0<br>3<br>4<br>23 | | |
| 60 | | | | | | | |

Borehole Detail: High-solids Bentonite Grout; Bentonite Chips; Filter Pack and/or Formation Sand

| Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|
| | Gray with 25% reddish brown mottles, very moist, soft, silty CLAY, trace sand. | | |
| | Gray, very moist, soft, silty CLAY, with very fine-grained sand. | | |
| | Gray, very moist, soft, sandy CLAY. | | 510 |
| | Dark gray, moist, soft to firm, silty CLAY. | | |
| | Gray, wet, soft, silty, very fine- to fine-grained SAND. | | |
| | Dark gray, moinst, soft, silty CLAY, trace sand. | | |
| | Gray, moist, soft, clayey SILT, trace sand. | | |
| | Gray, wet, soft, fossiliferous, fine- to medium-grained SAND. *Small (3-7 mm.)* Bivalvia *and* Gastropoda. | | 505 |
| | Gray, very moist, soft, clayey SILT, trace sand. | | |
| | Gray, wet, soft, fine- to very coarse-grained, SAND, with shell fragments. | | |
| | Gray, very moist, soft, clayey SILT, with sand. | | |
| | Bluish gray, moist, soft, silty CLAY. | | |
| | Gray, wet, soft, fine- to very coarse-grained, SAND, with shell fragments. | | 500 |
| | Gray, wet, soft, fine- to medium-grained, SAND, with shell fragments. | | |
| | Dark gray, moist, soft, silty CLAY, trace sand. | | 495 |
| | Gray, dry, hard, SHALE. | | |
| | *End of Boring = 58.70 feet (494.00' MSL)* | | |

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power – FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,615.9
Easting: 2,481.5

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-3
Well No.: G-123
Surf. Elev.: 552.20

Depth Information:
Total: 57.80
Auger: 57.80
Core: 0.00

Dates:
Start: 05/16/96
Finish: 05/16/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 – 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▯ – Continuous Barrel ⊠ – Split Spoon ⧄ – Shelby Tube ▮▯ – Core ▯ – Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Stickup = 1.70' | | Dark brown, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | | | Concrete | | Brown, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | | | | | Dark brown, moist, firm, silty CLAY, trace sand. | | |
| | 1 | | | 4.9 | | 3.00 | | | | | | |
| | | | | | | 4.00 | | | | Brown with 10% dark brown mottles, moist, firm, silty CLAY, trace sand. | | 550 |
| 5 | | | | | | | | | | Dark brown, moist, firm, silty CLAY, trace sand. | | |
| | | | | | | 3.00 | | | | | | |
| | 2 | | | 5.0 | | 2.50 | | | | | | |
| | | | | | | 2.00 | | | | | | 545 |
| | | | | | | 1.50 | | | | Brown, moist, soft, silty CLAY, trace sand. | | |
| 10 | | | | | | | | | | Dark brown, moist, soft, silty CLAY, trace sand. | | |
| | | | | | | 1.75 | | | | Brown, moist, soft, silty CLAY, trace sand. | | |
| | | | | | | 1.75 | | | | | | |
| | 3 | | | 5.0 | | 2.50 | | | | Yellowish brown, moist, soft, silty CLAY, trace sand, trace fly ash. | | 540 |
| | | | | | | 2.00 | | | | Dark brown with 30% greenish blue mottles, very moist, soft, silty CLAY, trace sand. | | |
| 15 | | | | | | | | | | Dark brown, very moist, soft, silty CLAY, trace sand. | | |
| | | | | | | 3.25 | | | | | | |
| | | | | | | 4.00 | | | | Yellowish brown, slightly moist, hard, silty CLAY, trace sand. | | |
| | 4 | | | 5.0 | | 3.75 | | | | | | 535 |
| | | | | | | 4.00 | | | | Dark brown, very moist, soft, silty CLAY, trace sand. | | |
| | | | | | | | | | | Yellowish brown, slightly moist, friable, silty CLAY, trace sand. | | |
| 20 | | | | | | | | High-solids Bentonite Grout | | Dark brown, moist, firm, silty CLAY, trace sand. | | |

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power - FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,615.9
Easting: 2,481.5

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-3
Well No.: G-123
Surf. Elev.: 552.20
Depth Information:
Total: 57.80
Auger: 57.80
Core: 0.00
Dates:
Start: 05/16/96
Finish: 05/16/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: - Continuous Barrel - Split Spoon - Shelby Tube - Core - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 3.00 | | | | Black, moist, firm, silty CLAY, trace sand, trace fly ash, trace plant fragments. | | |
| | | | | | | 3.50 | | | | Black, moist, firm, silty CLAY, trace sand. | | |
| | 5 | | | 5.0 | | 1.25 | | | | | | 530 |
| | | | | | | 1.00 | | | | Black, moist, soft, clayey SILT, trace sand. | | |
| 25 | | | | | | 1.00 | | | | Black, moist, soft, silty CLAY, trace sand. | | |
| | | | | | | <.50 | | | | | | |
| | | | | | | <.50 | | | | Dark brown, moist, soft, silty CLAY, trace sand. | | |
| | 6 | | | 5.0 | | <.50 | | | | | | 525 |
| | | | | | | <.50 | | | | Brown, very moist, soft, silty CLAY, trace sand. | | |
| | | | | | | <.50 | | | | Gray, very moist, soft, silty, very fine- to fine-grained SAND. | | |
| 30 | | | | | | <.50 | | | | Brown, very moist, soft, silty CLAY, trace sand. | | |
| | | | | | | <.50 | | | | | | |
| | 7 | | | 4.3 | | | | | | Gray, wet, soft, silty, very fine- to fine-grained SAND. | | 520 |
| | | | | | | | | | | Gray, very moist, soft, silty CLAY, with sand. | | |
| | | | | | | <.50 | | | | | | |
| 35 | | | | | | | | | | Gray, very moist, soft, clayey SILT, with sand and plant fragments. | | |
| | | | | | | <.50 | | | | *Peat layer at 35.5'-35.6'* | | |
| | 8 | | | 5.0 | | <.50 | | | | Gray, very moist, soft, sandy SILT, trace organic matter. | | 515 |
| | | | | | | | | | | Gray, very moist, soft, silty CLAY, with sand and plant fragments. | | |
| 40 | | | | | | | | | | Gray, wet, fine-grained SAND. | | |

High-solids Bentonite Grout
Bentonite Chips
Filter Pack

NOTES:

# Andrews Environmental Engineering, Inc.

3535 Mayflower Boulevard, Springfield, IL 62707 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light & Power - FGDS Development
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEEI No.: 93-118

**Location:**
Coord. System: Site Grid
Northing: 5,615.9
Easting: 2,481.5

**Weather:**
Sunny, calm, warm (hi-80's)

**Boring Information:**
Boring No.: B96-3
Well No.: G-123
Surf. Elev.: 552.20
Depth Information:
Total: 57.80
Auger: 57.80
Core: 0.00
Dates:
Start: 05/16/96
Finish: 05/16/96

**Drilling Contractor:**
Name: AE Explortation Corp.
City: Springfield, IL
Equipment: CME 75 - 4¼" HSA /w 5 foot continuous barrel sampler.

**Personnel:**
Geologist: R. Hasenyager
Driller: A. Wiesenhofer
Helper (s): K. Doetzel

Sample Type: ▮ - Continuous Barrel ⊠ - Split Spoon ⧄ - Shelby Tube ▮▮ - Core ☐ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Molsture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Gray, wet, fine-grained SAND. | | |
| | | | | | | | | | | Gray, wet, fine-grained SAND, trace plant fragments. | | |
| | | | | | | | | | | Gray, very moist, soft, silty CLAY, with sand. | | |
| | 9 | | 9A | 2.1 | | | | | | Gray, wet, fine-grained SAND, trace *Gastropoda* fossils. | | 510 |
| 45 | | | | | | | | | | | | |
| | | | | | | | | | | Gray, wet, very fine- to fine-grained SAND, trace coarse sand and shale fragments. | | |
| | 10 | | 10A | 3.0 | | | | | | | | 505 |
| 50 | | | | | | | | | | | | |
| | 11 | | 11A | 3.6 | | | | | | Brown, wet, medium- to very coarse-grained SAND, trace shale and sandstone fragments. | | 500 |
| 55 | | | | | 31 | | | | | | | |
| | 12 | | | 1.5 | 34 35 48 | | | | | | | |
| | 13 | | | 0.8 | | | | | | Gray, dry, hard, SHALE | | 495 |
| | | | | | | | | | | Gray, dry, hard, fine-grained, SANDSTONE. | | |
| 60 | | | | | | | | | | *End of Boring = 57.80 feet (494.40' MSL)* | | |

Filter Pack

Bentonite Chips

NOTES:

# APPENDIX A3:
## IMPOUNDMENT WELL BORING LOGS

Professional Service Industries, Inc.
480 North Street
Springfield, Illinois 62704
Telephone: 217/544-6663
Fax: 217/544-6143

# LOG OF BORING AP-1



PSI Job No.: 0020522
Project: Piezometer Installation
Location: CWLP Ash Pond
East Lake Shore Drive
Springfield, Illinois

Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon
Hammer Type: CME Automatic; ETR = 86%
Boring Location: See attached boring location plan.

**WATER LEVELS**

| | |
|---|---|
| While Drilling | 9 feet |
| Upon Completion | N/A |
| Delay | N/A |

Station: N/A
Offset: N/A

| Elevation (feet) | Depth, (feet) | Graphic Log | Sample Type | Sample No. | Recovery (inches) | MATERIAL DESCRIPTION | USCS Classification | SPT Blows per 6-inch (SS) | Moisture, % | STANDARD PENETRATION TEST DATA: N in blows/ft; Moisture; PL; LL; STRENGTH, tsf: Qu; Qp | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | | 1 | 18 | Dark brown silty CLAY, very stiff, slightly moist | CL | 7-8-9 $N_{60}$=24 | | | |
| | | | | 2 | 18 | Dark brown clayey SILT, stiff, slightly moist | ML | 5-5-5 $N_{60}$=14 | | | |
| | 5 | | | 3 | 18 | Gray clayey SILT, trace brown, firm, moist | | 2-2-3 $N_{60}$=7 | | | |
| | | | | 4 | 18 | | ML | 2-2-3 $N_{60}$=7 | | | |
| | 10 | | | 5 | 18 | | | 1-2-2 $N_{60}$=6 | | | |
| | | | | 6 | 18 | Gray silty CLAY, few brown sand, firm, saturated | CL | 1-2-2 $N_{60}$=6 | | | |
| | 15 | | | 7 | 18 | Gray sandy CLAY, stiff, saturated | CLS | 4-3-4 $N_{60}$=10 | | | |
| | | | | 8 | 18 | Blue-gray clayey SILT, soft to very stiff, moist to saturated | | 3-3-4 $N_{60}$=10 | | | |
| | 20 | | | | | | ML | | | | |
| | 25 | | | 9 | 18 | | | 1-2-1 $N_{60}$=4 | | | |
| | | | | 10 | 18 | Gray SAND with SILT, medium dense/very stiff, saturated | SW-SM | 6-7-6 $N_{60}$=19 | | | |
| | 30 | | | 11 | 6 | Gray SHALE, hard, slightly moist | CL | 50/6" | | | |
| | | | | | | Boring terminated ay -31.5' | | | | | |
| | 35 | | | | | | | | | | |

Well Diagram: J-Plug; Concrete Cap; 2" PVC Solid Riser; Bentonite Seal; Sand Filter Pack; 0.01" PVC Slotted Well Screen

Completion Depth: 35.0 ft
Date Boring Started: 4/21/10
Date Boring Completed: 4/21/10
Logged By: Rob Preuss
Drilling Contractor: PSI, Inc.

Sample Types:
Auger Cutting; Split-Spoon; Rock Core; Shelby Tube; Hand Auger; Texas Cone

Latitude:
Longitude:
Drill Rig: ATV D50
Remarks: $N_{60}$ denotes the normalization to 60% efficiency as described in ASTM D4633. Moistures determined by visual methods.

The stratification lines represent approximate boundaries. The transition may be gradual.

Professional Service Industries, Inc.
480 North Street
Springfield, Illinois 62704
Telephone: 217/544-6663
Fax: 217/544-6143

# LOG OF BORING AP-2



| | | | |
|---|---|---|---|
| PSI Job No.: | 0020522 | Drilling Method: | Hollow Stem Auger |
| Project: | Piezometer Installation | Sampling Method: | Split Spoon |
| Location: | CWLP Ash Pond<br>East Lake Shore Drive<br>Springfield, Illinois | Hammer Type: | CME Automatic; ETR = 86% |
| | | Boring Location: | See attached boring location plan. |

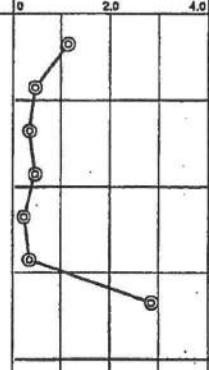
**WATER LEVELS**

| | |
|---|---|
| While Drilling | 9 feet |
| Upon Completion | N/A |
| Delay | N/A |

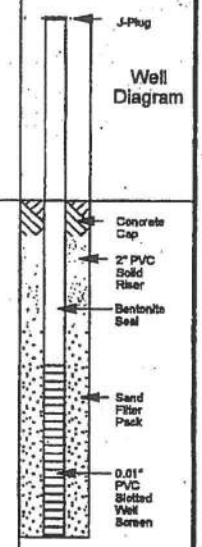
Station: N/A
Offset: N/A

| Elevation (feet) | Depth, (feet) | Graphic Log | Sample Type | Sample No. | Recovery (inches) | MATERIAL DESCRIPTION | USCS Classification | SPT Blows per 6-inch (SS) | Moisture, % | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | | 1 | 10 | Dark brown silty CLAY, some sand, stiff, slightly moist (FILL) | CL | 4-4-6<br>$N_{60}$=14 | | |
| | 5 | | | 2 | 8 | Dark brown silty CLAY, soft to firm, moist | CL | 2-2-2<br>$N_{60}$=6 | | |
| | | | | 3 | 6 | Gray silty CLAY, soft to firm, moist | CL | 1-1-2<br>$N_{60}$=4 | | |
| | 10 | | | 4 | 18 | Gray clayey SILT, soft to firm, saturated | | 2-2-2<br>$N_{60}$=6 | | |
| | | | | 5 | 18 | | ML | 2-1-1<br>$N_{60}$=3 | | |
| | 15 | | | 6 | 18 | | | 2-1-2<br>$N_{60}$=4 | | |
| | | | | 7 | 18 | Light gray SAND, dense, saturated | SP | 4-9-16<br>$N_{60}$=36 | | |
| | 20 | | | 8 | 14 | Gray SHALE, hard, slightly moist | CL | 19-24-50/2' | | |
| | | | | | | Boring terminate at -20' | | | | |

STANDARD PENETRATION TEST DATA
N in blows/ft ◎
× Moisture ◪ PL ✚ LL
0 25 50
STRENGTH, tsf
▲ Qu ✳ Qp
0 2.0 4.0



Well Diagram




| | | | |
|---|---|---|---|
| Completion Depth: | 20.0 ft | Sample Types: | Latitude: |
| Date Boring Started: | 4/21/10 | Auger Cutting; Shelby Tube | Longitude: |
| Date Boring Completed: | 4/21/10 | Split-Spoon; Hand Auger | Drill Rig: ATV D50 |
| Logged By: | Rob Preuss | Rock Core; Texas Cone | Remarks: $N_{60}$ denotes the normalization to 60% efficiency as described in ASTM D4633. Moistures determined by visual methods |
| Drilling Contractor: | PSI, Inc. | | |

The stratification lines represent approximate boundaries. The transition may be gradual.

Professional Service Industries, Inc.
480 North Street
Springfield, Illinois 62704
Telephone: 217/544-6663
Fax: 217/544-6143

# LOG OF BORING AP-3

Sheet 1 of 1

PSI Job No.: 0020522
Project: Piezometer Installation
Location: CWLP Ash Pond
East Lake Shore Drive
Springfield, Illinois

Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon
Hammer Type: CME Automatic; ETR = 86%
Boring Location: See attached boring location plan.

WATER LEVELS
While Drilling: None feet
Upon Completion: N/A
Delay: N/A

Station: N/A
Offset: N/A

| Elevation (feet) | Depth, (feet) | Graphic Log | Sample Type | Sample No. | Recovery (inches) | MATERIAL DESCRIPTION | USCS Classification | SPT Blows per 6-inch (SS) | Moisture, % | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | SS | 1 | 18 | Dark brown silty CLAY, very stiff, slightly moist | CL | 6-7-8<br>$N_{60}$=21 | | |
| | 5 | | SS | 2 | 18 | Gray/brown clayey SILT, soft to stiff, moist to saturated | ML | 3-3-4<br>$N_{60}$=10 | | |
| | | | SS | 3 | 18 | | | 1-1-1<br>$N_{60}$=3 | | |
| | 10 | | SS | 4 | 18 | Gray clayey SILT, soft to very stiff, saturated | | 2-1-2<br>$N_{60}$=4 | | |
| | | | SS | 5 | 18 | | | 2-2-4<br>$N_{60}$=9 | | |
| | 15 | | SS | 6 | 16 | | ML | 2-2-4<br>$N_{60}$=9 | | |
| | | | SS | 7 | 18 | | | 4-4-6<br>$N_{60}$=14 | | |
| | 20 | | SS | 8 | 10 | Gray SHALE, hard, slightly moist<br>Boring terminated at -19.5 | CL | 32-50/3" | | |

STANDARD PENETRATION TEST DATA
N in blows/ft
Moisture PL LL
0 25 50
STRENGTH, tsf
Qu Qp
0 2.0 4.0

Well Diagram: J-Plug; Concrete Cap; 2" PVC Solid Riser; Bentonite Seal; Sand Filter Pack; 0.01" PVC Slotted Well Screen

Completion Depth: 20.0 ft
Date Boring Started: 4/21/10
Date Boring Completed: 4/21/10
Logged By: Rob Preuss
Drilling Contractor: PSI, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Shelby Tube
Hand Auger
Texas Cone

Latitude:
Longitude:
Drill Rig: ATV D50
Remarks: $N_{60}$ denotes the normalization to 60% efficiency as described in ASTM D4633. Moistures determined by visual methods

The stratification lines represent approximate boundaries. The transition may be gradual.

Professional Service Industries, Inc.
480 North Street
Springfield, Illinois 62704
Telephone: 217/544-6663
Fax: 217/544-6143

# LOG OF BORING AP-4

Sheet 1 of 1

PSI Job No.: 0020522
Project: Piezometer Installation
Location: CWLP Ash Pond
East Lake Shore Drive
Springfield, Illinois

Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon
Hammer Type: CME Automatic; ETR = 86%
Boring Location: See attached boring location plan.

WATER LEVELS

| | |
|---|---|
| While Drilling | 11 feet |
| Upon Completion | N/A |
| Delay | N/A |

Station: N/A
Offset: N/A

| Elevation (feet) | Depth, (feet) | Graphic Log | Sample Type | Sample No. | Recovery (inches) | MATERIAL DESCRIPTION | USCS Classification | SPT Blows per 6-inch (SS) | Moisture, % | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | | | | | | | | |
| | | | | 1 | 17 | Brown silty CLAY, some brown sand, firm to stiff, slightly moist (FILL) | CL | 4-4-3 $N_{60}$=10 | | |
| | 5 | | | 2 | 18 | Brown silty CLAY, trace roots, firm to stiff, moist (FILL) | CL | 4-3-2 $N_{60}$=7 | | |
| | | | | 3 | 10 | Brown SILT, trace gray, firm to stiff, moist (FILL) | ML | 6-3-2 $N_{60}$=7 | | |
| | | | | 4 | 12 | | | 2-2-4 $N_{60}$=9 | | |
| | 10 | | | 5 | 18 | 5" Brown SAND transitioning to Black FLY ASH at 9.4', stiff to very stiff, slightly moist (FILL) | SAND/FLY ASH | 2-2-2 $N_{60}$=6 | | |
| | | | | 6 | 16 | | | 2-1-1 $N_{60}$=3 | | |
| | 15 | | | 7 | 16 | | | 6-6-5 $N_{60}$=16 | | |
| | | | | 8 | 18 | Black FLY ASH, some fine sub-round gravel, stiff to very stiff, moist to saturated (FILL) | FLY ASH | 3-3-3 $N_{60}$=9 | | |
| | 20 | | | | | Gray/green (organic?) CLAY, stiff, trace fine sand, moist to saturated | | | | |
| | | | | 9 | 1 | | CL | 3-3-4 $N_{60}$=10 | | |
| | 25 | | | | | | | | | |
| | | | | 10 | 18 | Brown/gray silty CLAY, fiorm to stiff, saturated | CL | 2-2-3 $N_{60}$=7 | | |
| | 30 | | | | | | | | | |
| | | | | 11 | 18 | Gray SILT, stiff to very stiff, saturated | | 3-3-4 $N_{60}$=10 | | |
| | 35 | | | | | | | | | |
| | | | | 12 | 18 | | ML | 4-4-4 $N_{60}$=11 | | |
| | 40 | | | | | | | | | |
| | | | | 13 | 18 | | | 4-4-6 $N_{60}$=14 | | |
| | 45 | | | | | | | | | |
| | | | | 14 | 18 | Gray fine to coarse SAND, medium dense, saturated | | 4-5-7 $N_{60}$=17 | | |
| | 50 | | | | | | | | | |
| | | | | 15 | 18 | | SW | 5-5-7 $N_{60}$=17 | | |
| | 55 | | | | | | | | | |
| | | | | 16 | 1 | Gray SHALE, hard, moist | CL | 50/1" | | |
| | 60 | | | | | Boring terminated at -60' | | | | |

STANDARD PENETRATION TEST DATA
N in blows/ft
Moisture PL LL
0 25 50
STRENGTH, tsf
Qu Qp
0 2.0 4.0

Well Diagram: J-Plug; Concrete Cap; 2" PVC Solid Riser; Bentonite Seal; Sand Filter Pack; 0.01" PVC Slotted Screen

Completion Depth: 60.0 ft
Date Boring Started: 4/20/10
Date Boring Completed: 4/20/10
Logged By: Rob Preuss
Drilling Contractor: PSI, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Shelby Tube
Hand Auger
Texas Cone

Latitude:
Longitude:
Drill Rig: ATV D50
Remarks: $N_{60}$ denotes the normalization to 60% efficiency as described in ASTM D4633. Moistures determined by visual methods.

The stratification lines represent approximate boundaries. The transition may be gradual.

# Andrews Engineering, Inc.

3300 Ginger Creek Drive, Springfield, IL 62711 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, & Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 2011-127

**Location:**
Coord. System: Site Grid
Northing: 5132.40
Easting: 831.70

**Weather:**
Cloudy; 38° F; West 10-15 MPH

**Boring Information:**
Boring No.: AP-1R
Well No.: AP-1R
Surf. Elev.: 533.10

Depth Information:
Total: 32.50
Auger: 32.50
Core:

Dates:
Start: 1/30/2012
Finish: 1/30/2012

**Drilling Contractor:**
Name: Terra Drill, Inc.
City: Dupo, IL
Equipment: CME 550 with 4¼" I.D. HSA and 5' CB

**Personnel:**
Geologist: M. Hewitt
Driller: J. Brown
Helper (s): J. Horn

Sample Type: ▯ - Continuous Barrel ☒ - Split Spoon ⧄ - Shelby Tube ▮▯ - Core ▯ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Slickup = 2.50' | | | | |
| | 1 | | | NA | | | | Concrete | | Dark brown silty CLAY; very stiff; slightly moist | CL | |
| | | | | | | | | | | Dark brown clayey SILT; stiff; slightly moist | ML | 530 |
| 5 | 2 | | | NA | | | | | | Gray clayey SILT; trace brown; firm; moist | ML | 525 |
| 10 | 3 | | | NA | | | | Bentonite Grout | | | | |
| | | | | | | | | | | Gray silty CLAY; few brown sand; firm; saturated | CL | 520 |
| 15 | 4 | | | NA | | | | Bentonite Chips | | Gray sandy CLAY; stiff; saturated | SC | |
| | | | | | | | | | | | | 515 |
| | 5 | | | | | | | Silica Sand | | Blue-gray clayey SILT; soft to very stiff; moist to saturated | ML | |
| 20 | | | | | | | | | | | | |

NOTES: AP-1R blind-drilled to 19.0 ft bgs
Geology from 0-19.0 ft bgs based on AP-1 log

# Andrews Engineering, Inc.

3300 Ginger Creek Drive, Springfield, IL 62711 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, & Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 2011-127

**Location:**
Coord. System: Site Grid
Northing: 5132.40
Easting: 831.70

**Weather:**
Cloudy; 38° F; West 10-15 MPH

**Boring Information:**
Boring No.: AP-1R
Well No.: AP-1R
Surf. Elev.: 533.10

**Depth Information:**
Total: 32.50
Auger: 32.50
Core:

**Dates:**
Start: 1/30/2012
Finish: 1/30/2012

**Drilling Contractor:**
Name: Terra Drill, Inc.
City: Dupo, IL
Equipment: CME 550 with 4¼" I.D. HSA and 5' CB

**Personnel:**
Geologist: M. Hewitt
Driller: J. Brown
Helper (s): J. Horn

Sample Type: ▯ - Continuous Barrel ⊠ - Split Spoon ⁄ - Shelby Tube ▯▯ - Core ☐ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | (Cont'd) Blue-gray clayey SILT; soft to very stiff; moist to saturated | ML | |
| | 5 | | | 100% | | | | | | | | |
| | | | | | | | | | | | | 510 |
| 25 | | | | | | | | | | Gray SAND with silt; medium dense; saturated | SM | |
| | 6 | | | 100% | | | | Silica Sand | | | | |
| | | | | | | | | | | Dark gray SAND and GRAVEL; loose; saturated | SW | 505 |
| 30 | 7 | | | 100% | | | | | | | | |
| | | | | | | | | | | Dark gray SHALE; weathered; dense; moist | CL | |
| | | | | | | | | | | *End of Boring = 32.5 '* | | 500 |
| 35 | | | | | | | | | | | | |
| | | | | | | | | | | | | 495 |
| 40 | | | | | | | | | | | | |

NOTES: AP-1R blind-drilled to 19.0 ft bgs
Geology from 0-19.0 ft bgs based on AP-1 log

# Andrews Engineering, Inc.

3300 Ginger Creek Drive, Springfield, IL 62711 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, & Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 2011-127

**Location:**
Coord. System: Site Grid
Northing: 4184.70
Easting: 725.50

**Weather:**
Cloudy; 38° F; West 10-15 MPH

**Boring Information:**
Boring No.: AP-2R
Well No.: AP-2R
Surf. Elev.: 533.10

**Depth Information:**
Total: 18.50
Auger: 18.50
Core:

**Dates:**
Start: 1/31/2012
Finish: 1/31/2012

**Drilling Contractor:**
Name: Terra Drill, Inc.
City: Dupo, IL
Equipment: CME 550 with 4¼" I.D. HSA and 5' CB

**Personnel:**
Geologist: M. Hewitt
Driller: J. Brown
Helper (s): J. Horn

Sample Type: Continuous Barrel; Split Spoon; Shelby Tube; Core; Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Stickup = 2.50' | | | | |
| | 1 | | | NA | | | | Concrete | | Dark brown silty CLAY; some sand; stiff; slightly moist | | |
| | | | | | | | | Grout | | Dark brown silty CLAY; soft to firm; moist | CL | 530 |
| 5 | | | | | | | | Bentonite Chips | | | | |
| | 2 | | | NA | | | | | | Gray silty CLAY; soft to firm; moist | CL | 525 |
| 10 | | | | | | | | | | Gray clayey SILT; very soft; moist to wet | ML | 520 |
| | 3 | | | 70% | | | | Silica Sand | | | | |
| 15 | | | | | | | | | | Light gray SAND; dense; saturated | SP | |
| | 4 | | | 100% | | | | | | Gray SHALE; hard; slightly moist | CL | 515 |
| 20 | | | | | | | | | | *End of Boring = 18.5'* | | |

NOTES: AP-2R blind-drilled to 10.0 ft bgs
Geology from 0-10.0 ft bgs based on AP-1 log

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 160192

**Location:**
Coord. System: Site Grid
Northing: 4185.2
Easting: 735.9

Weather: Sunny, 40F

**Boring Information:**
Boring No: AP-2A
Well No: AP-2A
Surf Elev.: 533.6

**Depth Information:**
Total: 19.0
Auger: 19.0
Core:

**Dates:**
Start: 2/16/16
Finish: 2/16/16

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo, IL
Equipment: AMS Powerprobe w/ 4.25" HSA and 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: J. Edwards
Helper(s): Z. Strickland

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 533.6 |
| | | | | | | | Blind drilled to 9.0 feet. For detailed geology refer to the original log for AP-2R | |
| | 1 | | | | | | | 530.0 |
| 5 | | | | | | | | |
| | | | | | | | | 525.0 |
| 10 | | | | | | | Gray CLAYEY SILT; moist to wet; moderately loose | |
| | 2 | | 3.2/4 | | | | | |
| | | | | | | | | 520.0 |
| 15 | 3 | | 4.0/4 | | | | | |
| | | | | | | | Light gray SAND; fine to medium grained; saturated; some gravel | |
| | 4 | | 2.0/2 | | | | Gray SHALE; weathered; hard; slightly moist | 515.0 |
| 20 | | | | | | | End of Boring = 19 Feet | |

Notes:

# Andrews Engineering, Inc.

3300 Ginger Creek Drive, Springfield, IL 62711 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, & Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 2011-127

**Location:**
Coord. System: Site Grid
Northing: 3164.10
Easting: 3203.10

**Weather:**
Cloudy; 38° F; West 10-15 MPH

**Boring Information:**
Boring No.: AP-5
Well No.: AP-5
Surf. Elev.: 581.6

Depth Information:
Total: 49.0
Auger: 49.0
Core:

Dates:
Start: 2/1/2012
Finish: 2/1/2012

**Drilling Contractor:**
Name: Terra Drill, Inc.
City: Dupo, IL
Equipment: CME 550 with 4¼" I.D. HSA
5' CB and 2' SS

**Personnel:**
Geologist: M. Hewitt
Driller: J. Brown
Helper (s): J. Horn

Sample Type: - Continuous Barrel - Split Spoon - Shelby Tube - Core - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Slickup = 2.50' | | | | 0 |
| | 1 | | | 100% | | | | Concrete | | Dark yellowish brown silty CLAY; very firm; moist; some dark brown mottling; trace organics | CL | |
| 5 | | | | | | | | | | | | -5 |
| | 2 | | | 76% | | | | Bentonite Grout | | Olive brown clayey SILT; moderately soft; moist; some dark yellowish brown mottling | | |
| | | | | | | | | | | grades dark yellowish brown; clay content increasing | ML | |
| 10 | | | | | | | | | | | | -10 |
| | 3 | | | 100% | | | | | | Olive brown silty CLAY; very firm; moist; trace coarse sand; few iron concretions; some dark yellowish brown mottling | CL | |
| 15 | | | | | | | | | | | | -15 |
| | 4 | | | 100% | | | | Bentonite Chips | | some gravel | | |
| | | | | | | | | Silica Sand | | Dark yellowish brown sandy CLAY; some gravel; very soft; moist to wet | SC | |
| 20 | 5 | | | 100% | | | | | | Dark yellowish brown clayey SILT with sand and gravel; firm; moist | ML-SM | -20 |

NOTES:

# Andrews Engineering, Inc.

3300 Ginger Creek Drive, Springfield, IL 62711 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, & Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 2011-127

**Location:**
Coord. System: Site Grid
Northing: 3164.10
Easting: 3203.10

**Weather:**
Cloudy; 38° F; West 10-15 MPH

**Boring Information:**
Boring No.: AP-5
Well No.: AP-5
Surf. Elev.: 581.6

Depth Information:
Total: 49.0
Auger: 49.0
Core:

Dates:
Start: 2/1/2012
Finish: 2/1/2012

**Drilling Contractor:**
Name: Terra Drill, Inc.
City: Dupo, IL
Equipment: CME 550 with 4¼" I.D. HSA
5' CB and 2' SS

**Personnel:**
Geologist: M. Hewitt
Driller: J. Brown
Helper (s): J. Horn

Sample Type: ▯ - Continuous Barrel ⊠ - Split Spoon ⧄ - Shelby Tube ▮▯ - Core ▯ - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | ⊠ | | | | | | Silica Sand | | (Cont'd) Dark yellowish brown clayey SILT with sand and gravel; firm; moist | ML-SM | 576 |
| | 6 | ⊠ | | 100% | | | | | | Dark yellowish brown SAND; coarse-grained, loose; wet | SP | |
| 25 | 7 | ▯ | | 100% | | | | | | Yellowish gray clayey SILT with sand; trace gravel; very hard; moist | ML | 571 |
| | 8 | ▯ | | 100% | | | | | | Gray silty SAND with clay; some gravel; soft; wet | SM | |
| 30 | 9 | ⊠ | | 90% | | | | | | Gray clayey SILT; some gravel; very hard; moist | | 566 |
| | 10 | ▯ | | 100% | | | | Bentonite Chips | | some shale and coal fragments | ML | |
| 35 | | | | | | | | | | | | 561 |
| | 11 | ▯ | | | | | | | | Light gray silty SAND; some gravel; trace chert; rounded; moderately firm; moist | SM | |
| 40 | | | | | | | | | | | | 556 |

NOTES:

# Andrews Engineering, Inc.

3300 Ginger Creek Drive, Springfield, IL 62711 (217) 787-2334

## Field Boring Log

**Site Information:**
Name: City Water, Light, & Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 2011-127

**Location:**
Coord. System: Site Grid
Northing: 3164.10
Easting: 3203.10

**Weather:**
Cloudy; 38° F; West 10-15 MPH

**Boring Information:**
Boring No.: AP-5
Well No.: AP-5
Surf. Elev.: 581.6

**Depth Information:**
Total: 49.0
Auger: 49.0
Core:

**Dates:**
Start: 2/1/2012
Finish: 2/1/2012

**Drilling Contractor:**
Name: Terra Drill, Inc.
City: Dupo, IL
Equipment: CME 550 with 4¼" I.D. HSA
5' CB and 2' SS

**Personnel:**
Geologist: M. Hewitt
Driller: J. Brown
Helper (s): J. Horn

Sample Type: - Continuous Barrel - Split Spoon - Shelby Tube - Core - Blind Drill

| Depth (ft.) | Run No. | Sample Type | Sample No. | Sample Recov. | Blow Count | $q_p$ [$q_s$] (in tsf) | % Moisture | Borehole Detail | Lithology | Description/*Comments* | USC | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 540 |
| | 11 | | | | | | | | | Dark gray silty CLAY; some gravel; some shale fragments; trace coal fragments; very firm; moist | SM / CL | |
| 45 | 12 | | | 100% | | | | Bentonite Chips | | | | 545 |
| | | | | | | | | | | Gray SHALE; hard; moist | CL | |
| | 13 | | | 55% | | | | | | | | |
| | | | | | | | | | | *End of Boring = 49.0 '* | | |
| 50 | | | | | | | | | | | | 550 |
| 55 | | | | | | | | | | | | 555 |
| 60 | | | | | | | | | | | | 560 |

NOTES:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.:

**Location:**
Coord. System:
Northing: 0
Easting: 0
Weather: sunny, 73 deg

**Boring Information:**
Boring No: TW3E
Well No: TW3E
Surf Elev.: 0

**Depth Information:**
Total: 40.5'
Auger: 40.5'
Core: -

**Dates:**
Start: 06/27/2017
Finish: 06/27/2017

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo
Equipment: 4.25" HSA, CME 55, 5' Continuous Macrocore

**Personnel:**
Geologist: D. Ghosh
Driller: J. Gates
Helper(s): C. Clines

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | 1 | | 4.5/5 | | | | **CLAYEY SILT**<br>dark brown, iron oxidation staining, moist, firm to hard, moderate cementation, with root structure | |
| 5 | 2 | | 5.0/5 | | | | **SILT**<br>brown to gray, iron oxidation, moist, 2" wet seam at 12', firm, moderate cementation, blocky, some clay | -5.0 |
| 10 | 3 | | 5.0/5 | | | | **SILT**<br>gray, firm to hard, trace fine grained sand<br>sandy 14.5-15' | -10.0 |
| 15 | 4 | | 4.5/5 | | | | **SILTY CLAY**<br>dark gray, moist to wet, soft to firm, strong cementation, laminated, some wood fragments | -15.0 |
| 20 | | | | | | | | -20.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: TW3E** Boring No: TW3E Well No: TW3E

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 5.0/5 | | | | cont: dark gray, moist to wet, soft to firm, strong cementation, laminated, some wood fragments | |
| | | | | | | | | -25 |
| 26 | | | | | | | **SILTY CLAY**<br>dark gray, till, moist to wet, soft to firm, moderate cementation, trace fine grained sand and gravel | |
| | 6 | | 3.0/5 | | | | | |
| | | | | | | | | -30 |
| 31 | | | | | | | | |
| | 7 | | 4.5/5 | | | | | |
| | | | | | | | **SANDY SILT**<br>fine grained sand | -35 |
| 36 | | | | | | | | |
| | | | | | | | **SILTY SAND**<br>gray, fine to medeium grained, wet | |
| | 8 | | 4.0/5.5 | | | | medium to coarse grained, trace fine grained, angular | |
| | | | | | | | **SHALE** | -40 |
| 41 | | | | | | | End of Boring = 40.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.:

**Location:**
Coord. System: Site Coordinates
Northing: 5613.3
Easting: 1737.4

Weather: rain, 55 deg; sunny, 73 deg

**Boring Information:**
Boring No: TW3N
Well No: RW-3
Surf Elev.: 536.8

**Depth Information:**
Total: 41.6'
Auger: 41.6'
Core: -

**Dates:**
Start: 06/26/2017
Finish: 06/27/2017

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo
Equipment: 4.25" HSA, CME 55, 5' Continuous Macrocore

**Personnel:**
Geologist: D. Ghosh
Driller: J. Gates
Helper(s): C. Clines

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 536.8 |
| 0 | 1 | | 3.5/5 | | | | **SILTY CLAY**<br>dark brown, pervasive iron oxidation staining, dry (moist below 3'), firm to hard, moderate cementation, with root structure | 535.0 |
| | | | | | | | **SILTY CLAY**<br>light tan, moist, moderate cementation, blocky | |
| 5 | 2 | | 5.0/5 | | | | **SILT**<br>brown to gray, mottling, iron oxidation staining, moist, firm, moderate cementation | 530.0 |
| 10 | 3 | | 4.5/5 | | | | **SAND**<br>sand lens, with silt, wet, trace clay | 525.0 |
| | | | | | | | **SANDY SILT**<br>brown to gray, laminated, some wood fragments, trace coarse sand, coal and roots | |
| 15 | 4 | | 5.0/5 | | | | **SILTY CLAY**<br>gray, wet to moist, very soft, strong cementation, laminated, some wood fragments, trace fine sand | 520.0 |
| 20 | | | | | | | **SILTY CLAY**<br>dark gray, wet, very soft, strong cementation, homogeneous | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: RW-3** Boring No: TW3N Well No: RW-3

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | cont: dark gray, wet, very soft, strong cementation, homogeneous | 515 |
| | 5 | | 3.0/5 | | | | | |
| 26 | | | | | | | | 510 |
| | 6 | | 4.0/5 | | | | **SILTY CLAY**<br>dark gray, till, moist, firm to hard, trace coarse and fine gravel, trace coal | |
| 31 | | | | | | | | 505 |
| | 7 | | 4.5/5 | | | | | |
| | | | | | | | **SANDY SILT** | |
| 36 | | | | | | | **SILTY SAND**<br>gray, fine to medium graineed, wet, trace angular gravel | 500 |
| | 8 | | 5.0/5 | | | | | |
| | | | | | | | **SHALE**<br>weathered | |
| 41 | 9 | | | | | | | |
| | | | | | | | End of Boring = 41.6 Feet | 495 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.:

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: rain, 55 deg

**Boring Information:**
Boring No: TW3W
Well No: TW3W
Surf Elev.: 536.80

**Depth Information:**
Total: 23.8'
Auger: 23.8'
Core: -

**Dates:**
Start: 06/26/2017
Finish: 06/26/2017

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo
Equipment: 4.25" HSA, CME 55, 5' Continuous Macrocore

**Personnel:**
Geologist: D. Ghosh
Driller: J. Gates
Helper(s): C. Clines

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | | | | | | | **SILTY CLAY**<br>dark brown, dry, firm to hard, moderate cementation, root structure in upper 2 feet | |
| | 1 | | 4.5/5 | | | | high clay content, moist, soft to firm, blocky<br>iron oxidation spots | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 4.5/5 | | | | **SILT**<br>brown to gray, iron oxidation pervasive, moist, soft to firm, moderate cementation, some clay<br>very soft | |
| 10 | | | | | | | **SILTY SAND**<br>brown, fine to medium grained sand, wet, poor cementation, moderately sorted, trace clay | -10.0 |
| | 3 | | 4.0/5 | | | | **CLAYEY SAND**<br>brown to dark gray, with gravel, coarse grained towards bottom, wet, strong cementation, poorly sorted | |
| 15 | | | | | | | **SILTY CLAY**<br>dark gray, with coal fragments, moist, very soft, strong cementation, homogeneous appearance, coal content high at 19-19.5' | -15.0 |
| | 4 | | 4.5/5 | | | | | |
| 20 | | | | | | | **SILTY CLAY**<br>blue gray, till, wet, soft, moderate cementation, homogeneous appearance, trace coarse sand and gravel | -20.0 |
| | 5 | | 2.8/3.8 | | | | light tan, silty from 22-22.5' | |
| | | | | | | | **SANDY SHALE** | |
| | | | | | | | End of Boring = 23.8 Feet | |

Notes: Borehole refusal at 23.8'.

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 65, overcast

**Boring Information:**
Boring No: GP1
Well No: GP1
Surf Elev.: 537.06

**Depth Information:**
Total: 40.0'
Auger: 40.0'
Core: N/A

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo, IL
Equipment: CME 55cc 4.25" HSA w/ 5' MC and 2' SS

**Personnel:**
Geologist: B. Kenning
Driller: C. Clines
Helper(s): D. Smith

**Dates:**
Start: 6/14/2019
Finish: 6/14/2019

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | 0.0 |
| | | | | | | Brown clayey TOPSOIL. | |
| | | | | | | Light brown to gray silty CLAY, moist, stiff. | |
| | 1 | | 4.2 | | | | |
| 5 | | | | | | | -5.0 |
| | 2 | | 2.2 | | | | |
| 10 | | | | | | | -10.0 |
| | 3 | | 4.6 | | | | |
| 15 | | | | | | | -15.0 |
| | | | | | | Gray clayey SILT, moist to wet, moderately stiff. | |
| | 4 | | 4.3 | | | | |
| 20 | | | | | | | -20.0 |
| | 5 | | 4.2 | | | | |
| | | | | | | Brown/gray silty CLAY, moist, moderately stiff, contains coal fragments. | |
| | | | | | | Gray clayey SILT, moist to wet, moderately stiff. | |
| 25 | | | | | | | -25.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP1** Boring No: GP1 Well No: GP1

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| | 6 | | 3.7 | | | | |
| 30 | | | | | | | -30 |
| | 7 | | 3.7 | | | Gray SAND, fine-grained, wet, loose. | |
| 35 | | | | | | | -35 |
| | 8 | | 4.1 | | | Gray SAND, fine to medium-grained, wet, loose, trace gravel. | |
| | | | | | | Gray SAND, medium to coarse-grained, wet, loose, trace gravel. | |
| 40 | | | | | | Gray SHALE, weathered, moist, soft. | -40 |
| | | | | | | End of Boring = 40 Feet | |
| 45 | | | | | | | -45 |
| 50 | | | | | | | -50 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 60, partly cloudy, light breeze

**Boring Information:**
Boring No: GP2
Well No: GP2 /AP-7
Surf Elev.: 425-25

**Depth Information:**
Total: 40.0'
Auger: 40.0'
Core: N/A

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo, IL
Equipment: CME 55cc 4.25" HSA w/ 5' MC and 2' SS

**Personnel:**
Geologist: B. Kenning
Driller: C. Clines
Helper(s): D. Smith

**Dates:**
Start: 6/14/2019
Finish: 6/14/2019

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | 0.0 |
| | | | | | | Brown clayey TOPSOIL. | |
| | | | | | | Brown silty CLAY, moist, stiff. | |
| | 1 | | 3.0 | | | | |
| 5 | | | | | | | -5.0 |
| | 2 | | 3.5 | | | | |
| 10 | | | | | | | -10.0 |
| | | | | | | Brown/gray clayey SILT, moist, stiff. | |
| | 3 | | 3.0 | | | | |
| 15 | | | | | | | -15.0 |
| | 4 | | 3.8 | | | | |
| 20 | | | | | | | -20.0 |
| | 5 | | 2.7 | | | | |
| 25 | | | | | | | -25.0 |

Notes: No signs of freewater

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP2** Boring No: GP2 Well No: AP-7

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| | 6 | | 4.1 | | | Gray clayey SAND, fine-grained, moist, moderately stiff. | |
| 30 | | | | | | | -30 |
| | 7 | | 4.1 | | | Gray clayey SILT, moist, stiff, coal fragments at 30.4'. | |
| 35 | | | | | | | -35 |
| | 8 | | 3.4 | | | Gray SHALE, weathered, slightly moist, soft. | |
| 40 | | | | | | End of Boring = 40 Feet | -40 |
| 45 | | | | | | | -45 |
| 50 | | | | | | | -50 |

Notes: No signs of freewater

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield
County: Sangamon
Site No.:
AEEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 65, partly cloudy

**Boring Information:**
Boring No: GP3
Well No: GP3
Surf Elev.: 549.12

**Depth Information:**
Total: 25'
Auger: 25'
Core: N/A

**Dates:**
Start: 6/13/2019
Finish: 6/13/2019

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo, IL
Equipment: CME 55cc 4.25 in HSA w/ 5' MC and 2' SS

**Personnel:**
Geologist: B. Kenning
Driller: C. Clines
Helper(s): D. Smith

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | 0.0 |
| | | | | | | Brown silty to clayey TOPSOIL, moist, stiff. | |
| | | | | | | Brown silty CLAY to clayey SILT, moist, stiff. | |
| | 1 | | 4.7 | | | | |
| 5 | | | | 2 4 4 6 | | | -5.0 |
| | 2 | | 1.6 | | | | |
| | 3 | | 1.6 | 4 9 12 12 | | Light brown clayey SILT, slightly moist, stiff. | |
| 10 | 4 | | 1.8 | 6 11 11 12 | | | -10.0 |
| | 5 | | 3.0 | | | Brown clayey SAND, fine-grained, slightly moist, moderately stiff. | |
| 15 | | | | | | | -15.0 |
| | 6 | | 4.0 | | | Brown silty CLAY, moist, stiff, contains coal fragments. | |
| | | | | | | Brown clayey SAND, fine-grained, moist, moderately loose. | |
| 20 | | | | | | | -20.0 |

Notes: Macrocore refusal at 23'; Split spoon refusal at 24'; blind drilled to EOB depth of 25'

**Andrews Engineering, Inc.**
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Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP3** Boring No: GP3 Well No: GP3

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| | 7 | | 2.2 | | | Gray SHALE, weathered, slightly moist, soft. | |
| | 8 | | 0.7 | 41<br>50<br>3" | | | |
| | 9 | | 0.0 | | | | |
| 25 | | | | | | End of Boring = 25 Feet | -25 |
| 30 | | | | | | | -30 |
| 35 | | | | | | | -35 |
| 40 | | | | | | | -40 |

Notes: Macrocore refusal at 23'; Split spoon refusal at 24'; blind drilled to EOB depth of 25'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water Light and Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 80's F, Sunny

**Boring Information:**
Boring No: GP4
Well No: GP4
Surf Elev.: 0

**Depth Information:**
Total: 38.0
Auger: 38.0
Core: N/A

**Drilling Contractor:**
Contractor Name: Bulldog Drilling, Inc.
City: Dupo, IL
Equipment: AMS PowerProbe 9500 w/ 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: J. Edwards
Helper(s): S. Guy

**Dates:**
Start: 5/17/19
Finish: 5/17/19

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | | | | | | | Gray clayey SILT, moist, loose. | |
| | | | | | | | Brown/gray silty CLAY, moist, stiff. | |
| | 1 | | 4.3/5 | | | | | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 3.7/4 | | | | | |
| | | | | | | | Gray clayey SILT, moist, moderately loose. | |
| | | | | | | | Brown silty SAND, fine to medium-grained, moist, moderately tight. | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 4.0/4 | | | | Gray to dark gray silty CLAY, moist, stiff; trace to some sand. | |
| 15 | 4 | | 1.3/4 | | | | | -15.0 |
| | 5 | | 4.0/4 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP4** Boring No: GP4 Well No: GP4

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | (cont.) Gray to dark gray silty CLAY, moist, stiff; trace to some sand. | |
| | 6 | | 3.1/4 | | | | | |
| 25 | | | | | | | | -25.0 |
| | 7 | | 4.0/4 | | | | | |
| 30 | | | | | | | | -30.0 |
| | 8 | | 3.4/4 | | | | | |
| 35 | 9 | | 4.0/4 | | | | | -35.0 |
| | | | | | | | End of Boring = 38 Feet | |
| 40 | | | | | | | | -40.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL
County: Sangamon
Site No.:
AEEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather:

**Boring Information:**
Boring No: GP5
Well No: GP5
Surf Elev.: 0

**Depth Information:**
Total: 15.5'
Auger: 15.5'
Core: N/A

**Dates:**
Start: 6/11/2019
Finish: 6/11/2019

**Drilling Contractor:**
Contractor Name: Bulldog Drilling
City: Dupo, IL
Equipment: CME 55cc w/ 4.25" HSA and 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: C. Clines
Helper(s): D. Smith

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Sample Run No. | Sample Type | Sample Recov. | Blow Count | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | 0.0 |
| | 1 | | 0.5 | | | Brown silty CLAY, moist, stiff. | |
| 5 | | | | | | | -5.0 |
| | 2 | | 4.5 | | | Brown to gray silty CLAY, moderately stiff, shows of iron oxidation. | |
| 10 | | | | | | | -10.0 |
| | 3 | | 2 | | | Black COAL, slightly moist, soft. | |
| | 4 | | 3 | | | Gray SHALE, weathered, dry, soft. | |
| 15 | | | | | | | -15.0 |
| | 5 | | 0.5 | | | End of Boring = 15.5 Feet | |
| 20 | | | | | | | -20.0 |

Notes: Refusal at 15.5'; No well installation

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water Light and Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 80's F, Sunny

**Boring Information:**
Boring No: GP6
Well No: GP6 /AP-6
Surf Elev.: 535.40

**Depth Information:**
Total: 37.0
Auger: 37.0
Core: N/A

**Dates:**
Start: 5/17/19
Finish: 5/17/19

**Drilling Contractor:**
Contractor Name: Bulldog Drilling, Inc.
City: Dupo, IL
Equipment: AMS PowerProbe 9500 w/ 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: J. Edwards
Helper(s): S. Guy

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | | | | | | | Dark brown clayey silt TOPSOIL, moist, moderately loose. | |
| | | | | | | | Brown/gray silty CLAY to clayey SILT, moist, stiff. | |
| | 1 | | 4.1/5 | | | | | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 4.0/4 | | | | | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 4.0/4 | | | | Brown silty SAND, fine-grained, saturated, loose. | |
| | | | | | | | Dark gray clayey SAND, fine-grained, wet to saturated, moderately loose, some silt. | |
| | | | | | | | Dark gray clayey SILT, moist, moderately stiff to stiff, some sand. | |
| 15 | 4 | | 1.3/4 | | | | | -15.0 |
| | 5 | | 3.0/4 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes: refusal at 37'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP6** Boring No: GP6 Well No: AP-6

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | (cont.) Dark gray clayey SILT, moist, moderately stiff to stiff, some sand. | |
| | 6 | | 4.0/4 | | | | Dark gray silty CLAY, moist, moderately stiff, some sand. | |
| 25 | | | | | | | | -25.0 |
| | 7 | | 4.0/4 | | | | | |
| 30 | | | | | | | | -30.0 |
| | 8 | | 2.7/4 | | | | | |
| 35 | 9 | | 4.0/4 | | | | | -35.0 |
| | | | | | | | Dark brownish gray clayey SAND, fine-grained, moist to wet, moderately loose. | |
| | | | | | | | End of Boring = 37 Feet | |
| 40 | | | | | | | | -40.0 |

Notes: refusal at 37'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water Light and Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 80's F, Sunny

**Boring Information:**
Boring No: GP7
Well No: GP7
Surf Elev.: 0

**Depth Information:**
Total: 36.5
Auger: 36.5
Core: N/A

**Dates:**
Start: 5/16/19
Finish: 5/16/19

**Drilling Contractor:**
Contractor Name: Bulldog Drilling, Inc.
City: Dupo, IL
Equipment: AMS PowerProbe 9500 w/ 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: J. Edwards
Helper(s): S. Guy

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | | | | | | | Dark brown clayey silt TOPSOIL, moist, moderately loose. | |
| | | | | | | | Brown/gray silty CLAY to clayey SILT, moist, stiff, trace sand. | |
| | 1 | | 4.1/5 | | | | | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 4.0/4 | | | | | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 4.0/4 | | | | | |
| | | | | | | | Gray silty CLAY, moist, stiff. | |
| 15 | 4 | | 2.7/4 | | | | | -15.0 |
| | | | | | | | 17.0 - 18.0: Soft, saturated. | |
| | | | | | | | 18.0 - 25.0: moderately loose to moderately stiff. | |
| | 5 | | 4.0/4 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes: Refusal at 36.50'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP7** Boring No: GP7 Well No: GP7

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | (cont.) Gray silty CLAY, moist, stiff. | |
| | 6 | | 4.0/4 | | | | 23.0 - 25.0: gray to brown/gray. | |
| 25 | | | | | | | Dark gray silty CLAY, moist, moderately stiff; some sand. | -25.0 |
| | 7 | | 3.1/4 | | | | | |
| | | | | | | | Dark gray silty SAND, fine-grained, wet, loose, some clay. | |
| 30 | | | | | | | | -30.0 |
| | 8 | | 3.7/4 | | | | | |
| | | | | | | | | |
| 35 | 9 | | 3.5/ 3.5 | | | | | -35.0 |
| | | | | | | | Gray to dark gray SHALE, weathered, soft, dry. | |
| | | | | | | | End of Boring = 36.5 Feet | |
| 40 | | | | | | | | -40.0 |

Notes: Refusal at 36.50'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water Light and Power
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 180247

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: 80's F, Sunny

**Boring Information:**
Boring No: GP8
Well No: GP8
Surf Elev.: 530.08

**Depth Information:**
Total: 42.0
Auger: 42.0
Core: N/A

**Drilling Contractor:**
Contractor Name: Bulldog Drilling, Inc.
City: Dupo, IL
Equipment: AMS PowerProbe 9500 w/ 5' MC

**Personnel:**
Geologist: C. Myrvold
Driller: J. Edwards
Helper(s): S. Guy

**Dates:**
Start: 5/15/19
Finish: 5/16/19

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | | | | | | | Dark brown clayey SILT, moist to wet, loose. | |
| | 1 | | 2.7/4 | | | | Brown silty CLAY, moist, stiff, trace sand, black mottling. | |
| 5 | 2 | | 3.3/4 | | | | | -5.0 |
| 10 | 3 | | 4.0/4 | | | | | -10.0 |
| | 4 | | 4.0/4 | | | | Gray silty CLAY, moist, moderately stiff. | |
| 15 | | | | | | | | -15.0 |
| | 5 | | 4.0/4 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes: Refusal at 42.00'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP8** Boring No: GP8 Well No: GP8

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 2.2/4 | | | | (cont.) Gray silty CLAY, moist, moderately stiff. | |
| 25 | 7 | | 4.0/4 | | | | | -25.0 |
| 30 | 8 | | 4.0/4 | | | | | -30.0 |
| | 9 | | 4.0/4 | | | | | |
| 35 | | | | | | | Dark gray clayey SAND, fine-grained, moist, moderately stiff. | -35.0 |
| | 10 | | 4.0/4 | | | | | |
| 40 | | | | | | | | -40.0 |

Notes: Refusal at 42.00'

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: GP8** Boring No: GP8 Well No: GP8

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 11 | | 2.0/2 | | | | Gray to dark gray weathered SHALE, soft, slightly moist. | |
| | | | | | | | End of Boring = 42 Feet | |
| 45 | | | | | | | | -45.0 |
| 50 | | | | | | | | -50.0 |
| 55 | | | | | | | | -55.0 |
| 60 | | | | | | | | -60.0 |

Notes: Refusal at 42.00'

ANDREWS ENGINEERING
3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL.
County: Sangamon
Site No.:
AEI No.: 200387

**Location:**
Coord. System:
Northing: 3401.7
Easting: 1265.0

Weather: 52F Sunny

**Boring Information:**
Boring No: W-9
Well No: AP-8
Surf Elev.: 537.2

**Depth Information:**
Total: 39.6
Auger: 4.25" HSA
Core: 5ft. Continuous Sampler

**Dates:**
Start: 2/25/2021
Finish: 2/25/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner ltd.
City: Hindsboro, IL.
Equipment: CME 850

**Personnel:**
Geologist: C.M. Latham
Driller: Todd Skinner
Helper(s): A. Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | | | | | | | **SILTY TOPSOIL**<br>Dark brown, organic roots, moist, low-moderate firm. | |
| | 1 | | 4/5 | | | | **SILTY CLAY**<br>Dark brown, firm, moist.<br><br>Mottling with light brown and grey silty clay. Oxidation. 3'-5'. | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 5/5 | | | | **CLAYEY SILT**<br>Grey, oxidation mottling, moist, soft.<br><br>Increased oxidation at 8' | |
| | | | | | | | **SAND SEAM**<br>Fine-grained, well sorted, subrounded, saturated, soft. | |
| 10 | | | | | | | **CLAYEY SILT**<br>Grey, oxidation, moist, soft. | -10.0 |
| | 3 | | 5/5 | | | | **SILTY CLAY**<br>Light grey, moist, soft | |
| 15 | | | | | | | | -15.0 |
| | 4 | | 5/5 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes:

**ANDREWS ENGINEERING**
3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-9** Boring No: W-9 Well No: AP-8

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **CLAYEY SILT**<br>Brown, moist, soft-firm.<br>Organic roots at 20' | |
| | 5 | | 5/5 | | | | Mottling with grey clay at 23.5' | |
| | | | | | | | **SILTY CLAY**<br>Grey, moist, soft. | |
| 25 | | | | | | | **SILTY CLAY**<br>Dark grey, firm, moist. | -25.0 |
| | 6 | | 5/5 | | | | Mottled dark grey clay with blue clay at 26.5' | |
| | | | | | | | **CLAY**<br>Dark grey, firm, moist. | |
| | | | | | | | Mottled dark grey clay with blue clay at 26.5' | |
| 30 | | | | | | | **SILTY CLAY**<br>Blue, with trace organic coal fragments, moist, soft, moderate plasticity. | -30.0 |
| | 7 | | 5/5 | | | | | |
| | | | | | | | **CLAYEY SILT WITH SAND**<br>Moist, poorly sorted, trace coal. | |
| 35 | | | | | | | | -35.0 |
| | 8 | | 3.5/5 | | | | | |
| | | | | | | | **SAND**<br>Loose sands, saturated, poorly sorted. | |
| | | | | 60 | | | **SHALE**<br>Blue, moist, weathered, with lamination. | |
| | 9 | | | 40 | | | | |
| 40 | | | | | | | End of Boring = 39.6 Feet | -40.0 |

Notes:

**ANDREWS ENGINEERING**

3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL.
County: Sangamon
Site No.:
AEI No.: 200387

**Location:**
Coord. System:
Northing: 5216.8
Easting: 703.0

Weather: 43F Sunny

**Boring Information:**
Boring No: W-8
Well No: AP-9
Surf Elev.: 534.3

**Depth Information:**
Total: 32.5ft.
Auger: 4.25". HSA
Core: 5ft. Continuous Sampler

**Dates:**
Start: 2/26/2021
Finish: 2/26/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner ltd.
City: Hindsboro, IL.
Equipment: CME 850

**Personnel:**
Geologist: C.M. Latham
Driller: Todd Skinner
Helper(s): A. Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | 1 | | 5/5 | | | | **CLAYEY SILT**<br>Dark brown, organic roots and leaves, moist, soft. | |
| | | | | | | | **CLAYEY SILT**<br>Dark brown, moist, firm, slight mottling with dark grey clay. | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 4.5 | | | | **SILTY CLAY**<br>Medium brown, silty clay, soft, high plasticity, moist. | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 4.5/5 | | | | Oxidation at 11'<br><br>Moderate mottling with dark grey clay at 12 ft. | |
| 15 | | | | | | | | -15.0 |
| | | | | | | | **SILTY CLAY**<br>Dark grey, moist, soft, high plasticity. | |
| | 4 | | 5/5 | | | | **CLAY**<br>Light grey clay, moist, soft, mottled with brown clay and oxidation. | |
| 20 | | | | | | | | -20.0 |

Notes:

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Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-8** Boring No: W-8 Well No: AP-9

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **SILTY CLAY**<br>Brown, moist, firm, mottled with oxidation. | |
| | | | | | | | Mottled with blue clay and oxidation. | |
| | 5 | | 5/5 | | | | **CLAY**<br>Blue clay, moist, firm, high plasticity. | |
| | | | | | | | Increasing silt content. | |
| 25 | | | | | | | | -25.0 |
| | | | | | | | **CLAYEY SILT WITH SAND**<br>Poorly sorted, moist. | |
| | 6 | | 4.5/5 | | | | Gradation to heavier sand content; poorly sorted, moist. | |
| | | | | | | | **SAND AND GRAVEL**<br>Sand and gravel with organic coal fragments; moist, poorly sorted. | |
| 30 | | | | | | | **SHALE**<br>Grey, laminated, weathered, shale. Firm, Moist. | -30.0 |
| | 7 | | | 30<br>88<br>4 | | | | |
| | | | | | | | End of Boring = 32.5 Feet | |
| 35 | | | | | | | | -35.0 |
| 40 | | | | | | | | -40.0 |

Notes:

**ANDREWS ENGINEERING**

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Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield
County: Sangamon
Site No.:
AEI No.: 200387

**Location:**
Coord. System:
Northing: 4684.0
Easting: 695.6

Weather: 40F Partly cloudy

**Boring Information:**
Boring No: W-5
Well No: AP-10
Surf Elev.: 534.4

**Depth Information:**
Total: 34.97
Auger: 4.25" HSA
Core: 5ft. Continous Sampler

**Dates:**
Start: 2/24/2021
Finish: 2/24/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner ltd.
City: Hindsboro, Il.
Equipment: CME 850

**Personnel:**
Geologist: C.M. Latham
Driller: Todd Skinner
Helper(s): A. Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | | | | | | | **SILTY TOPSOIL**<br>Dark brown, moist, very firm, hard silt in shoe. | |
| | 1 | | 2.5/5 | | | | **SILT**<br>Medium brown, moist, very firm, hard silt in shoe. | |
| 5 | | | | | | | **CLAYEY SILT**<br>Brown, moist, soft, homogenous. | -5.0 |
| | 2 | | 4/4 | | | | **SILTY CLAY**<br>Brown, high plasticity, moist, very soft, homogenous.<br>Trace sand seen in top of barrel. | |
| 10 | | | | | | | Wet from 10'-15' | -10.0 |
| | 3 | | 5 | | | | Free water at 12'5" | |
| 15 | | | | | | | **SILTY CLAY**<br>Grey, soft, moist.<br>Fine sands, trace gravels at 17' | -15.0 |
| | 4 | | 5 | | | | **CLAYEY SILT WITH SAND**<br>Blueish grey with trace gravel, soft, moderate sorting. | |
| 20 | | | | | | | | -20.0 |

Notes:

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Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-5** Boring No: W-5 Well No: AP-10

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **SANDY GRAVEL**<br>Poorly sorted, sub rounded, saturated, unconsolidated sands. Poorly sorted angular gravel. | |
| | 5 | | 5/5 | | | | **SILTY CLAY**<br>Blue, high plasticity, firm, moist, tight clay.<br>Very thin sand seam, fine grained, saturated at 23'<br>Very thin sand seam, fine grained, saturated at 29.5' | |
| 25 | | | | | | | | -25.0 |
| | 6 | | 5/5 | | | | | |
| 30 | | | | | | | | -30.0 |
| | 7 | | 4/5 | | | | **DIAMICTON**<br>Blue, subrounded, poorly sorted sandy clay, with angular coal up to 0.3ft. Angular gravels; poorly sorted. Trace silts, saturated. Gradation into larger gravel and sand clasts towards bottom with trace silts and no clay. | |
| | | | | 33 | | | **SHALE**<br>Grey, moist, with lamination. | |
| | 8 | | | 60 | | | | |
| 35 | | | | | | | End of Boring = 34.97 Feet | -35.0 |
| 40 | | | | | | | | -40.0 |

Notes:

**ANDREWS ENGINEERING**

3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 200387-0025

**Location:**
Coord. System:
Northing: 4150.6
Easting: 524.5

Weather: Clear 40s

**Boring Information:**
Boring No: W-4
Well No: AP-11
Surf Elev.: 535.30

**Depth Information:**
Total: 20.1
Auger: 4.25" HSA
Core: 5ft continous sampler

**Dates:**
Start: 2/23/2021
Finish: 2/23/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner LTD
City: Hindsboro
Equipment: CME 850

**Personnel:**
Geologist: Scott Kangas
Driller: Todd Skinner
Helper(s): Adam Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | | | | | | | **CLAYEY SILT TOPSILT**<br>Black to dark brown, moist, soft to moderately stiff. | |
| | 1 | | 3.5/5 | | | | **CLAYEY SILT**<br>Dark brown, moist, stiff to hard, homogenous. | |
| 5 | | | | | | | | -5.0 |
| | 2 | | 3.75/5 | | | | Very hard, trace fine sand, and oxidation with depth | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 5/5 | | | | **SILTY CLAY**<br>Olive gray, moist, soft, heavily oxidated, trace fine sand that increases with depth | |
| 15 | | | | | | | | -15.0 |
| | | | | | | | **CLAYEY SAND**<br>Dark Gray to reddish brown with depth, wet, soft, fine well sorted sand | |
| | 4 | | 2.5/5 | | | | **GRAVEL AND SAND**<br>Gray, poorly sorted up to 1" angular pieces, wet | |
| 20 | | | | | | | | -20.0 |

Notes:

ANDREWS ENGINEERING
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Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-4** Boring No: W-4 Well No: AP-11

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **SHALE** Weathered, gray | |
| | | | | | | | End of Boring = 20.1 Feet | |
| 25 | | | | | | | | -25.0 |
| 30 | | | | | | | | -30.0 |
| 35 | | | | | | | | -35.0 |
| 40 | | | | | | | | -40.0 |

Notes:

**ANDREWS ENGINEERING**

3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 200387-0025

**Location:**
Coord. System:
Northing: 3797.7
Easting: 667.6

Weather: Clear 40s

**Boring Information:**
Boring No: W-3
Well No: AP-12
Surf Elev.: 537.80

**Depth Information:**
Total: 27.3
Auger: 4.25" HSA
Core: 5ft continous sampler

**Dates:**
Start: 2/23/2021
Finish: 2/23/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner LTD
City: Hindsboro, IL
Equipment: CME 850

**Personnel:**
Geologist: Scott Kangas
Driller: Todd Skinner
Helper(s): Adam Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 0.0 |
| | | | | | | | **CLAYEY SILT TOPSOIL**<br>Dark brown, moist, soft to slightly stiff, root structures | |
| | | | | | | | **CLAYEY SILT**<br>Brown, moist, stiff to hard, heavily oxidated, homogenous | |
| | 1 | | 4/5 | | | | | |
| 5 | | | | | | | | -5.0 |
| | | | | | | | **SILT**<br>Light gray, moist, firm to hard, heavily oxidated, mottling, homogenous. | |
| | 2 | | 4/5 | | | | | |
| 10 | | | | | | | | -10.0 |
| | | | | | | | **CLAYEY SILT**<br>Brown, moist, stiff to hard, moderate oxidation | |
| | 3 | | 5/5 | | | | Lighter in color, trace fine sand, and increase clay content with depth | |
| 15 | | | | | | | | -15.0 |
| | 4 | | 4/5 | | | | | |
| | | | | | | | **SANDY CLAY**<br>Gray, wet, soft, fine sand, well sorted and homgenous | |
| 20 | | | | | | | | -20.0 |

Notes:

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Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-3** Boring No: W-3 Well No: AP-12

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 2.5/ 2.5 | | | | | |
| | 6 | | 2/2.5 | | | | **CLAYEY SAND** Dark gray, wet, stiff, well sorted fine sand | |
| | | | | | | | **GRAVEL AND SAND** Gray, poorly sorted, angular to subangular, 1.5" or less in size | |
| 25 | 7 | | 2.3/ 2.3 | | | | **SHALE** Gray, weathered | -25.0 |
| | | | | | | | End of Boring = 27.3 Feet | |
| 30 | | | | | | | | -30.0 |
| 35 | | | | | | | | -35.0 |
| 40 | | | | | | | | -40.0 |

Notes:

**ANDREWS ENGINEERING**

3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL.
County: Sangamon
Site No.:
AEI No.: 200387

**Location:**
Coord. System:
Northing: 3451.2
Easting: 852.1

Weather: 50F Sunny

**Boring Information:**
Boring No: W-2
Well No: AP-13
Surf Elev.: 538.6

**Depth Information:**
Total: 27.6
Auger: 4.25" HSA
Core: 5ft. Continuous Sampler

**Dates:**
Start: 2/23/2021
Finish: 2/24/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner ltd.
City: Hindsboro, IL.
Equipment: CME 850

**Personnel:**
Geologist: C.M. Latham
Driller: Todd Skinner
Helper(s): A. Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | | | | | | | **SILTY TOPSOIL**<br>Dark Brown-black, moist, soft. | |
| | 1 | | 3.5 | | | | **CLAYEY SILT**<br>Light brown, firm, moist. | |
| 5 | | | | | | | **SILT**<br>Grey, moist, firm, homogenous. | -5.0 |
| | 2 | | 4/5 | | | | **SILT**<br>Reddish brown, moist, firm, homogenous. | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 5/5 | | | | **CLAYEY SILT**<br>Reddish brown, mottled with grey clay, moist, soft-firm, homogenous. | |
| 15 | | | | | | | | -15.0 |
| | 4 | | 5/5 | | | | | |
| 20 | | | | | | | | -20.0 |

Notes:

ANDREWS ENGINEERING

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Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-2** Boring No: W-2 Well No: AP-13

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 1.25/ 2.5 | | | | **SAND AND GRAVEL**<br>Dirty olive, saturated, poorly sorted, angular. | |
| 25 | | | | | | | **SHALE**<br>Grey, weathered, with lamination. | -25.0 |
| | | | | 29<br>60<br>4 | | | | |
| | | | | | | | End of Boring = 27.6 Feet | |
| 30 | | | | | | | | -30.0 |
| 35 | | | | | | | | -35.0 |
| 40 | | | | | | | | -40.0 |

Notes:

**ANDREWS ENGINEERING**

3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP
Location: Springfield, IL
County: Sangamon
Site No.:
AEI No.: 200387

**Location:**
Coord. System:
Northing: 3171.5
Easting: 1275.2

Weather: 44F Partly Sunny

**Boring Information:**
Boring No: W-1
Well No: AP-14
Surf Elev.: 536.80

**Depth Information:**
Total: 27.5
Auger: 4.25" HSA
Core: 5ft Continuous Sampler

**Dates:**
Start: 2/25/2021
Finish: 2/26/2021

**Drilling Contractor:**
Contractor Name: Total Drilling Services/Skinner ltd.
City: Hindsboro, IL
Equipment: CME 850 4.25" HSA w/ 5' cont. sampler and 2'SS

**Personnel:**
Geologist: C.M. Latham
Driller: Todd Skinner
Helper(s): A. Bruce

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | | | | | | | **SILTY TOPSOIL**<br>Dark brown, moist, soft, organic leaves | |
| | | | | | | | **SILTY CLAY**<br>Some gravel | |
| | 1 | | 3.5/5 | | | | | |
| 5 | | | | | | | **CLAYEY SILT**<br>Dark brown, moist, soft, organic leaves and roots, oxidation | -5.0 |
| | | | | | | | **SILTY CLAY**<br>Medium brown, mottled with grey clay and oxidation, high plasticity, moist, firm. | |
| | 2 | | 5/5 | | | | | |
| 10 | | | | | | | | -10.0 |
| | 3 | | 4/5 | | | | Groundwater encountered at 14' | |
| 15 | | | | | | | **SILTY CLAY**<br>Grey, moist, firm, high plasticity, oxidation | -15.0 |
| | 4 | | 5/5 | | | | | |
| 20 | | | | | | | 21-21.5' coal fragments with undifferentiated organic materials | -20.0 |

Notes:

ANDREWS ENGINEERING
3300 Ginger Creek Drive - 217.787.2334
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: W-1** Boring No: W-1 Well No: AP-14

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | 5 | | 3/5 | | | | **SILTY CLAY**<br>Some gravel | |
| | | | | | | | **SAND**<br>Coarse grained, poorly sorted, unconsolidated, saturated. | |
| 25 | | | | | | | | -25.0 |
| | 6 | | 3/5 | 30<br>60<br>4 | | | **SHALE**<br>Grey, weatherd with lamination | |
| | | | | | | | End of Boring = 27.5 Feet | |
| 30 | | | | | | | | -30.0 |
| 35 | | | | | | | | -35.0 |
| 40 | | | | | | | | -40.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1128150.33
Easting: 2455538.81

Weather: Sunny 66 F

**Boring Information:**
Boring No: B1
Well No: T1
Surf Elev.: 535.33

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 05/01/2024
Finish: 05/01/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 535.3 |
| | | | | | | | Dark brown silty CLAY (topsoil); Sample CS1A | |
| | 1 | | 4.0/5 | | 0.25 | | Dark brown silty CLAY; moist | |
| 5 | | | | | | | | 530.0 |
| | 2 | | 5.0/5 | | 0.25 | | Sample CS2 7.0-7.5'; saturated 7.5' | |
| | | | | | | | Free water 9.5' | |
| 10 | | | | | | | | 525.0 |
| | | | | | | | Light brown silty CLAY; gray mottling; Sample CS3A 11.0-11.3' | |
| | 3 | | 5.0/5 | | 2.0 | | Sample CS3B 13.0-13.5' | |
| | | | | | 2.75 | | | |
| 15 | | | | | 1.75 | | | 520.0 |
| | | | | | 0.5 | | Sample CS4A 15.5-16.0' | |
| | | | | | | | Brown SAND and GRAVEL; fine to coarse grained; silty clay matrix | |
| | 4 | | 3.0/4.5 | | | | | |
| | | | | | | | Gray SANDSTONE; weathered | |
| | | | | | | | Greenish gray SANDSTONE; fine grained | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1128803.76
Easting: 2455006.85

Weather: Sunny 66 F

**Boring Information:**
Boring No: B2
Well No: T2
Surf Elev.: 547.22

**Depth Information:**
Total: 35.0'
Auger: 35.0'
Core: -

**Dates:**
Start: 05/01/2024
Finish: 05/01/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 547.2 |
| | | | | | | | Dark brown silty CLAY (topsoil); Sample CS1A 0-0.5 | |
| | | | | | | | Brown silty CLAY; moist; Sample CS1B 2.5-3.0 | |
| | 1 | | 4.3/5 | | 3.0<br>3.0 | | | 545.0 |
| 5 | | | | | | | Brown clayey SILT; greenish gray mottling; moist | |
| | 2 | | 4.0/5 | | | | | 540.0 |
| | | | | | 2.25 | | Sample CS2A 8.0-8.5' | |
| 10 | | | | | | | Sample CS3A 11.0-11.5 | |
| | | | | | | | Dark brown CONCRETIONS; Sample CS3B 12.1-12.3' | 535.0 |
| | 3 | | 5.0/5 | | | | Brown silty CLAY; Sample CS3C | |
| | | | | | 1.5 | | | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B2** Boring No: B2 Well No: T2

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample CS4 | |
| | 4 | | 5.0/5 | | 4.75 | | | 530.0 |
| 20 | 5 | | 2.0/2 | | | | | |
| | | | | | | | Gray clayey SILT; brown mottling; moist; trace black organics | 525.0 |
| | 6 | | 3.0/3 | | 3.25 | | Sample CS6A 23-23.5' | |
| 25 | | | | | 1.25 | | Increasing black organics; Sample CS7A 25.5-26 | |
| | | | | | | | Gray silty CLAY; brown mottling; moist; trace organics | 520.0 |
| | 7 | | 5.0/5 | | 1.75 | | Sample CS7B 27.0-28.0' | |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B2** Boring No: B2 Well No: T2

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample CS8A | |
| | | | | | | | Gray to brownish gray SHALE; weathered; wet; Sample CS8B | 515.0 |
| | 8 | | 5.0/5 | | | | Gray SHALE; Sample CS8C 32.25-33.0' | |
| 35 | | | | | | | End of Boring = 35 Feet | 510.0 |
| 40 | | | | | | | | 505.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1130726.70
Easting: 2455622.14

Weather: Cloudy 50 F

**Boring Information:**
Boring No: B4
Well No: T4
Surf Elev.: 546.56

**Depth Information:**
Total: 35.0'
Auger: 35.0'
Core: -

**Dates:**
Start: 04/26/2024
Finish: 04/26/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 546.6 |
| 0 | | | | | | | Brown silty CLAY; moist; organics | |
| | 1 | | 4.7/5 | | 0.5 | | | 545.0 |
| 5 | | | | | | | Brown clayey SILT; moist; trace organics; becoming more dense with depth | |
| | 2 | | 5.0/5 | | 3.5<br>>5 | | | 540.0 |
| 10 | | | | | | | | |
| | 3 | | 5.0/5 | | 0.5 | | Black organics; Sample CS3A | 535.0 |
| | | | | | 0.25 | | Brown silty CLAY; Sample CS3B | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B4** Boring No: B4 Well No: T4

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0.25 | | Brown clayey SILT; moist | 530.0 |
| | 4 | | 3.6/5 | | 0.5 | | Brown silty CLAY; moist; medium to fine coarse gravel | |
| | | | | | | | Gray SHALE; weathered | |
| | | | | | | | Gray SHALE; weathered; moist | |
| 20 | | | | | | | | |
| | 5 | | 3.6/5 | | | | | 525.0 |
| 25 | | | | | | | End of Boring = 25 Feet | |
| | | | | | | | | 520.0 |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1130996.32
Easting: 2455852.04

Weather: Sunny 43 F

**Boring Information:**
Boring No: B5
Well No: T5
Surf Elev.: 538.15

**Depth Information:**
Total: 20.0'
Auger: 20.0'
Core: -

**Dates:**
Start: 04/25/2024
Finish: 04/25/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 538.2 |
| 0 | | | | | | | Brown SILT; moist | |
| | | | | | 0.25 | | | |
| | | | | | | | Dark brown silty CLAY; moist | |
| | 1 | | 4.6/5 | | 2.0 | | | 535.0 |
| | | | | | | | Dark brown silty CLAY; brown/tan mottling; moist | |
| | | | | | 2.25 | | Olive green to brown silty CLAY; mottling; moist | |
| 5 | | | | | | | | |
| | 2 | | 4.8/5 | | 2.25 | | 8.0' Free water | 530.0 |
| 10 | | | | | | | Brown SAND; fine grained; with silt; saturated | |
| | | | | | | | Olive green clayey SILT; brown mottling | |
| | | | | | >5.0 | | | |
| | 3 | | 3.8/5 | | | | Gray SHALE; weathered | 525.0 |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B5** Boring No: B5 Well No: T5

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 4 | | 1.6/5 | | | | Black SHALE; saturated | 520.0 |
| 20 | | | | | | | End of Boring = 20 Feet | 515.0 |
| 25 | | | | | | | | 510.0 |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1131175.15
Easting: 2456259.47

Weather: Sunny 43 F

**Boring Information:**
Boring No: B6
Well No: T6
Surf Elev.: 535.96

**Depth Information:**
Total: 42.2'
Auger: 42.2'
Core: -

**Dates:**
Start: 04/25/2024
Finish: 04/25/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 536.0 |
| 0 | | | | | | | Dark brown silty CLAY (topsoil) | |
| | | | | | 1.5 | | | 535.0 |
| | 1 | | 4.1/5 | | | | Greenish brown silty CLAY; moist; trace organics | |
| 5 | | | | | | | Greenish brown silty CLAY; gray mottling; trace organics | |
| | 2 | | 4.2/5 | | 2.0 | | | 530.0 |
| 10 | | | | | | | Gray/brown clayey SILT; greenish mottling; moist | |
| | | | | | | | | 525.0 |
| | 3 | | 5.0/5 | | | | | |
| | | | | | 4.5 | | | |
| | | | | | | | 14.0' Wet | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B6** Boring No: B6 Well No: T6

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Gray silty CLAY; trace brown mottling; organics | 520.0 |
| | 4 | | 5.0/5 | | 1.75 | | 18.0' Saturated | |
| 20 | | | | | | | Gray CLAY; saturated; soft | 515.0 |
| | 5 | | 5.0/5 | | 0.25 | | Dark gray SILT; saturated | |
| 25 | | | | | | | Dark gray silty CLAY; saturated; small gravel | 510.0 |
| | 6 | | 4.7/5 | | 0.5 | | | |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: B6** Boring No: B6 Well No: T6

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Dark gray SILT; saturated; trace white clasts | 505.0 |
| | 7 | | 5.0/5 | | 0.5 | | | |
| 35 | | | | | 0.5 | | | 500.0 |
| | 8 | | 3.5/5 | | | | Gray SILT to silty SAND; fine to coarse grained | |
| 40 | | | | | | | Gray SHALE (bedrock) | |
| | 9 | | 1.5/5 | | | | | 495.0 |
| | | | | | | | End of Boring = 42.2 Feet | |
| 45 | | | | | | | | |

Notes:

# APPENDIX A4:
## IMPOUNDMENT GEOTECHNICAL INVESTIGATION LOGS

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127408.40
Easting: 2456167.19

Weather: Rainy 62 F

**Boring Information:**
Boring No: B-1U
Well No: B-1U
Surf Elev.: 564.17

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/13/2023
Finish: 10/13/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kergel
Helper(s): M. Sick

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 564.2 |
| 0 | 1 | | | | | | Black CINDERS; moist; loose | |
| | 2 | | 1.0/1.5 | 4 5 6 | 2.0 | | Dark brown silty CLAY; moist; stiff; some black cinders; trace organics; trace gravel | |
| | 3 | | | | | | | 560.0 |
| 5 | 4 | | 0.9/1.5 | 2 3 5 | 1.5 | | | |
| | 5 | | | | | | Black fly ASH with CINDERS; moist to wet; moderately stiff | |
| | 6 | | 1.0/1.5 | 2 6 6 | 1.0 | | | |
| | 7 | | | | | | | 555.0 |
| 10 | 8 | | 0.8/1.5 | 2 5 6 | | | | |
| | 9 | | | | | | | |
| | 10 | | 0.8/1.5 | 1 2 1 | | | | |
| | 11 | | | | | | | 550.0 |
| 15 | 12 | | 1.4/1.5 | 0 1 1 | | | Black fly ASH; wet; soft | |
| | 13 | | | | | | CINDERS | |
| | 14 | | 1.1/1.5 | 1 2 3 | 0.25 | | Black fly ASH; wet; soft; laminated | |
| | 15 | | | | | | | 545.0 |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127370.68
Easting: 2456072.07

Weather: Sunny 72 F

**Boring Information:**
Boring No: B-1L
Well No: B-1L
Surf Elev.: 552.56

**Depth Information:**
Total: 24.5'
Auger: 24.5'
Core: -

**Dates:**
Start: 10/11/2023
Finish: 10/11/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kergel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 552.6 |
| 0 | 1 | | | | | | Brown silty CLAY; moist; stiff; some dark brown mottling; few organics; trace ash fragments; trace gravel | |
| | 2 | | 1.1/1.5 | 2 6 7 | 3.75 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.0/1.5 | 3 5 4 | 3.5 | | | |
| | 5 | | | | | | | |
| | 6 | | 0.6/1.5 | 2 3 3 | 2.5 | | | 545.0 |
| | 7 | | | | | | | |
| | | | | | | | 16 mm VST@ 9.5' = 7.7, 2.4, 2.8 | |
| 10 | 8 | | 0.6/1.5 | 1 4 3 | 2.25 | | Brown SAND; medium to coarse grained; moist; loose | |
| | 9 | | | | | | | |
| | | | | | | | Black coal ASH fragments; wet; loose | |
| | 10 | | 0.3/1.5 | 1 3 3 | | | | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 0.6/1.5 | 0 2 2 | | | | |
| | 13 | | | | | | | |
| | 14 | | 0.5/1.5 | 4 10 3 | | | | 535.0 |
| | | | | | | | Dark gray sandy SILT; wet; soft; trace gravel | |
| | 15 | | | | | | | |
| | | | | | | | More clayey | |
| 20 | 16 | | 1.1/1.5 | 0 0 2 | 0.25 | | Dark gray CLAY; moist; soft; some organic fragments; trace gravel | |
| | 17 | | | | 0.5 | | | |
| | | | | | | | 20 mm VST@ 22.0' = 13.0+, 3.9, 3.9 | |
| | 18 | | 1.4/2.0 | | | | | 530.0 |
| | 19 | | | | | | | |
| 25 | | | | | 2.0 | | End of Boring = 24.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128045.00
Easting: 2456005.51

Weather: Sunny 78 F

**Boring Information:**
Boring No: B-2U
Well No: B-2U
Surf Elev.: 562.33

**Depth Information:**
Total: 26.0'
Auger: 26.0'
Core: -

**Dates:**
Start: 10/12/2023
Finish: 10/12/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 562.3 |
| 0 | 1 | | | | | | Black coal ASH (cinders); moist; loose | |
| | 2 | | 0.4/1.5 | 2 5 1 | | | | 560.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.2/1.5 | 1 1 2 | | | | |
| | 5 | | | | | | | |
| | 6 | | 0.8/1.5 | 2 4 8 | 2.0 | | Gray silty CLAY; some yellow brown mottling; some iron concretions; moist; stiff; trace gravel | 555.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 0.4/1.5 | 2 5 4 | | | Black coal ASH (cinders); wet; loose | |
| | 9 | | | | | | | |
| | 10 | | 1.5/1.5 | 1 2 11 | <0.25 | | Black fly ASH; wet; soft; some cinders | 550.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.0/1.5 | 1 0 2 | <0.25 | | With cinders | |
| | 13 | | | | | | | |
| | 14 | | 0.4/1.5 | 3 3 4 | | | Black coal ASH (cinders); wet; loose | 545.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 0.5/2.0 | | | | Black fly ASH; wet; soft; 20 mm VST@ 19.5' = 3.0, 3.2, 3.8 | |
| | 17 | | | | <0.25 | | | |
| | 18 | | 0.5/1.5 | 1 2 5 | | | Black CINDERS; wet; loose | 540.0 |
| | 19 | | | | | | | |
| 25 | 20 | | 0.5/1.5 | 0 1 2 | 1.25 | | Olive brown CLAY; moist; stiff; some organics | |
| | | | | | | | End of Boring = 26 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128015.70
Easting: 2455909.16

Weather: Sunny 65 F

**Boring Information:**
Boring No: B-2L
Well No: B-2L
Surf Elev.: 536.92

**Depth Information:**
Total: 24.5'
Auger: 24.5'
Core: -

**Dates:**
Start: 10/10/2023
Finish: 10/10/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 536.9 |
| 0 | 1 | | | | | | Gray/brown silty CLAY; some iron concretions; moist; stiff; some organics; some ash fragments; some gravel | |
| | 2 | | 0.5/1.5 | 1 4 4 | 1.25 | | | 535.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.3/1.5 | 2 2 3 | 1.0 | | | |
| | 5 | | | | | | | |
| | 6 | | 1.8/2.0 | | | | Light gray clayey SILT; few dark yellow brown mottling; moist; firm; trace iron concretions | 530.0 |
| | 7 | | | | 2.25 | | | |
| 10 | 8 | | 1.5/1.5 | 1 2 2 | 0.75 | | 20 mm VST@9.5' = 13.0, 3.2, 2.8 | |
| | 9 | | | | <0.25 | | Gray clayey SAND; wet; soft | |
| | 10 | | 1.5/1.5 | 0 1 1 | <0.25 | | | 525.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.0/1.5 | 0 0 1 | <0.25 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.0/1.5 | 0 1 1 | 0.25 | | Gray clayey SILT; laminated; moist to wet; soft | 520.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 1.3/1.5 | 0 1 2 | | | Brown SAND; medium to coarse grained; wet; loose | |
| | 17 | | | | | | | |
| | 18 | | 1.5/1.5 | 1 3 3 | 0.25 | | Dark gray clayey SILT; laminated; moist; soft; organic fragments | 515.0 |
| | 19 | | | | | | | |
| 25 | | | | | | | End of Boring = 24.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128026.78
Easting: 2455971.03

Weather: Cloudy 62 F

**Boring Information:**
Boring No: B-2
Well No: B-2
Surf Elev.: 554.71

**Depth Information:**
Total: 30.0'
Auger: 30.0'
Core: -

**Dates:**
Start: 10/06/2023
Finish: 10/06/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: S. Van Hook
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 554.7 |
| 0 | 1 | | | | | | Gray brown SILT; dry | |
| | 2 | | 0.4/1.5 | 3 5 5 | 4.75 | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.8/1.5 | 3 4 6 | 2.5 | | Becoming moist | 550.0 |
| | 5 | | | | | | | |
| | 6 | | 0.7/1.5 | 3 4 4 | 2.0 | | Brown silty CLAY; moist | |
| | 7 | | | | 2.5 | | | |
| 10 | 8 | | 0.9/1.5 | 2 4 4 | | | | 545.0 |
| | 9 | | | | | | Greenish brown silty CLAY; moist | |
| | 10 | | 1.0./1.5 | 2 3 4 | 1.5 | | | |
| | 11 | | | | | | | |
| 15 | 12 | | 1.0/1.5 | 1 3 5 | 2.0 | | Brown silty CLAY; moist; trace black organics; 16 mm VST@ 14.5' = 7.0, 4.3, 4.2 | 540.0 |
| | 13 | | | | | | | |
| | 14 | | 1.0/1.5 | 1 2 4 | 2.0 | | | |
| | 15 | | | | | | | |
| 20 | 16 | | 1.4/1.5 | 1 3 4 | 2.5 | | Brownish gray silty CLAY; black/orange inclusions; organics; moist | 535.0 |
| | 17 | | | | | | | |
| | 18 | | 1.9/2.0 | | | | | |
| | 19 | | | | | | | |
| 25 | 20 | | 1.5/1.5 | 1 3 4 | 1.0 | | Brownish/greenish gray silty CLAY; moist; trace brown organics; 16 mm VST@ 25.0' = 5.4, 3.2, 3.5 | 530.0 |
| | 21 | | | | | | | |
| | 22 | | 1.5/1.5 | 0 2 2 | <0.25 <0.25 | | Becoming trace fine grained sand<br>Orangish brown SILT; moist | |
| | 23 | | | | | | | 525.0 |
| 30 | | | | | | | End of Boring = 30 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127389.92
Easting: 2456246.00

Weather: Sunny 64 F

**Boring Information:**
Boring No: B-1CCR
Well No: B-1CCR
Surf Elev.: 568.03

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/17/2023
Finish: 10/17/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 568.0 |
| 0 | 1 | | | | | | Black bottom ash and CINDERS; moist; loose | |
| | 2 | | 0.5/1.5 | 5 5 2 | | | | 565.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.3/1.5 | 1 2 3 | | | | |
| | 5 | | | | | | Black fly ASH; moist to wet | |
| | 6 | | 0.8/1.5 | 1 3 3 | 1.0 | | | |
| | 7 | | | | | | Black bottom ASH; moist to wet; moderately loose | 560.0 |
| 10 | 8 | | 1.0/1.5 | 1 1 1 | | | | |
| | 9 | | | | | | | |
| | 10 | | 1.2/1.5 | 1 0 1 | | | | 555.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.5/1.5 | 0 0 1 | <0.25 | | Black fly ASH; moist to wet; moderately firm | |
| | 13 | | | | | | Black bottom ASH; wet; loose | |
| | 14 | | 0.9/1.5 | 2 6 7 | | | | 550.0 |
| | 15 | | | | | | | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127355.19
Easting: 2456023.58

Weather: Sunny 65 F

**Boring Information:**
Boring No: B-1LL
Well No: B-1LL
Surf Elev.: 542.84

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/10/2023
Finish: 10/10/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 542.8 |
| 0 | 1 | | | | | | Brown clayey SILT; with sand; moist; loose | |
| | 2 | | 0.2/1.5 | 6 8 8 | | | | 540.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.2/1.5 | 6 5 5 | | | | |
| | 5 | | | | | | | |
| | 6 | | 0.6/1.5 | 4 4 5 | | | Gray silty CLAY; with cinders; dark yellowish brown mottling; moist; stiff | 535.0 |
| | 7 | | | | 2.25 | | | |
| 10 | 8 | | 0.6/1.5 | 7 9 10 | | | Gray SAND; medium to coarse grained; wet; loose | |
| | 9 | | | | | | | |
| | 10 | | 0.7/1.5 | 3 5 5 | | | Gray silty CLAY; with black organic varved material; few ash fragments | 530.0 |
| | 11 | | | | 2.75 | | | |
| 15 | 12 | | 2.0/2 | | | | 16 mm VST@ 14.5' = 8.5, 3.6, 4.2 | |
| | 13 | | | | 0.5 | | Very soft | |
| | 14 | | 1.4/1.5 | 1 2 2 | 0.75 | | | 525.0 |
| | 15 | | | | | | | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127375.6
Easting: 2456111.7

Weather: Sunny 62 F

**Boring Information:**
Boring No: B-1
Well No: B-1
Surf Elev.: 557.77

**Depth Information:**
Total: 29.5'
Auger: 29.5'
Core: -

**Dates:**
Start: 10/09/2023
Finish: 10/09/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 557.8 |
| 0 | 1 | | | | | | CINDER and GRAVEL (fill) | |
| | 2 | | 0.3/1.5 | 3 4 2 | | | | 555.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.2/1.5 | 1 2 1 | | | CINDER (fill); dry; loose | |
| | 5 | | | | | | Gray silty CLAY; with cinders; dry; medium stiff | |
| | 6 | | 0.5/1.5 | 1 3 2 | | | | 550.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 0.9/1.5 | 1 2 8 | 1.0 | | Gray silty CLAY; with gravel and sand; moist; stiff; 20 mm VST@ 9.5' = 6.0, 3.2, 4.3 | |
| | 9 | | | | | | | |
| | 10 | | 0.8/1.5 | 0 1 3 | 1.0 | | Gray sandy CLAY; moist; medium stiff | 545.0 |
| | 11 | | | | | | Gray SANDY LOAM | |
| 15 | 12 | | 0.9/1.5 | 4 18 9 | | | Black CINDER (fill); with gravel and silty clay; wet; loose | |
| | 13 | | | | | | | |
| | 14 | | 0.2/1.5 | 1 1 1 | | | | 540.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 1.1/1.5 | 1 1 3 | 0.3 | | Gray SANDY LOAM; wet; slightly stiff | |
| | 17 | | | | | | | |
| | 18 | | 1.1/1.5 | 0 0 3 | | | Gray SILTY LOAM; wet; soft; 20 mm VST@ 51.5' = 6.7, 2.3, 2.5 | 535.0 |
| | 19 | | | | | | | |
| 25 | 20 | | 1.8/2.0 | | | | Gray SANDY LOAM; moist | |
| | 21 | | | | 0.7 | | | |
| | 22 | | 1.2/1.5 | 2 3 5 | 1.5 | | Gray silty CLAY; moist; stiff | 530.0 |
| | 23 | | | | | | | |
| 30 | | | | | | | End of Boring = 29.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128059.37
Easting: 2456087.51

Weather: Sunny 64 F

**Boring Information:**
Boring No: B-2CCR
Well No: B-2CCR
Surf Elev.: 566.77

**Depth Information:**
Total: 26.0'
Auger: 26.0'
Core: -

**Dates:**
Start: 10/17/2023
Finish: 10/17/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 566.8 |
| 0 | 1 | | | | | | Mix of lime sludge, and fly and bottom ASH; some dark yellow brown mottling; moist; soft | |
| | 2 | | 1.3/1.5 | 1 1 1 | 0.25 | | | 565.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.6/1.5 | 1 0 1 | | | More bottom ash | |
| | 5 | | | | | | | |
| | 6 | | 0.9/1.5 | 1 5 3 | <0.25 | | Lime SLUDGE; wet; soft | 560.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.5/1.5 | 0 0 0 | <0.25 | | Black fly ASH; moist; soft; some organic fragments | |
| | 9 | | | | | | | 555.0 |
| | 10 | | 1.5/1.5 | 0 0 0 | | | Some bottom ash | |
| | 11 | | | | | | | |
| 15 | 12 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 13 | | | | | | | |
| | 14 | | 0.4/1.5 | 1 0 1 | | | Black bottom ASH; wet; loose | 550.0 |
| | 15 | | | | | | | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128663.99
Easting: 2456486.97

Weather: Sunny 69 F

**Boring Information:**
Boring No: B-3
Well No: B-3
Surf Elev.: 554.19

**Depth Information:**
Total: 29.5'
Auger: 29.5'
Core: -

**Dates:**
Start: 10/18/2023
Finish: 10/18/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 554.2 |
| 0 | 1 | | | | | | Dark yellowish brown silty CLAY; organic staining; moist; stiff | |
| | 2 | | 0.5/1.5 | 1 1 2 | 1.0 | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.9/1.5 | 2 2 2 | | | Brown/gray SAND; coarse grained; moist to wet; loose | 550.0 |
| | 5 | | | | | | | |
| | 6 | | 0.8/1.5 | 1 2 3 | 2.57 | | Dark yellowish brown silty CLAY; organic staining; moist; stiff | |
| | 7 | | | | | | | 545.0 |
| 10 | 8 | | 1.5/2.0 | | | | 16 mm VST@ 9.5' = 9.3, 5.3, 5.4 | |
| | 9 | | | | 1.5 | | | |
| | 10 | | 1.0/1.5 | 1 3 3 | 1.5 | | Black/gray | |
| | 11 | | | | | | | 540.0 |
| 15 | 12 | | 1.3/1.5 | 2 3 4 | 1.5 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.2/1.5 | 1 2 5 | 1.25 | | With dark yellow brown mottling | |
| | 15 | | | | | | | 535.0 |
| 20 | 16 | | 1.6/2.0 | | | | 16 mm VST@ 19.5' = 11.8, 5.0, 5.1 | |
| | 17 | | | | 1.75 | | | |
| | 18 | | 1.5/1.5 | 1 2 4 | | | Manganese oxide concretions | |
| | 19 | | | | | | Dark yellowish brown silty CLAY; more silty; organic staining; moist; stiff | |
| 25 | 20 | | 1.1/1.5 | 0 2 2 | 1.25 | | Yellow brownclayey SILT; some dark yellow brown mottling; laminated; some magnesium oxide concretions; moist; soft; 16 mm VST@ 24.5' = 9.1, 6.0, 5.9 | 530.0 |
| | 21 | | | | | | | |
| | 22 | | 1.2/1.5 | 0 2 4 | 0.5 | | Yellow brown silty CLAY; some dark yellow brown mottling; few manganese oxide concretions; moist; stiff | |
| | 23 | | | | 2.75 | | | 525.0 |
| 30 | | | | | | | End of Boring = 29.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128634.05
Easting: 2456502.96

Weather: Sunny 64 F

**Boring Information:**
Boring No: B-3U
Well No: B-3U
Surf Elev.: 562.94

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/17/2023
Finish: 10/17/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 562.9 |
| 0 | 1 | | | | | | Dark yellowish brown silty CLAY; some iron concretions; moist; stiff; trace gravel | |
| | 2 | | 0.8/1.5 | 2 4 7 | 3.25 | | GYPSUM; moist; loose | 560.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.5/1.5 | 2 2 2 | | | | |
| | 5 | | | | | | | |
| | 6 | | 0.7/1.5 | 2 4 6 | 1.5 | | Olive gray silty CLAY; few dark yellow brown mottling; laminated; some bottom ash; moist; stiff; trace gravel | 555.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.3/2.0 | | | | 16 mm VST@ 9.5' = 0.8, 3.9, 4.2 | |
| | 9 | | | | | | Bottom ASH; moist to wet; loose | |
| | 10 | | 0.5/1.5 | 1 0 1 | | | Fly ASH; wet; soft | 550.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.5/1.5 | 0 1 0 | | | Little bottom ASH | |
| | 13 | | | | 0.5 | | | |
| | 14 | | 1.5/1.5 | 0 0 1 | 0.5 | | | 545.0 |
| | 15 | | | | <0.25 | | | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128336.73
Easting: 2456638.09

Weather: Sunny 65 F

**Boring Information:**
Boring No: B-3CCR
Well No: B-3CCR
Surf Elev.: 564.05

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/20/2023
Finish: 10/20/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 564.0 |
| 0 | 1 | | | | | | Fly ash with bottom ASH; moist; moderately firm | |
| | 2 | | 0.7/1.5 | 1 3 4 | 1.0 | | | |
| | 3 | | | | | | | 560.0 |
| 5 | 4 | | 1.5/1.5 | 1 0 0 | <0.25 | | Light gray lime SLUDGE; with rootlets; some organics; moist; soft | |
| | 5 | | | | | | | |
| | 6 | | 0.9/1.5 | 0 1 1 | <0.25 | | | |
| | 7 | | | | | | | 555.0 |
| 10 | 8 | | 1.1/1.5 | 0 0 0 | <0.25 | | Fly ASH; moist to wet; soft; strong petroleum odor | |
| | 9 | | | | | | | |
| | 10 | | 1.5/1.5 | 0 0 0 | <0.25 | | Some organic matter; strong petroleum odor | |
| | 11 | | | | | | | 550.0 |
| 15 | 12 | | 1.4/1.5 | 0 0 0 | | | | |
| | 13 | | | | | | Faint odor | |
| | 14 | | 1.5/1.5 | 0 0 0 | | | | |
| | 15 | | | | | | | 545.0 |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127789.13
Easting: 2456023.78

Weather: Sunny 62 F

**Boring Information:**
Boring No: B-4
Well No: B-4
Surf Elev.: 555.18

**Depth Information:**
Total: 34.5'
Auger: 34.5'
Core: -

**Dates:**
Start: 10/09/2023
Finish: 10/09/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 555.2 |
| 0 | 1 | | | | | | Gray silty CLAY; with cinders; dry; stiff | |
| | 2 | | 0.8/1.5 | 3 6 6 | 3.3 | | Brown silty CLAY; dry; stiff | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.2/1.5 | 4 6 5 | 4.0 | | Gray silty CLAY; with cinders | 550.0 |
| | 5 | | | | | | | |
| | 6 | | 0.7/1.5 | 2 3 4 | 1.0 | | Brown/gray silty CLAY; moist; moderately stiff; trace cinders | |
| | 7 | | | | | | | |
| 10 | 8 | | 0.6/1.5 | 1 3 4 | | | Gray silty CLAY; moist; moderately stiff; 16 mm VST@ 9.5' = 4.4, 2.5, 2.7 | 545.0 |
| | 9 | | | | 1.0 | | | |
| | 10 | | 0.8/1.5 | 0 1 2 | 0.5 | | Gray silty CLAY; moist; soft | |
| | 11 | | | | | | | |
| 15 | 12 | | 0.9/1.5 | 1 2 3 | 1.0 | | Brown/gray silty CLAY; mottling; moist; soft | 540.0 |
| | 13 | | | | | | | |
| | 14 | | 0.6/1.5 | 0 2 2 | 1.1 | | | |
| | 15 | | | | | | | |
| 20 | 16 | | 1.3/2.0 | | | | Brown silty CLAY; oxidation staining; moist; moderately stiff; 16 mm VST@ 19.5' = 2.6, 1.7, 1.7 | 535.0 |
| | 17 | | | | 2.1 | | | |
| | 18 | | 0.8/1.5 | 0 0 1 | | | | |
| | 19 | | | | 0.5 | | | |
| 25 | 20 | | 0.9/1.5 | 0 0 1 | 0.2-0.5 | | Soft | 530.0 |
| | 21 | | | | | | | |
| | 22 | | 1.5/1.5 | 0 1 2 | 0.1 | | Brown/gray silty LOAM; wet; soft; trace sand | |
| | 23 | | | | | | | |
| 30 | 24 | | 1.5/1.5 | 0 0 0 | 0.1 | | Brown sandy LOAM; wet; very soft | 525.0 |
| | 25 | | | | | | | |
| | 26 | | 1.5/1.5 | 0 0 0 | 0.5 | | Brown/gray silty CLAY; wet; soft | |
| | 27 | | | | | | | |
| 35 | | | | | | | End of Boring = 34.5 Feet | 520.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127802.23
Easting: 2456057.41

Weather: Sunny 78 F

**Boring Information:**
Boring No: B-4U
Well No: B-4U
Surf Elev.: 563.01

**Depth Information:**
Total: 29.0'
Auger: 29.0'
Core: -

**Dates:**
Start: 10/12/2023
Finish: 10/12/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 563.0 |
| 0 | 1 | | | | | | Black CINDERS; moist; loose | |
| | 2 | | 0.4/1.5 | 3 6 1 | | | | 560.0 |
| | 3 | | | | | | Black silty CLAY; with fly ash; moist; stiff; some organic fragments | |
| 5 | 4 | | 0.7/1.5 | 1 0 1 | 2.75 | | | |
| | 5 | | | | | | Olive gray silty CLAY; some dark yellow brown mottling; moist; stiff | |
| | 6 | | 0.7/1.5 | 1 2 2 | 1.75 | | Black CINDERS; wet; loose | 555.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 0.8/1.5 | 1 0 0 | <0.25 | | Black fly ASH; wet; soft | |
| | 9 | | | | | | | |
| | 10 | | 1.0/1.5 | 2 4 3 | | | | 550.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 0.9/1.5 | 0 2 2 | | | | |
| | 13 | | | | | | | |
| | 14 | | 1.1/1.5 | 1 3 6 | | | | 545.0 |
| | 15 | | | | | | Black CINDERS; wet; loose | |
| 20 | 16 | | 0.7/1.5 | 2 3 4 | | | | |
| | 17 | | | | | | Light gray/black fly ASH | |
| | 18 | | 1.2/1.5 | 0 0 | | | | 540.0 |
| | 19 | | | | | | Olive gray silty CLAY; some dark yellow brown mottling; moist; moderately stiff; trace organics | |
| 25 | 20 | | 0.4/1.5 | 0 0 1 | 1.25 | | | |
| | 21 | | | | | | | |
| | 22 | | 1.9/2.0 | | | | | 535.0 |
| | | | | | 1.25 | | End of Boring = 29 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127732.94
Easting: 2455960.98

Weather: Sunny 65 F

**Boring Information:**
Boring No: B-4L
Well No: B-4L
Surf Elev.: 533.51

**Depth Information:**
Total: 21.5'
Auger: 21.5'
Core: -

**Dates:**
Start: 10/10/2023
Finish: 10/10/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 533.5 |
| 0 | 1 | | | | | | Dark gray silty CLAY; some dark yellow brown mottling; some organic fragments; moist; soft; some gravel; trace coal fragments | |
| | 2 | | 0.4/1.5 | 3 2 1 | 0.25 | | | |
| | 3 | | | | | | | 530.0 |
| 5 | 4 | | 0.7/1.5 | 1 1 1 | <0.25 | | | |
| | 5 | | | | | | Grading to light gray | |
| | 6 | | 1.4/1.5 | 1 2 2 | 0.25 | | Light gray silty CLAY; some dark yellow brown mottling; few iron concretions; moist; soft | |
| | 7 | | | | | | | 525.0 |
| 10 | 8 | | 1.5/1.5 | 1 1 2 | 0.75 | | | |
| | 9 | | | | | | | |
| | 10 | | 1.2/2.0 | | | | 16 mm VST@ 12.0' = 5.6, 2.6, 2.4 | |
| | 11 | | | | 1.75 | | Gray clayey SILT; some dark yellow brown mottling; trace iron concretions; laminated; moist to wet; soft | 520.0 |
| 15 | 12 | | 1.4/1.5 | 0 1 2 | 0.5 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.5/1.5 | 0 0 0 | <0.25 | | Light gray silty CLAY; some dark yellow brown mottling; moist; soft | |
| | 15 | | | | | | | 515.0 |
| 20 | 16 | | 0.0/2.0 | | | | Shelby tube attempted but no recovery; 20 mm VST@ 19.5' = 4.2, 1.4, 1.6 | |
| | | | | | | | End of Boring = 21.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1127834.10
Easting: 2456152.87

Weather: Sunny 64 F

**Boring Information:**
Boring No: B-4CCR
Well No: B-4CCR
Surf Elev.: 567.59

**Depth Information:**
Total: 21.0'
Auger: 21.0'
Core: -

**Dates:**
Start: 10/17/2023
Finish: 10/17/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 567.6 |
| 0 | 1 | | | | | | Dark yellow brown silty CLAY; moist; stiff; some bottom ash | |
| | 2 | | 0.8/1.5 | 1 3 3 | 1.75 | | | 565.0 |
| | 3 | | | | | | Dark gray fly ash with bottom ASH; moist; moderately loose | |
| 5 | 4 | | 0.4/1.5 | 2 2 2 | | | | |
| | 5 | | | | | | Gray lime SLUDGE; with layers of fly ash; wet; soft; few organic fragments | |
| | 6 | | 1.2/1.5 | 2 3 3 | <0.25 | | | 560.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.4/1.5 | 0 0 0 | <0.25 | | Black fly ASH; moist; soft; trace to some organic fragments | |
| | 9 | | | | | | | |
| | 10 | | 1.5/1.5 | 1 0 0 | <0.25 | | | 555.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.5/1.5 | 0 0 1 | <0.25 | | Black bottom ash with fly ASH; wet; moderately loose; some organic fragments | |
| | 13 | | | | <0.25 | | Black fly ash with bottom ASH; wet; moderately soft; some organic fragments | |
| | 14 | | 0.2/1.5 | 0 1 1 | | | | 550.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 0.9/1.5 | 0 1 3 | | | Black bottom ASH; wet; loose | |
| | | | | | | | End of Boring = 21 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129302.48
Easting: 2455281.11

Weather: Cloudy, 62 F

**Boring Information:**
Boring No: B-5
Well No: B-5
Surf Elev.: 553.62

**Depth Information:**
Total: 39.5'
Auger: 39.5'
Core: -

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: S. Van Hook
Driller: A. Kargel
Helper(s): M. Sick

**Dates:**
Start: 10/06/2023
Finish: 10/06/2023

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 553.6 |
| 0 | 1 | | | | | | Greenish brown SILT; dry | |
| | 2 | | 0.9/1.5 | 3 7 7 | 4.5 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.7/1.5 | 3 4 8 | 3.5 | | Greenish brown silty CLAY | |
| | 5 | | | | | | | |
| | 6 | | 0.5/1.5 | 2 2 4 | 2.5 | | Brown mottling | |
| | 7 | | | | | | | 545.0 |
| 10 | 8 | | 0.9/1.5 | 2 4 5 | 1.5 | | | |
| | 9 | | | | | | | |
| | 10 | | 0.9/1.5 | 2 5 6 | 3.5 | | | |
| | 11 | | | | | | | 540.0 |
| 15 | 12 | | 0.8/1.5 | 3 4 7 | | | 16 mm VST@15.0' = 1.3, 3.3, 3.2 | |
| | 13 | | | | 3.0 | | | |
| | 14 | | 0.7/1.5 | 2 5 6 | 3.5 | | | |
| | 15 | | | | | | | 535.0 |
| 20 | 16 | | 0.9/1.5 | 1 5 8 | 4.5 | | Dark gray clayey SILT; moist; wood chucks | |
| | 17 | | | | | | | |
| | 18 | | 0.9/1.5 | 2 5 5 | 2.0 | | | |
| | 19 | | | | | | | 530.0 |
| 25 | 20 | | 1.9/2.0 | | | | 16 mm VST@ 24.0' = 3.7-3.8 | |
| | 21 | | | | | | | |
| | 22 | | 1.3/1.5 | 0 1 2 | 0.5 | | Brown silty CLAY; moist | |
| | 23 | | | | | | | 525.0 |
| 30 | 24 | | 1.2/1.5 | 0 0 1 | <0.25 | | Saturated | |
| | 25 | | | | | | | |
| | 26 | | 1.2/1.5 | 0 1 2 | 0.5 | | Brown silty CLAY; trace greenish gray and dark brown mottling | |
| | 27 | | | | | | | 520.0 |
| 35 | 28 | | 1.5/1.5 | 0 2 2 | 0.25 | | BroVery little silt | |
| | 29 | | | | | | | |
| | 30 | | 1.5/1.5 | 0 0 2 | | | | |
| | 31 | | | | | | | 515.0 |
| 40 | | | | | | | End of Boring = 39.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129295.29
Easting: 2455215.62

Weather: Sunny, 87 F

**Boring Information:**
Boring No: B-5L
Well No: B-5L
Surf Elev.: 534.00

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/03/2023
Finish: 10/03/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 534.0 |
| 0 | 1 | | | | | | Dark brown silty CLAY; dry; stiff | |
| | 2 | | 0.5/1.5 | 4 6 5 | >4.5 | | | |
| | 3 | | | | | | | 530.0 |
| 5 | 4 | | 1.0/1.5 | 5 5 7 | | | | |
| | 5 | | | | 2.7 | | | |
| | 6 | | 0.2/1.5 | 2 2 2 | | | Soft | |
| | 7 | | | | | | | 525.0 |
| 10 | 8 | | 1.6/2.0 | | 0.5 | | Gray silty CLAY; soft; 20 mm VST@ 9.5' = 5.8, 2.5, 2.9 | |
| | 9 | | | | 0.2-0.7 | | | |
| | 10 | | 1.5/1.5 | 0 2 1 | | | Gray CLAY; very soft | |
| | 11 | | | | | | | 520.0 |
| 15 | 12 | | 1.5/1.5 | 0 1 2 | | | | |
| | 13 | | | | 0.2-0.5 | | | |
| | 14 | | 1.5/1.5 | 0 0 0 | 0.1 | | Gray sandy CLAY; very soft | |
| | 15 | | | | | | | 515.0 |
| 20 | | | | | | | Gray SAND; 20 mm VST@19.0' = 7.2, 3.2, 3.2 | |
| | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129333.75
Easting: 2455341.56

Weather: Sunny, 87 F

**Boring Information:**
Boring No: B-5CCR
Well No: B-5CCR
Surf Elev.: 552.59

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/03/2023
Finish: 10/03/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 552.6 |
| 0 | 1 | | | | | | Bottom ASH | |
| | 2 | | 0.9/1.5 | 14 12 | | | | 550.0 |
| | 3 | | | | 4.5 | | Dark gray sandy LOAM; stiff | |
| 5 | 4 | | 1.4/1.5 | 3 2 3 | 1.0 | | Dark gray SAND; bottom ash; wet | |
| | 5 | | | | | | | |
| | 6 | | 1.5/1.5 | 1 1 1 | 1.0 | | Dark gray sandy LOAM; bottom ash | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 0.6/1.5 | 1 4 6 | | | Black SAND; bottom ash; wet | |
| | 9 | | | | | | | |
| | 10 | | 0.4/1.5 | 5 9 4 | | | | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 0.2/1.5 | 0 1 1 | | | Black SAND; coarse grained; bottom ash; wet | |
| | 13 | | | | | | | |
| | 14 | | 0.2/1.5 | 3 2 3 | | | | 535.0 |
| | 15 | | | | | | | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130094.72
Easting: 2455316.59

Weather: Mostly Cloudy, 71 F

**Boring Information:**
Boring No: B-6
Well No: B-6
Surf Elev.: 553.93

**Depth Information:**
Total: 40.0'
Auger: 40.0'
Core: -

**Dates:**
Start: 10/05/2023
Finish: 10/05/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: S. Van Hook
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 553.9 |
| 0 | 1 | | 1.3/2.0 | 5 15 37 33 | | | Dark brown SILTY (fill) | |
| | 2 | | 0.8/2.0 | 5 5 6 7 | +4.5 | | Dark brown silty CLAY; moist | |
| | 3 | | | | | | | 550.0 |
| 5 | 4 | | 0.7/1.5 | 2 3 5 | 2.25 | | | |
| | 5 | | | | | | | |
| | 6 | | 0.8/1.5 | 1 3 7 | 2 | | | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 0.8/1.5 | 5 8 7 | | | 8.2 mm VST@ 9.5' = 1.3-1.4 | |
| | 9 | | | | 4.0 | | | |
| | 10 | | 0.9/1.5 | 3 4 6 | 4.0 | | | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.2/1.5 | 2 4 6 | 3.0 | | 13 mm VST@ 15.0' = 4.7-4.6 | |
| | 13 | | | | | | | |
| | 14 | | 2.0/2.0 | | | | | 535.0 |
| 20 | 15 | | 1.4/2.0 | 2 5 6 10 | 2.7 | | | |
| | 16 | | 1.5/2.0 | 5 10 11 12 | 4.2 | | Dark greenish gray silty CLAY; moist | |
| | 17 | | 1.3/2.0 | 2 4 6 8 | 3.0 | | Gray CLAY and SAND; with coal; brown mottling | 530.0 |
| 25 | 18 | | 1.6/2.0 | 1 5 6 6 | 2.0 | | Gray silty CLAY; 6.1 mm VST@ 25.5' = 4.0-3.9 | |
| | 19 | | 2.0/2.0 | 1 1 2 2 | 1.0 | | Gray clayey SILT | |
| | 20 | | 1.9/2.0 | 0 0 0 2 | 0.25 | | | 525.0 |
| 30 | 21 | | | | | | | |
| | 22 | | 2.0/2.0 | 0 0 0 2 | <0.25 | | Gray silty CLAY; yellow brown mottling | 520.0 |
| | 23 | | 2.0/2.0 | 0 0 0 0 | <0.25 | | Brown CLAY; mottling light brown; trace sand | |
| 35 | 24 | | 1.8/2.0 | 0 2 2 3 | 1.0 | | Light gray clayey sandy SILT; mottling yellow brown | |
| | 25 | | | | | | | 515.0 |
| 40 | | | | | | | End of Boring = 40 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130067.17
Easting: 2455388.17

Weather: Sunny, 65 F

**Boring Information:**
Boring No: B-6CCR
Well No: B-6CCR
Surf Elev.: 553.32

**Depth Information:**
Total: 24.5'
Auger: 24.5'
Core: -

**Dates:**
Start: 10/20/2023
Finish: 10/20/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 553.3 |
| 0 | 1 | | | | | | Gray fly ASH; moist; friable; some gypsum; trace bottom ash | |
| | 2 | | 1.0/1.5 | 13 12 | | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.9/1.5 | 5 3 2 | | | Bottom ASH; moist; loose | |
| | 5 | | | | | | | |
| | 6 | | 1.1/1.5 | 2 2 2 | <0.25 | | Fly ASH; moist to wet; soft | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.5/1.5 | 1 0 0 | <0.25 | | Fly ASH; wet; soft | |
| | 9 | | | | | | | |
| | 10 | | 0.6/1.5 | 0 0 0 | <0.25 | | | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.5/1.5 | 0 0 0 | <0.25 | | | 535.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 17 | | | | | | | |
| | 18 | | 1.5/1.5 | 0 0 0 | <0.25 | | | 530.0 |
| | 19 | | | | | | | |
| 25 | | | | | | | End of Boring = 24.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130413.91
Easting: 2455917.71

Weather: Haze, 79 F

**Boring Information:**
Boring No: B-7
Well No: B-7
Surf Elev.: 552.56

**Depth Information:**
Total: 39.5'
Auger: 39.5'
Core: -

**Dates:**
Start: 10/04/2023
Finish: 10/04/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 552.6 |
| 0 | 1 | | | | | | Brown/gray sandy CLAY; mottling; dry; very stiff | |
| | 2 | | 0.6/1.5 | 3 5 6 | >4.5 | | | 550.0 |
| | 3 | | | | | | Brown silty CLAY; slightly moist; very stiff | |
| 5 | 4 | | 0.5/1.5 | 3 4 7 | 2.5 | | | |
| | 5 | | | | | | BrowGray silty LOAM; slightly moist; stiff | |
| | 6 | | 0.7/1.5 | 3 4 5 | 2.5 | | | 545.0 |
| | 7 | | | | | | Gray silty CLAY; 16 mm VST@ 9.5' = 13+, 5.2, 5.2 | |
| 10 | 8 | | 0.7/1.5 | 2 3 6 | 2.4 | | Gray silty LOAM | |
| | 9 | | | | | | | |
| | 10 | | 0.8/1.5 | 2 4 7 | 2.2 | | Gray silty LOAMSlightly moist; fractured | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 0.9/1.5 | 2 4 7 | 2.3 | | | |
| | 13 | | | | | | Brown sandy LOAM; moist; stiff | |
| | 14 | | 0.5/1.5 | 2 4 5 | 2.5 | | | 535.0 |
| | 15 | | | | | | Brown/gray silty LOAM; mottling; moist; stiff; 16 mm VST@ 19.5' = 11.4, 6.1, 6.2 | |
| 20 | 16 | | 2.0/2.0 | | | | | |
| | 17 | | | | 2.1 | | Brown/gray silty CLAY; mottling; moist; stiff | |
| | 18 | | 1.2/1.5 | 2 3 5 | 1.6 | | | 530.0 |
| | 19 | | | | | | Red brown SAND; moist; loose | |
| 25 | 20 | | 1.4/1.5 | 2 3 5 | 1.7 | | Brown sandy LOAM; wet; soft | |
| | 21 | | | | | | | 525.0 |
| | 22 | | 1.5/1.5 | 0 1 2 | 0.2 | | Brown/gray silty LOAM; with sand; moist; soft | |
| | 23 | | | | | | | |
| 30 | 24 | | 1.5/1.5 | 0 2 2 | 0.5 | | | |
| | 25 | | | | 1.2 | | | |
| | 26 | | 1.5/1.5 | 0 1 1 | 0.2 | | | 520.0 |
| | 27 | | | | | | | |
| 35 | 28 | | 1.5/1.5 | 0 0 2 | 0.5 | | | |
| | 29 | | | | | | | |
| | 30 | | 1.5/1.5 | 1 1 1 | 0.8 | | Gray SILT; very moist; soft | 515.0 |
| | 31 | | | | | | | |
| 40 | | | | | | | End of Boring = 39.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130310.33
Easting: 2455947.06

Weather: Cloudy, 58 F

**Boring Information:**
Boring No: B-7CCR
Well No: B-7CCR
Surf Elev.: 552.18

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/19/2023
Finish: 10/19/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 552.2 |
| 0 | 1 | | | | | | Fly ash, bottom ASH and cinder (fill); moist to wet; soft | |
| | 2 | | 1.0/1.5 | 3 2 2 | 0.25 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.0/1.5 | 0 1 1 | <0.25 | | Bottom ASH; moist; loose | |
| | 5 | | | | | | Fly ASH; wet; soft | |
| | 6 | | 0.6/1.5 | 0 0 0 | <0.25 | | | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.1/1.5 | 0 0 0 | <0.25 | | | |
| | 9 | | | | | | | |
| | 10 | | 1.5/1.5 | 0 0 0 | <0.25 | | | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 1.3/1.5 | 0 0 0 | <0.25 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.5/1.5 | 0 0 0 | <0.25 | | | 535.0 |
| | 15 | | | | | | | |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130083.21
Easting: 2456391.16

Weather: Cloudy, 58 F

**Boring Information:**
Boring No: B-8U
Well No: B-8U
Surf Elev.: 551.74

**Depth Information:**
Total: 33.5'
Auger: 33.5'
Core: -

**Dates:**
Start: 10/19/2023
Finish: 10/19/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 551.7 |
| 0 | 1 | | | | | | Dark gray to brown silty CLAY; moist; moderatyely firm; some organic fragments; some bottom ash | |
| | 2 | | 0.8/1.5 | 1 2 2 | 1.0 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.9/1.5 | 3 5 5 | 4.0 | | | |
| | 5 | | | | | | | 545.0 |
| | 6 | | 1.0/1.5 | 3 5 6 | 4.5 | | | |
| | 7 | | | | | | | |
| 10 | 8 | | 1.8/2.0 | | | | 16 mm VST@ 9.5' = 10.0, 3.8, 3.9 | |
| | 9 | | | | 0.75 | | | |
| | 10 | | 1.1/1.5 | 2 2 5 | 1.5 | | Color grades to light brown; more clayey; some dark yellow brown mottling; some iron oxide modules | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 0.8/1.5 | 2 3 5 | 1.5 | | Black/dark brown silty CLAY; moist; stiff; trace coal fragments | |
| | 13 | | | | | | | 535.0 |
| | 14 | | 0.9/1.5 | 2 4 7 | 3.0 | | | |
| | 15 | | | | | | | |
| 20 | 16 | | 1.7/2.0 | | 2.25 | | 16 mm VST@ 19.5' = 11.2, 4.0, 3.8 | |
| | 17 | | | | | | | 530.0 |
| | 18 | | 1.0/1.5 | 3 6 7 | 2.5 | | Trace organic fragments | |
| | 19 | | | | | | | |
| 25 | 20 | | 1.3/1.5 | 1 1 3 | 0.5 | | 16 mm VST@ 24.5' = 5.8, 3.2, 3.0<br>More silty; some organics | |
| | 21 | | | | | | | |
| | 22 | | 1.5/1.5 | 1 1 2 | 0.5 | | Dark gray clayey SILT; moist to wet; moderately soft; some organics | 525.0 |
| | 23 | | | | | | | |
| 30 | 24 | | 1.3/1.5 | 1 1 2 | 0.75 | | | |
| | 25 | | | | | | | |
| | 26 | | 1.5/1.5 | 0 1 1 | 0.5 | | | 520.0 |
| | | | | | | | End of Boring = 33.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130467.06
Easting: 2455885.37

Weather: Sunny, 85 F

**Boring Information:**
Boring No: B-7L
Well No: B-7L
Surf Elev.: 533.19

**Depth Information:**
Total: 20.0'
Auger: 20.0'
Core: -

**Dates:**
Start: 10/02/2023
Finish: 10/02/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: K. Finke
Driller: M. Sick
Helper(s): A. Kargel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 533.2 |
| 0 | 1 | | | | 3.5 | | Gray silty CLAY; dry; very firm; trace sand | |
| | 2 | | 0.5/1.5 | 3 5 7 | | | | 530.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.5/1.5 | 3 4 7 | 1.5 | | Reddish brown clayey SILT; moist; trace sand | |
| | 5 | | | | | | | |
| | 6 | | | 3 3 3 | 1.0 | | Brownish red SAND; wet | 525.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 0.6/1.5 | W 3 2 | | | 20 mm VST@ 10.0' = 3.8, 1.2 | |
| | | | | | | | Brownish red SAND with dark black SILT; ash | |
| | 9 | | | | 0.25 | | | |
| | 10 | | 1.5/1.5 | 2 1 2 | | | ASH | |
| | 11 | | | | 0.25 | | Gray silty CLAY; wet; soft | 520.0 |
| 15 | 12 | | 0.9/1.5 | W W W | | | Gray clayey SILT; moist; soft | |
| | 13 | | | | 0.25 | | | |
| | 14 | | 1.1/1.5 | W W W | | | | |
| | 15 | | | | 0 | | | 515.0 |
| 20 | | | | | | | 20 mm VST@ 20.0' = 6.7, 3.0, 3.1 | |
| | | | | | | | End of Boring = 20 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130109.51
Easting: 2456566.64

Weather: Haze, 79 F

**Boring Information:**
Boring No: B-8L
Well No: B-8L
Surf Elev.: 530.62

**Depth Information:**
Total: 24.5'
Auger: 24.5'
Core: -

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: A. Kargel
Helper(s): M. Sick

**Dates:**
Start: 10/04/2023
Finish: 10/04/2023

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 530.6 |
| 0 | 1 | | | | | | Brown silty LOAM; dry; hard | |
| | 2 | | 0.8/1.5 | 4 6 7 | >4.5 | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.2/1.5 | 4 3 4 | | | Brown silty CLAY; moist; stiff | 525.0 |
| | 5 | | | | | | | |
| | 6 | | 1.1/1.5 | 1 1 1 | 0.1 | | Wet; soft | |
| | 7 | | | | | | | |
| 10 | 8 | | 1.5/1.5 | 1 1 1 | | | 20 mm VST@9.5' = 5.4, 3.4, 3.8 | |
| | 9 | | | | 0.0-0.1 | | Wet; very soft | 520.0 |
| | 10 | | 1.6/2.0 | | | | Some mottling; wet; soft | |
| | 11 | | | | 0.5 | | | |
| 15 | 12 | | 1.4/1.5 | 1 1 1 | 0.5 | | Brown sandy LOAM; wet; soft | 515.0 |
| | 13 | | | | | | Gray sandy LOAM; wet; soft | |
| | 14 | | 1.1/1.5 | 0 1 3 | | | Gray SAND; loose; trace clay | |
| | 15 | | | | | | | |
| 20 | 16 | | 1.4/1.5 | 0 0 1 | | | | 510.0 |
| | 17 | | | | 0.2 | | Gray SILT; wet; soft | |
| | 18 | | 1.5/1.5 | 0 0 0 | | | 20 mm VST@ 22.0' = 6.8, 3.4, 3.8 | |
| | 19 | | | | 0.1 | | Gray sandy LOAM; wet; soft | |
| 25 | | | | | | | End of Boring = 24.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129690.26
Easting: 2456402.29

Weather: Cloudy, 58 F

**Boring Information:**
Boring No: B-9U
Well No: B-9U
Surf Elev.: 552.15

**Depth Information:**
Total: 40.0'
Auger: 40.0'
Core: -

**Dates:**
Start: 10/19/2023
Finish: 10/19/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 552.2 |
| 0 | 1 | | | | | | Dark brown/gray silty CLAY; moist; stiff | |
| | 2 | | 0.7/1.5 | 3 7 7 | 4.0 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.0/1.5 | 3 4 6 | 3.75 | | | |
| | 5 | | | | | | | |
| | 6 | | 0.5/1.5 | 3 3 6 | 2.25 | | More clayey; trace bottom ash fragments | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.7/2.0 | | | | Yellow brown silty CLAY; moist; stiff; laminated; trace iron nodules; 16 mm VST@ 9.5' = 7.5, 4.1, 3.5 | |
| | 9 | | | | 1.0 | | | 540.0 |
| | 10 | | 0.8/1.5 | 2 4 5 | 2.75 | | Black silty CLAY; few cinders (bottom ash); moist; stiff | |
| | 11 | | | | | | | |
| 15 | 12 | | 0.8/1.5 | 3 5 8 | 3.0 | | | |
| | 13 | | | | | | | |
| | 14 | | 0.7/1.5 | 2 4 6 | 2.5 | | | 535.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 1.9/2.0 | | | | 16 mm VST@ 19.5' = 11.3, 6.0, 5.6 | |
| | 17 | | | | 3.25 | | | |
| | 18 | | 0.8/1.5 | 2 5 7 | 2.25 | | Trace organic fragments; trace coal fragments | 530.0 |
| | 19 | | | | | | | |
| 25 | 20 | | 0.9/1.5 | 1 4 5 | 2.25 | | 16 mm VST@ 24.5' = 7.0, 3.8, 3.5 | |
| | 21 | | 1.1/2.0 | 2 5<br>6 7 | 2.5<br>0.75 | | Light brown silty clay to CLAY; moist; stiff; some iron oxidized nodules; trace organic fragments; rootlets; more clayey at 26.5' | 525.0 |
| | 22 | | 1.2/2.0 | 3 4<br>5 6 | 0.75 | | Gray CLAY | |
| 30 | 23 | | 1.5/2.0 | 1 2<br>4 5 | 1.0 | | Some dark yellow brown mottling; some iron oxidized nodules | |
| | 24 | | 1.6/2.0 | 0 1<br>2 3 | 0.5 | | Black to dark gray clayey SILT; moist; soft; trace organic fragments | 520.0 |
| 35 | 25 | | 1.7/2.0 | 0 2<br>3 4 | 0.5 | | | |
| | 26 | | 2.0/2.0 | 0 1<br>3 3 | 1.0 | | Dark gray clayey SILT; moist; moderately stiff; with organic fragments; some coal; glauconite the last 0.3' | 515.0 |
| | 27 | | 2.0/2.0 | 0 1<br>2 4 | 0.75 | | Dark gray clayey SAND; moist; moderately stiff; trace coal fragments | |
| 40 | | | | | | | Dark gray sandy CLAY; moist; moderately stiff; trace coal fragments | |
| | | | | | | | End of Boring = 40 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129680.19
Easting: 2456242.16

Weather: Sunny, 69 F

**Boring Information:**
Boring No: B-9CCR
Well No: B-9CCR
Surf Elev.: 553.97

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/18/2023
Finish: 10/18/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 554.0 |
| 0 | 1 | | | | | | Bottom ASH; moist | |
| | 2 | | 0.3/1.5 | 1 6 4 | | | | |
| | 3 | | | | | | | 550.0 |
| 5 | 4 | | 1.5/1.5 | 0 1 0 | <0.25 | | Fly ASH; wet; soft | |
| | 5 | | | | | | | |
| | 6 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 7 | | | | | | | 545.0 |
| 10 | 8 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 9 | | | | | | | |
| | 10 | | 1.5/1.5 | 0 0 1 | <0.25 | | | |
| | 11 | | | | | | | 540.0 |
| 15 | 12 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 15 | | | | | | | 535.0 |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129778.29
Easting: 2456635.89

Weather: Haze, 79 F

**Boring Information:**
Boring No: B-9L
Well No: B-9L
Surf Elev.: 524.07

**Depth Information:**
Total: 19.5'
Auger: 19.5'
Core: -

**Dates:**
Start: 10/04/2023
Finish: 10/04/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 524.1 |
| 0 | 1 | | | | | | Brown silty LOAM; moist; soft | |
| | 2 | | 1.4/1.5 | 1 2 2 | 1.0<br>0.5 | | | |
| | 3 | | | | | | | 520.0 |
| 5 | 4 | | 1.5/1.5 | 1 1 1 | 1.0 | | | |
| | 5 | | | | 0.1 | | Brown SAND; medium grained; moist; soft | |
| | 6 | | 2.0/2.0 | | | | | |
| | 7 | | | | | | | 515.0 |
| 10 | 8 | | 1.0/1.5 | 0 0 1 | 0.1 | | Brown sandy CLAY; wet; soft; gray at 10.5' | |
| | 9 | | | | | | Gray silty CLAY; wet; soft | |
| | 10 | | 0.9/1.5 | 0 1 2 | 0.5 | | | |
| | 11 | | | | | | | 510.0 |
| 15 | 12 | | 1.5/1.5 | 0 0 1 | 0.5<br>0.2 | | | |
| | 13 | | | | | | | |
| | 14 | | 1.5/1.5 | 0 0 0 | 0.3 | | | |
| | 15 | | | | | | 16 mm VST@19.5' = 5.4, 2.9, 3.1 | 505.0 |
| 20 | | | | | | | End of Boring = 19.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1129518.55
Easting: 2455869.56

Weather: Sunny, 65 F

**Boring Information:**
Boring No: B-10CCR
Well No: B-10CCR
Surf Elev.: 555.35

**Depth Information:**
Total: 24.5'
Auger: 24.5'
Core: -

**Dates:**
Start: 10/20/2023
Finish: 10/20/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 555.4 |
| 0 | 1 | | | | | | Bottom ASH; moist to wet; loose | |
| | 2 | | 0.8/1.5 | 4 5 3 | | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.8/1.5 | 2 7 12 | | | Moist; loose | 550.0 |
| | 5 | | | | | | | |
| | 6 | | 1.3/1.5 | 1 2 1 | <0.25 | | Fly ASH; moist to wet; soft; some bottom ash | |
| | 7 | | | | | | | |
| 10 | 8 | | 1.4/1.5 | 1 0 1 | <0.25 | | Trace bottom ash | 545.0 |
| | 9 | | | | | | | |
| | 10 | | 1.3/1.5 | 0 0 0 | <0.25 | | Wet; soft | |
| | 11 | | | | | | | |
| 15 | 12 | | 1.1/1.5 | 4 1 2 | | | Bottom ASH; wet; loose | 540.0 |
| | 13 | | | | | | | |
| | 14 | | 0.9/1.5 | 0 0 0 | <0.25 | | Fly ASH; wet; soft | |
| | 15 | | | | | | | |
| 20 | 16 | | 1.5/1.5 | 0 0 0 | <0.25 | | | 535.0 |
| | 17 | | | | | | | |
| | 18 | | 1.5/1.5 | 0 0 0 | <0.25 | | | |
| | 19 | | | | | | | |
| 25 | | | | | | | End of Boring = 24.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128891.26
Easting: 2456234.99

Weather: Sunny, 69 F

**Boring Information:**
Boring No: B-11U
Well No: B-11U
Surf Elev.: 552.27

**Depth Information:**
Total: 29.5'
Auger: 29.5'
Core: -

**Dates:**
Start: 10/18/2023
Finish: 10/18/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 552.3 |
| 0 | 1 | | | | | | Black silty CLAY; with sand and gravel; moist; moderately stiff | |
| | 2 | | 0.3/1.5 | 1 3 10/3" | | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 0.4/1.5 | 1 1 2 | 1.25 | | Yellow brown silty CLAY; some dark yellow mottling; some iron oxide nodules; moist; moderately stiff | |
| | 5 | | | | | | | |
| | 6 | | 0.8/1.5 | 1 2 3 | 2.5 | | | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 2.0/2.0 | | | | 16 mm VST@ 9.5' = 9.2, 2.8, 2.8 | |
| | 9 | | | | 2.0 | | | |
| | 10 | | 1.2/1.5 | 2 4 5 | | | | 540.0 |
| | 11 | | | | 3.5 | | Gray | |
| 15 | 12 | | 0.9/1.5 | 4 7 7 | 2.25 | | Organic fragments | |
| | 13 | | | | | | Dark gray clayey SILT; moist; moderately firm; some organic fragments | |
| | 14 | | 1.3/1.5 | 1 4 6 | 2.0 | | | 535.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 1.8/2.0 | | | | Dark gray brown silty CLAY; moist; stiff; 16 mm VST@19.5' = 13+, 7.4, 7.6 | |
| | 17 | | | | 2.5 | | | |
| | 18 | | 1.5/1.5 | 0 3 4 | 1.25 | | Yellow brown silty CLAY; some dark yellow brown mottling; iron oxide and manganese oxide concretions; moist; moderately stiff | 530.0 |
| | 19 | | | | | | 16 mm VST@ 24.5' = 4.9, 3.1, 3.1 | |
| 25 | 20 | | 1.5/1.5 | 0 0 0 | <0.25 | | Yellow brown clayey silt to SILT; wet; soft | |
| | 21 | | | | | | | |
| | 22 | | 1.5/1.5 | 0 0 0 | | | | 525.0 |
| | 23 | | | | | | | |
| 30 | | | | | | | End of Boring = 29.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128504.92
Easting: 2455639.11

Weather: Sunny, 74 F

**Boring Information:**
Boring No: B-12U
Well No: B-12U
Surf Elev.: 553.41

**Depth Information:**
Total: 8.5'
Auger: 8.5'
Core: -

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

**Dates:**
Start: 10/23/2023
Finish: 10/23/2023

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 553.4 |
| 0 | 1 | | | | | | Dark yellow brown silty CLAY; some bottom ash; moist; stiff; trace iron oxide nodules | |
| | 2 | | 1.1/1.5 | 5 6 7 | 3.75 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.0/1.5 | 5 5 6 | 3.25 | | | |
| | 5 | | | | | | | |
| | 6 | | 1.5/1.5 | 3 5 5 | 2.75 | | | 545.0 |
| | | | | | | | End of Boring = 8.5 Feet | |
| 10 | | | | | | | | 540.0 |
| 15 | | | | | | | | 535.0 |
| 20 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: Cloudy, 72 F

**Boring Information:**
Boring No: B-13BN
Well No: B-13BN
Surf Elev.: 0

**Depth Information:**
Total: 10.5'
Auger: 10.5'
Core: -

**Dates:**
Start: 10/24/2023
Finish: 10/24/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | 1 | | | | | | Light brown clayey silt to silty CLAY; moist; firm; few dark yellow brown mottling; trace iron oxide nodules | |
| | 2 | | 1.0/1.5 | 3 5 6 | 4.25 | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.7/1.5 | 4 4 7 | 3.75 | | | -5.0 |
| | 5 | | | | | | Brown silty CLAY; moist; very firm; trace iron oxide nodules | |
| | 6 | | 1.0/1.5 | 5 8 11 | 4.75+ | | 16 mm VST@ 8.0' = 13+, 6.7, 6.5 | |
| | 7 | | 1.7/2.0 | | | | | |
| 10 | | | | | 3.5 | | End of Boring = 10.5 Feet | -10.0 |
| 15 | | | | | | | | -15.0 |
| 20 | | | | | | | | -20.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: Cloudy, 72 F

**Boring Information:**
Boring No: B-13BS
Well No: B-13BS
Surf Elev.: 0

**Depth Information:**
Total: 10.5'
Auger: 10.5'
Core: -

**Dates:**
Start: 10/24/2023
Finish: 10/24/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | 1 | | | | | | Dark brown clayey silt to silty CLAY; moist; very firm; trace iron oxide nodules; trace rootlets | |
| | 2 | | 1.0/1.5 | 4 4 5 | 4.5+ | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.5/1.5 | 4 5 6 | 4.5 | | | -5.0 |
| | 5 | | | | | | | |
| | 6 | | 1.1/1.5 | 3 7 9 | 4.5+ | | Grades to dark gray; trace organics; trace rootlets; 16 mm VST@8.5' = 13+, 6.5, 5.8 | |
| | 7 | | 1.5/2.0 | | | | | |
| 10 | | | | | 3.5 | | | -10.0 |
| | | | | | | | End of Boring = 10.5 Feet | |
| 15 | | | | | | | | -15.0 |
| 20 | | | | | | | | -20.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: Cloudy, 72 F

**Boring Information:**
Boring No: B-13L
Well No: B-13L
Surf Elev.: 0

**Depth Information:**
Total: 16.0'
Auger: 16.0'
Core: -

**Dates:**
Start: 10/24/2023
Finish: 10/24/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | 1 | | | | | | Dark brown clayey silt to silty CLAY; moist; very firm | |
| | 2 | | 1.0/1.5 | 4 5 6 | 4.5+ | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 1.0/1.5 | 4 5 7 | 4.5 | | | -5.0 |
| | 5 | | | | | | | |
| | 6 | | 1.4/1.5 | 3 7 10 | 3.75 | | Some rootlets; some manganese oxide nodules | |
| | 7 | | | | | | | |
| 10 | 8 | | 1.5/1.5 | 4 6 10 | 3.5 | | Trace rootlets; some manganese oxide nodules | -10.0 |
| | 9 | | | | | | | |
| | 10 | | 1.5/1.5 | 3 6 8 | 2.5 | | Trace rootlets; some iron oxide nodules | |
| | 11 | | | | | | | |
| 15 | 12 | | 1.3/1.5 | 4 4 7 | 2.25 | | Light gray silty CLAY; moist; firm; some organics; some iron staining; few iron oxide nodules | -15.0 |
| | | | | | | | End of Boring = 16 Feet | |
| 20 | | | | | | | | -20.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 0
Easting: 0

Weather: Sunny, 74 F

**Boring Information:**
Boring No: B-13LF
Well No: B-13LF
Surf Elev.: 0

**Depth Information:**
Total: 26.0'
Auger: 26.0'
Core: -

**Dates:**
Start: 10/23/2023
Finish: 10/23/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 0.0 |
| 0 | 1 | | | | | | Yellow brown clayey SILT; dry; stiff | |
| | 2 | | 0.2/1.5 | 5 7 5 | | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.8/1.5 | 4 5 6 | 3.75 | | Light gray silty CLAY; moist; stiff | -5.0 |
| | 5 | | | | | | | |
| | 6 | | 0.5/1.5 | 5 50/4" | | | GYPSUM; dry; loose | |
| | 7 | | | | | | | |
| 10 | 8 | | 0.3/1.5 | 27 0/3.5 | | | | -10.0 |
| | 9 | | | | | | | |
| | 10 | | 0.8/1.5 | 35 50/5" | | | | |
| | 11 | | | | | | | |
| 15 | 12 | | 0.7/1.5 | 37 50/4" | | | | -15.0 |
| | 13 | | | | | | | |
| | 14 | | 0.4/1.5 | 0/4.5 | | | | |
| | 15 | | | | | | | |
| 20 | 16 | | 1.2/1.5 | 13 34 50/3" | 3.75 | | Dark yellow brown silty CLAY; moist; firm | -20.0 |
| | 17 | | | | | | GYPSUM | |
| | 18 | | 0.6/1.5 | 50/5" | | | | |
| | 19 | | | | | | | |
| 25 | 20 | | 0.4/1.5 | 50/5" | | | | -25.0 |
| | | | | | | | End of Boring = 26 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128504.92
Easting: 2455639.11

Weather: Sunny, 74 F

**Boring Information:**
Boring No: B-12U-
Well No: B-12U-
Surf Elev.: 553.41

**Depth Information:**
Total: 8.5'
Auger: 8.5'
Core: -

**Dates:**
Start: 10/23/2023
Finish: 10/23/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: M. Hewitt
Driller: M. Sick
Helper(s): B. Hummel

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 553.4 |
| 0 | 1 | | | | | | Dark yellow brown silty CLAY; some bottom ash; moist; stiff; some organic fragments; trace iron oxide nodules | |
| | 2 | | 0.3/1.5 | 5 5 6 | 3.25 | | | 550.0 |
| | 3 | | | | | | | |
| 5 | 4 | | 1.0/1.5 | 3 4 5 | 4.0 | | | |
| | 5 | | | | | | | |
| | 6 | | 0.7/1.5 | 3 3 3 | 1.5 | | | 545.0 |
| | 7 | | | | | | | |
| 10 | 8 | | 1.5/2.0 | | 1.5 | | 16 mm VST@ 9.5' = 10.8, 5.0, 4.3 | |
| | 9 | | | | | | | |
| | 10 | | 0.8/1.5 | 2 5 9 | 3.5 | | | 540.0 |
| | 11 | | | | | | | |
| 15 | 12 | | 0.9/1.5 | 2 5 7 | 3.25 | | Light gray silty cLAY; with bottom ash; moist; stiff | |
| | 13 | | | | | | | |
| | 14 | | 1.0/1.5 | 1 4 8 | 4.0 | | | 535.0 |
| | 15 | | | | | | | |
| 20 | 16 | | 1.7/2.0 | | 2.5 | | Yellow brown silty CLAY; moist; moderately stiff; few manganese oxide nodules; 16 mm VST@ 19.5' = 13+, 6.0, 6.0 | |
| | 17 | | | | | | | |
| | 18 | | 1.4/1.5 | 1 2 3 | 1.5 | | | 530.0 |
| | 19 | | | | | | | |
| 25 | 20 | | 1.5/1.5 | 1 2 4 | 0.75 | | 16 mm VST@ 24.5' = 9.5, 4.0, 3.7 | |
| | 21 | | | | | | | |
| | 22 | | 1.5/1.5 | 2 2 3 | 0.75 | | | 525.0 |
| | 23 | | | | | | | |
| 30 | | | | | | | End of Boring = 29.5 Feet | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1128541.37
Easting: 2455514.61

Weather: Sunny, 87 F

**Boring Information:**
Boring No: B-12L
Well No: B-12L
Surf Elev.: 533.69

**Depth Information:**
Total: 23.0'
Auger: 23.0'
Core: -

**Dates:**
Start: 10/03/2023
Finish: 10/03/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: R. Carson
Driller: A. Kargel
Helper(s): M. Sick

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 533.7 |
| 0 | 1 | | | | | | Brown silty CLAY; dry; very stiff | |
| | 2 | | 0.4/1.5 | 4 8 7 | 4 | | | |
| | 3 | | | | | | | 530.0 |
| 5 | 4 | | 0.6/1.5 | 2 5 5 | | | | |
| | 5 | | | | 4.0 | | | |
| | 6 | | 1.2/1.5 | 2 2 3 | 0.7 | | Brown silty CLAY; moist; soft | |
| | 7 | | | | | | | 525.0 |
| 10 | 8 | | 1.2/1.5 | 1 2 3 | | | 20 mm VST@ 10.0' = 3.8, 3.9 | |
| | 9 | | | | 1.0 | | | |
| | 10 | | 1.4/1.5 | 1 2 3 | 1.2 | | Moist; stiff | |
| | 11 | | | | | | | 520.0 |
| 15 | 12 | | 2.0/2.0 | | | | | |
| | 13 | | | | 4.5 | | Gray/brown silty CLAY; mottling; stiff | |
| | 14 | | 1.5/1.5 | 1 2 4 | 0.5 | | | |
| | 15 | | | | | | Gray SILT; soft | 515.0 |
| 20 | 16 | | 1.0/1.5 | 0 6 7 | | | Brown SAND; saturated; 20 mm VST@ 19.5' = 3.8, 1.5, 1.4 | |
| | 17 | | | | | | Gray sandy CLAY; moist | |
| | 18 | | 1.4/1.5 | 5 25 50/4.5 | >4.5 | | Gray SHALE; dry; hard | |
| | | | | | | | End of Boring = 23.5 Feet | 510.0 |
| 25 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 220408

**Location:**
Coord. System:
Northing: 1130126.84
Easting: 2455243.51

Weather: Sunny, 85 F

**Boring Information:**
Boring No: B-6L
Well No: B-6L
Surf Elev.: 531.19

**Depth Information:**
Total: 23.5'
Auger: 23.5'
Core: -

**Dates:**
Start: 10/02/2023
Finish: 10/02/2023

**Drilling Contractor:**
Contractor Name: Geotechnics Soil & Material Testing
City: Hannibal, Missouri
Equipment: CME 55 w/ 3 1/4" HSA and 1.5" split spoon

**Personnel:**
Geologist: K. Finke
Driller: M. Sick
Helper(s): A. Kargel

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 531.2 |
| 0 | 1 | | | | 1.5 | | Grayish brown silty CLAY; moist; firm; trace sand | 530.0 |
| | 2 | | 0.5/1.5 | 4 7 7 | | | | |
| | 3 | | | | | | | |
| 5 | 4 | | 0.5/1.5 | 3 2 3 | 1.5 | | Reddish brown silty CLAY; moist; firm; trace sand | 525.0 |
| | 5 | | | | | | | |
| | 6 | | 0.1/2.0 | | | | | |
| | 7 | | | | | | | |
| 10 | 8 | | 0.6/1.5 | W 1 1 | | | 20 mm VST@ 10.0' = 5.2, 2.8, 3.0 | |
| | 9 | | | | 0 | | Gray clayey SILT; soft; moist | 520.0 |
| | 10 | | 1.5/1.5 | W 1 1 | 0.5 | | Gray/reddish brown clayey SILT; soft; moist | |
| | 11 | | | | | | | |
| 15 | 12 | | 0.9/1.5 | 1 2 2 | | | | |
| | 13 | | | | 0-0.5 | | Gray SILT to reddish brown SAND; fine to coarse grained; moist | 515.0 |
| | 14 | | 1.1/1.5 | W W W | 0.25 | | Gray silty clay to clayey SILT; moist; soft; some organics, wood, bark, and ash | |
| | 15 | | | | | | | |
| 20 | 16 | | 0.9/1.5 | W 1 2 | 3.9 | | 20 mm VST@ 20.0' = 7.2, 3.9 | |
| | 17 | | | | 0.5 | | Gray clayey SILT; moist | 510.0 |
| | 18 | | 0.9/1.5 | W W W | 0.5 | | | |
| | | | | | | | End of Boring = 23.5 Feet | |

Notes:

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 5/19/2025
**Finish:** 5/19/2025
**WEATHER:** 75°F, overcast

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** BH01
**Well ID:** n/a
**Surface Elev:** 553.0 ft. MSL
**Completion:** 10.5 ft. BGS
**Station:** 1,128,975.90N
2,455,612.61E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▽ = Dry - During drilling
▽ = Dry - At completion
▽ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12/18 67% | SS | 6-7 9 N=16 | | | | 2 | Very dark gray (10YR3/1), moist, stiff, GRAVEL with few ash, little clay, and trace sand. [FILL] | | 552 | |
| | | | | | | | 4 | | | 550 | |
| | 17/18 94% | SS | 4-7 9 N=16 | | | | 6 | Yellowish brown (10YR5/6), moist, stiff, CLAY with some silt, trace sand, and trace ash. [FILL] | | 548 | |
| | 18/24 75% | SH | | | | | 8 | | | 546 | k = 6.9 x $10^{-7}$ cm/sec |
| | 14/18 78% | SS | 3-3 4 N=7 | | | | 10 | Yellowish brown (10YR5/6) with 10% gray (10YR5/1) mottles, moist, stiff, CLAY with some silt, trace sand and trace ash. [FILL] | | 544 | |

**NOTE(S):**

# FIELD BORING LOG

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 5/19/2025
**Finish:** 5/19/2025
**WEATHER:** 75°F, overcast

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** BH02
**Well ID:** n/a
**Surface Elev:** 552.5 ft. MSL
**Completion:** 20.0 ft. BGS
**Station:** 1,128,919.96N
2,456,031.83E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = Dry - During drilling
▼ = Dry - At completion
▼ =

| Number | Recov / Total (in) / % Recovery | Type | Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | | 552 | |
| | 15/18 83% | SS | 3-7 10 N=17 | | | | 2 | Very dark gray (10YR3/1), moist, stiff, GRAVEL with few ash, little clay, and trace sand. [FILL] | | 550 | |
| | 15/18 83% | SS | 3-7 9 N=16 | | | | 4 | Dark brown (10YR3/3), moiste, stiff, CLAY with some silt little sand, trace gravel, and trace ash. [FILL] | | 548 | |
| | 9/18 50% | SS | 3-4 4 N=8 | | | | 6 | Yellowish brown (10YR5/4) with 10% gray (10YR5/1) mottles, moist, stiff, CLAY with some silt and trace sand. [FILL] | | 546 | |
| | 18/18 100% | SS | 3-4 5 N=9 | | | | 8 | | | 544 | |
| | 15/18 83% | SS | 3-4 5 N=9 | | | | 10 | | | 542 | |
| | 16/18 89% | SS | 3-4 7 N=11 | | | | 12 | Gray (10YR5/1), moist, medium, CLAY with some silt and trace sand. [FILL] | | 540 | |
| | 20/24 83% | SH | | | | | 14 | Gray (10YR5/1) with 10% yellowish brown (10YR5/6) mottles, moist, medium, CLAY with some silt and trace sand. [FILL] | | 538 | |
| | | | | | | | | Gray (10YR5/1), moist, medium, CLAY with some silt and trace sand. [FILL] | | | |
| | 18/18 100% | SS | 6-7 9 N=16 | | | | 16 | Yellowish brown (10YR5/6), moist, medium, CLAY with some silt and trace sand. [FILL] | | 536 | k = 6.9 x $10^{-7}$ cm/sec |
| | | | | | | | 18 | Black (10YR2/1), moist, medium, CLAY with some silt and trace sand. [FILL] | | 534 | |
| | | | | | | | 20 | | | | |

**NOTE(S):**

# APPENDIX A5:
## IMPOUNDMENT CCR WELL LOGS

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1129934.00
Easting: 2455460.00

Weather: Cloudy 59F

**Boring Information:**
Boring No: D1
Well No: D1
Surf Elev.: 564.0

**Depth Information:**
Total: 40.5'
Auger: 40.5'
Core: -

**Dates:**
Start: 04/29/2024
Finish: 04/29/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 564.0 |
| 0 | 1 | | | | | | Dark gray ASH (fill) | |
| | | | | | | | | 560.0 |
| 5 | 2 | | 2.0/2 | WH | | | | |
| | 3 | | | | | | | 555.0 |
| 10 | 4 | | 1.5/2 | 3<br>21<br>23<br>24 | | | | |
| | 5 | | | | | | | 550.0 |
| 15 | | | | W | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D1** Boring No: D1 Well No: D1

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 1.3/2 | W<br>1<br>3<br>W | | | Dark gray ASH (fill)<br>Saturated | |
| | 7 | | | | | | | 545.0 |
| 20 | 8 | | 2.0/2 | WOH | | | | |
| | 9 | | | | | | | 540.0 |
| 25 | 10 | | 2.0/2 | 2<br>3<br>1<br>1 | | | Groundwater sample at 25.0' | |
| | 11 | | | | | | | 535.0 |
| 30 | | | | W | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D1** Boring No: D1 Well No: D1

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | 2.0/2 | W W 1 1 | | | | |
| | 13 | | | | | | | 530.0 |
| 35 | 14 | | 2.0/2 | W W 1 1 | | | | |
| | 15 | | 2.0/2 | W W 3 4 | | | | |
| | 16 | | 1.9/2 | | 1.0 | | Dark gray clayey SILT | 525.0 |
| 40 | | | | | | | End of Boring = 40.5 Feet | |
| | | | | | | | | 520.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1130169.00
Easting: 2456076.00

Weather: Cloudy 59F

**Boring Information:**
Boring No: D2
Well No: D2
Surf Elev.: 558.0

**Depth Information:**
Total: 37.5'
Auger: 37.5'
Core: -

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

**Dates:**
Start: 04/29/2024
Finish: 04/29/2024

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 558.0 |
| 0 | 1 | | | | | | Dark gray ASH (fill) | 555.0 |
| 5 | 2 | | 0.0/2 | WOH | | | | 550.0 |
| | 3 | | | | | | | |
| 10 | 4 | | 2.0/2 | WOH | | | | 545.0 |
| | 5 | | | | | | | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D2** Boring No: D2 Well No: D2

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 2.0/2 | WOH | | | Dark gray ASH (fill) | |
| | 7 | | | | | | | 540.0 |
| 20 | 8 | | 2.0/2 | W<br>W<br>1<br>1 | | | Groundwater sample at 20.0' | |
| | 9 | | | | | | | 535.0 |
| 25 | 10 | | 2.0/2 | WOH | | | | |
| | 11 | | | | | | | 530.0 |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D2** Boring No: D2 Well No: D2

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | 0.0/2 | WOH | | | | |
| | 13 | | 0.0/2 | WOH | | | | 525.0 |
| | 14 | | 2.0/2 | W W W 6 | | | | |
| 35 | | | | | | | Gray clayey SILT; brown mottling; saturated | |
| | 15 | | 1.5/2 | | | | | |
| | | | | | | | End of Boring = 37.5 Feet | 520.0 |
| 40 | | | | | | | | |
| | | | | | | | | 515.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1129640.00
Easting: 2455918.00

Weather: Sunny 66F

**Boring Information:**
Boring No: D3
Well No: D3
Surf Elev.: 554.9

**Depth Information:**
Total: 31.5'
Auger: 31.5'
Core: -

**Dates:**
Start: 04/30/2024
Finish: 04/30/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 554.9 |
| 0 | 1 | | | | | | Dark gray ASH (fill); wet | |
| 5 | 2 | | 2.0/2 | 2<br>2<br>2<br>3 | | | | 550.0 |
| | 3 | | | | | | | |
| 10 | 4 | | 2.0/2 | WH | | | | 545.0 |
| | 5 | | | | | | Free water at 12.0' | |
| 15 | | | | | | | | 540.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D3** Boring No: D3 Well No: D3

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 0.2/2 | WH 1 | | | | |
| | 7 | | | | | | | |
| 20 | 8 | | 0.1/2 | WH | | | Groundwater sample at 20.0' | 535.0 |
| | 9 | | | | | | | |
| 25 | 10 | | 0.3/2 | WH | | | | 530.0 |
| | 11 | | 2.0/2 | | | | | |
| 30 | | | | | 0.75 | | Brown silty CLAY; greenish gray mottling; Jar Sample SS6A | 525.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D3** Boring No: D3 Well No: D3

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | 2.0/2 | | | | | |
| | | | | | | | End of Boring = 31.5 Feet | |
| 35 | | | | | | | | 520.0 |
| 40 | | | | | | | | 515.0 |
| 45 | | | | | | | | 510.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1129248.00
Easting: 2455777.00

Weather: Sunny 66F

**Boring Information:**
Boring No: D4
Well No: D4
Surf Elev.: 561.00

**Depth Information:**
Total: 36.5'
Auger: 36.5'
Core: -

**Dates:**
Start: 04/30/2024
Finish: 04/30/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 561.0 |
| 0 | 1 | | | | | | Dark gray ASH (fill); dry | 560.0 |
| 5 | 2 | | 1.2/2 | W<br>1<br>2<br>3 | | | | 555.0 |
| | 3 | | | | | | | |
| 10 | 4 | | 0.5/2 | WOH | | | Moist | 550.0 |
| | 5 | | | | | | | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D4** Boring No: D4 Well No: D4

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 2.0/2 | WOH | | | Wet | |
| | | | | | | | | 545.0 |
| | 7 | | | | | | | |
| | | | | | | | Free water at 19.5'; Groundwater sample at 20.0' | |
| 20 | 8 | | 2.0/2 | WOH | | | | |
| | | | | | | | | 540.0 |
| | 9 | | | | | | | |
| | | | | | | | Saturated | |
| 25 | 10 | | 2.0/2 | WOH | | | | |
| | | | | | | | | 535.0 |
| | 11 | | | | | | | |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: D4** Boring No: D4 Well No: D4

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | 2.0/2 | | | | | 530.0 |
| | 13 | | 3.0/3 | WH<br>2<br>3<br>2<br>1<br>1 | 0.75 | | Brown silty CLAY; greenish gray mottling | |
| 35 | 14 | | 2.0/2 | | | | | 525.0 |
| | | | | | | | End of Boring = 36.5 Feet | |
| 40 | | | | | | | | 520.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1127471.67
Easting: 2456542.99

Weather: Sunny 72 F

**Boring Information:**
Boring No: L1
Well No: L1
Surf Elev.: 568.96

**Depth Information:**
Total: 38.0'
Auger: 38.0'
Core: -

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

**Dates:**
Start: 05/02/2024
Finish: 05/02/2024

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 569.0 |
| 0 | 1 | | | | | | Light gray SLUDGE (fill) | |
| | | | | | | | | 565.0 |
| 5 | 2 | | 0.8/2 | 3<br>3<br>3<br>4 | | | | |
| | 3 | | | | | | | 560.0 |
| 10 | 4 | | 1.4/2 | WOH | | | | |
| | 5 | | | | | | | 555.0 |
| 15 | | | | 1 | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L1** Boring No: L1 Well No: L1

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 1.4/2 | 1<br>2<br>1<br>3 | | | Light gray SLUDGE (fill) | |
| | 7 | | | | | | | 550.0 |
| 20 | 8 | | 1.5/2 | 4<br>4<br>3<br>5 | | | 20.0' Water sample collected | |
| | 9 | | | | | | | 545.0 |
| 25 | 10 | | 1.6/2 | 2<br>3<br>4<br>5 | | | | |
| | 11 | | | | | | | 540.0 |
| 30 | | | | WH | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L1** Boring No: L1 Well No: L1

- Continuous Barrel (CB) - Split Spoon (SS) - Shelby Tube - Core - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | 1.1/2 | WH<br>1<br>1<br>2 | | | | |
| | 13 | | | | | | | 535.0 |
| 35 | 14 | | 1.5/1.5 | 5<br>6<br>8 | 0.75 | | Olive green silty CLAY; dark brown mottling; saturated | |
| | 15 | | 2.0/2 | | | | | |
| | | | | | | | End of Boring = 38 Feet | 530.0 |
| 40 | | | | | | | | |
| | | | | | | | | 525.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1128216.45
Easting: 2456765.72

Weather: Sunny 72 F

**Boring Information:**
Boring No: L3
Well No: L3
Surf Elev.: 563.02

**Depth Information:**
Total: 36.5'
Auger: 36.5'
Core: -

**Dates:**
Start: 05/02/2024
Finish: 05/02/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 563.0 |
| 0 | | | | | | | Dark gray ASH (fill) | |
| | 1 | | | | | | | |
| | | | | | | | | 560.0 |
| 5 | 2 | | 0.22 | WH<br>WH<br>1<br>1 | | | | |
| | 3 | | | | | | | 555.0 |
| | | | | | | | 9.5' Free water | |
| 10 | 4 | | 2.0/2 | WH | | | | |
| | 5 | | | | | | | 550.0 |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L3** Boring No: L3 Well No: L3

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 2.0/2 | WH | | | | |
| | 7 | | | | | | | 545.0 |
| 20 | 8 | | 1.6/2 | 1<br>1<br>1<br>1 | | | 20.0' Water sample collected; saturated | |
| | 9 | | | | | | | 540.0 |
| 25 | 10 | | 1.6/2 | 1<br>1<br>1<br>1 | | | | |
| | 11 | | | | | | | 535.0 |
| 30 | 12 | | 0.8/1 | WH | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L3** Boring No: L3 Well No: L3

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | | WH | | | | |
| | 13 | | | | | | | |
| | 14 | | 1.5/1.5 | WH<br>3<br>4<br>6 | | | Brown silty CLAY; greenish gray mottling | 530.0 |
| 35 | 15 | | 1.8/2 | | 0.75 | | | |
| | | | | | | | End of Boring = 36.5 Feet | 525.0 |
| 40 | | | | | | | | 520.0 |
| 45 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1127968.18
Easting: 2457141.08

Weather: Sunny 72 F

**Boring Information:**
Boring No: L4
Well No: L4
Surf Elev.: 568.58

**Depth Information:**
Total: 21.0'
Auger: 21.0'
Core: -

**Dates:**
Start: 05/02/2024
Finish: 05/02/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 568.6 |
| 0 | | | | | | | Gray ASH (fill) | |
| | 1 | | | | | | | 565.0 |
| 5 | 2 | | | | | | | |
| | 3 | | | | | | | 560.0 |
| 10 | 4 | | | | | | | |
| | 5 | | | | | | | 555.0 |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L4** Boring No: L4 Well No: L4

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 1.4/2 | 1<br>1<br>4<br>6 | 1.0 | | Gray ASH (fill) | |
| | | | | | | | Brown silty CLAY; gray mottling; moist | |
| | 7 | | 1.5/2 | | | | | 550.0 |
| 20 | 8 | | 1.5/2 | 6<br>8<br>10<br>12 | 4.75 | | | |
| | | | | | | | End of Boring = 21 Feet | |
| | | | | | | | | 545.0 |
| 25 | | | | | | | | |
| | | | | | | | | 540.0 |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: CWLP Ash Pond
Location: Springfield, Illinois
County: Sangamon
Site No.:
AEI No.: 240227

**Location:**
Coord. System:
Northing: 1128308.56
Easting: 2456118.23

Weather: Cloudy 61 F

**Boring Information:**
Boring No: L5
Well No: L5
Surf Elev.: 565.19

**Depth Information:**
Total: 39.5'
Auger: 39.5'
Core: -

**Dates:**
Start: 05/03/2024
Finish: 05/03/2024

**Drilling Contractor:**
Contractor Name: Skinner Limited
City: Hindsboro, Illinois
Equipment: 4 1/4" HSA 5' CSD 3"

**Personnel:**
Geologist: S. Van Hook
Driller: T. Skinner
Helper(s): NA

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 565.2 |
| 0 | 1 | | | | | | Gray silty CLAY (fill) | |
| 5 | 2 | | 1.5/2 | | | | Light gray LIME SLUDGE (fill) | 560.0 |
| | 3 | | | | | | | |
| 10 | 4 | | 2.0/2 | | | | Dark gray to black COAL ASH (fill) | 555.0 |
| | 5 | | | | | | | |
| 15 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L5** Boring No: L5 Well No: L5

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 6 | | 2.0/2 | | | | 16.0' Free water | |
| | 7 | | | | | | | |
| 20 | 8 | | 2.0/2 | | | | | 545.0 |
| | 9 | | | | | | | |
| 25 | 10 | | 2.0/2 | | | | | 540.0 |
| | 11 | | 3.0/3 | | | | | |
| 30 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: L5** Boring No: L5 Well No: L5

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 12 | | 3.0/3 | | | | | |
| | 13 | | 2.0/2 | | | | Light gray LIME SLUDGE (fill); Sample CA 32.5-35.2' | |
| 35 | 14 | | 3.0/3 | | 1.0 | | Brown silty CLAY; greenish gray mottling | 530.0 |
| | 15 | | 2.0/2 | | | | | |
| 40 | | | | | | | End of Boring = 39.5 Feet | 525.0 |
| 45 | | | | | | | | |

Notes:

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/13/2024
**Finish:** 8/13/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-01
**Well ID:** n/a
**Surface Elev:** 563.8 ft. MSL
**Completion:** 39.0 ft. BGS
**Station:** 1,129,829.03N
2,455,470.48E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 18.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) % Recovery | Type | TESTING Blows / 6 in N - Value RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/18 67% | SPT | 1-1 1 N=2 | 32.0 | | | 2 | | | 562 | |
| 2 | 14/18 78% | SPT | 1-WH WH | 37.0 | | | 4 | Ash, (Silt like), Very Soft, Dark Gray (10Y 3/1), Moist | | 560 | |
| 3 | 18/18 100% | SPT | 2-4 4 N=8 | 36.0 | | | 6 | | | 558 | |
| 4 | 12/18 67% | SPT | 8-11 10 N=21 | 25.0 | | | 8 | | | 556 | |
| 5 | 12/18 67% | SPT | 3-6 6 N=12 | 27.0 | | | 10 | | | 554 | |
| 6 | 12/18 67% | SPT | 4-4 4 N=8 | 37.0 | | | 12 | Ash, (Silt like), Medium Stiff, Dark Gray (10Y 3/1), Moist, 1 inch wet seam at 12.4 | | 552 | |
| 7 | 18/18 100% | SPT | WR-WR WR | 45.0 | | | 14 | | | 550 | |
| | | | | 52.0 | | | 16 | Ash, Med Grained, Loose, Black (10G 2.5/1), Moist | | 548 | |
| | | | | | | | ▼ 18 | Ash, (Silt like), Very Soft, Dark Gray (10Y 3/1), Wet | | 546 | |
| | | | | | | | 20 | | | 544 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/13/2024
**Finish:** 8/13/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-01
**Well ID:** n/a
**Surface Elev:** 563.8 ft. MSL
**Completion:** 39.0 ft. BGS
**Station:** 1,129,829.03N
2,455,470.48E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 18.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 18/18 100% | SPT | WR-WR 1 | | | | | | | | |
| 9 | 14/18 78% | SPT | WR-WR WH | 49.0 | | | 22 | | | 542 | |
| 10 | 16/18 89% | SPT | WH-WH WH | 85.0 | | | 24 | | | 540 | |
| 11 | 18/18 100% | SPT | WH-WH WH | 56.0 | | | 26 | | | 538 | |
| 12 | 18/18 100% | SPT | WH-WH WH | 39.0 | | | 28 | Ash, (Silt like), Very Soft, Dark Gray (10Y 3/1), Wet *[Continued from previous page]* | | 536 | |
| 13 | 18/18 100% | SPT | WR-WR WR | 40.0 | | | 30 | | | 534 | |
| 14 | 18/18 100% | SPT | WH-WH 1 | 35.0 | | | 32 | | | 532 | |
| 15 | 16/18 89% | SPT | WR-WR WR | 41.0 | | | 34 | | | 530 | |
| 16 | 14/18 78% | SPT | 7-8 11 N=19 | 22.0 | | | 36 | | | 528 | |
| | | | | | | | 38 | Clay, Silty, Med Stiff, Moist, Dark Greenish Gray (5G 4/1) | | 526 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/13/2024
**Finish:** 8/13/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-02
**Well ID:** n/a
**Surface Elev:** 556.9 ft. MSL
**Completion:** 35.5 ft. BGS
**Station:** 1,130,338.40N
2,456,218.17E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 10.00 - During Drilling
▼ =
▼ =

| SAMPLE | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| 1 | 4/18 *22%* | SPT | *2-3* *2* N=5 | 33.0 | | | 2 | Ash, (Silt like), Soft-Very Soft, Greenish Black (5G 2.5/1), Moist | | 556 | |
| 2 | 6/18 *33%* | SPT | *1-1* *1* N=2 | 20.0 | | | 4 | | | 554 | |
| 3 | 14/18 *78%* | SPT | *WH-WH* *WH* | 53.0 | | | 6 | | | 552 | |
| 4 | 18/18 *100%* | SPT | *WH-WH* *WH* | 53.0 | | | 8 | Ash, (Silt like), Very Soft, Dark Gray (10Y 3/1), Moist | | 550 | |
| 5 | 18/18 *100%* | SPT | *WH-WH* *WH* | 37.0 | | | ▼ 10 | | | 548 | |
| 6 | 18/18 *100%* | SPT | *WR-WR* *WR* | 31.0 | | | 12 | | | 546 | |
| 7 | 18/18 *100%* | SPT | *WR-WR* *WR* | 52.0 | | | 14 | Ash, (Silt like), Very Soft, Dark Gray (10Y 3/1), Wet | | 544 | |
| | | | | 48.0 | | | 16 | | | 542 | |
| | | | | | | | 18 | | | 540 | |
| | | | | | | | 20 | Ash, (Silt like), Very Soft, Bluish Black (5B 2.5/1), Wet | | 538 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/13/2024
**Finish:** 8/13/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-02
**Well ID:** n/a
**Surface Elev:** 556.9 ft. MSL
**Completion:** 35.5 ft. BGS
**Station:** 1,130,338.40N
2,456,218.17E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 10.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 18/18 100% | SPT | WR-WR WR | | | | | | | | |
| | | | | 49.0 | | | 22 | | | 536 | |
| 9 | 18/18 100% | SPT | WH-WH WH | | | | | | | | |
| | | | | 50.0 | | | 24 | | | 534 | |
| 10 | 18/18 100% | SPT | WH-WH WH | | | | | | | | |
| | | | | 53.0 | | | 26 | | | 532 | |
| 11 | 18/18 100% | SPT | WR-WR WR | | | | | Ash, (Silt like), Very Soft, Bluish Black (5B 2.5/1), Wet *[Continued from previous page]* | | | |
| | | | | 60.0 | | | 28 | | | 530 | |
| 12 | 18/18 100% | SPT | WR-WR WR | | | | | | | | |
| | | | | 46.0 | | | 30 | | | 528 | |
| 13 | 14/18 78% | SPT | WR-WR WR | | | | | | | | |
| | | | | 35.0 | | | 32 | | | 526 | |
| 14 | 18/18 100% | SPT | WR-WR 2 | | | | | | | | |
| | | | | 27.0 | | | 34 | | | 524 | |
| 15 | 18/18 100% | SPT | 3-4 5 N=9 | | | | | Clay, Silty, Soft, Light Greenish Gray (5G 7/1) w/ brown mottling, High Plasticity, Moist | | 522 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/14/2024
**Finish:** 8/14/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-03
**Well ID:** n/a
**Surface Elev:** 554.7 ft. MSL
**Completion:** 31.0 ft. BGS
**Station:** 1,129,517.42N
2,455,963.38E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

| SAMPLE | | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) / % Recovery | Type | Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| 1 | 4/18<br>22% | SPT | 1-WH<br>WH | 13.0 | | | 2 | Ash (Sand Like), Med Grained, Poorly Graded, Light Greenish Gray (5G 7/1), Moist | | 554<br>552 | |
| 2 | 18/18<br>100% | SPT | 1-1<br>1<br>N=2 | 26.0 | | | 4<br>6 | | | 550<br>548 | |
| 3 | 14/18<br>78% | SPT | WH-WH<br>1 | 34.0 | | | 8 | | | 546 | |
| 4 | 16/18<br>89% | SPT | WH-1<br>2<br>N=3 | 48.0 | | | 10 | | | 544 | |
| 5 | 18/18<br>100% | SPT | WH-WH<br>WH | 52.0 | | | 12<br>14 | Ash (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Wet, Trace Coarse Grains | | 542<br>540 | |
| 6 | 18/18<br>100% | SPT | WH-WH<br>WH | 51.0 | | | 16 | | | 538 | |
| 7 | 18/18<br>100% | SPT | WH-WH<br>WH | 50.0 | | | 18 | | | 536 | |
| | | | | 47.0 | | | 20 | Ash (Sand Like), Fine Grained w/ trace coarse, Very Loose, Light Greenish Gray (5G 7/1), Wet | | | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/14/2024
**Finish:** 8/14/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-03
**Well ID:** n/a
**Surface Elev:** 554.7 ft. MSL
**Completion:** 31.0 ft. BGS
**Station:** 1,129,517.42N
2,455,963.38E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 18/18 100% | SPT | WH-WH WH | | | | | Ash (Sand Like), Fine Grained w/ trace coarse, Very Loose, Light Greenish Gray (5G 7/1), Wet *[Continued from previous page]* | | | |
| | | | | | | | 22 | | | 534 | |
| 9 | 18/18 100% | SPT | WR-WR WR | 56.0 | | | | | | | |
| | | | | | | | 24 | | | 532 | |
| 10 | 18/18 100% | SPT | WR-WR WR | 49.0 | | | | | | | |
| | | | | | | | 26 | Ash (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), No Plasticity, Wet | | 530 | |
| 11 | 18/18 100% | SPT | WR-WR WR | 41.0 | | | | | | | |
| | | | | | | | 28 | | | 528 | |
| 12 | 18/18 100% | SPT | WH-2 2 N=4 | 24.0 | | | | | | | |
| | | | | | | | 30 | Clay, Silty, Soft, High Plasticity, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | | 526 | |
| | | | | | | | | | | 524 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/19/2024
**Finish:** 8/19/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-04
**Well ID:** DB04D
**Surface Elev:** 553.71 ft. MSL
**Completion:** 31.00 ft. BGS
**Station:** 1,129,163.19N
2,455,379.61E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

| SAMPLE | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| 1 | 12/18 *67%* | SPT | *14-24* *36* N=60 | 14.0 | | | 2 | | | 552 | |
| | | | | | | | 4 | Ash (Sand Like), Medium Grained, Poorly Graded, Greenish Black (10GY 2.5/1), Medium Dense, Moist | | 550 | |
| 2 | 12/18 *67%* | SPT | *10-15* *14* N=29 | 12.0 | | | 6 | | | 548 | |
| 3 | 14/18 *78%* | SPT | *4-7* *4* N=11 | 30.0 | | | 8 | | | 546 | |
| | | | | | | | | Ash (Sand Like), Medium Grained, Poorly Graded, Greenish Black (10GY 2.5/1), Loose, Wet | | | |
| 4 | 18/18 *100%* | SPT | *1-1* *1* N=2 | 59.0 | | | 10 | | | 544 | |
| | | | | | | | | Ash (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet | | | |
| 5 | 4/18 *22%* | SPT | *1-1* *2* N=3 | 36.0 | | | 12 | | | 542 | |
| | | | | | | | | Ash (Sand Like), Medium Grained, Poorly Graded, Greenish Black (10GY 2.5/1), Loose, Wet | | | |
| 6 | 10/18 *56%* | SPT | *4-5* *6* N=11 | 50.0 | | | 14 | | | 540 | |
| | | | | | | | 16 | | | 538 | |
| 7 | 18/18 *100%* | SPT | *3-4* *5* N=9 | 49.0 | | | 18 | Ash (Silt Like) w/ trace sand, Very Soft, Light Greenish Gray (5G 7/1), Wet | | 536 | |
| | | | | 48.0 | | | | Ash (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Wet | | 534 | |
| | | | | | | | 20 | | | | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/19/2024
**Finish:** 8/19/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-04
**Well ID:** DB04D
**Surface Elev:** 553.71 ft. MSL
**Completion:** 31.00 ft. BGS
**Station:** 1,129,163.19N
2,455,379.61E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

| SAMPLE | | | TESTING | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Remarks |
| 8 | 14/18 *78%* | SPT | *WH-WH WH* | | | | | Sandy @ 27 | |
| 9 | 18/18 *100%* | SPT | *WH-WH WH* | 41.0 | | | 22 | | |
| 10 | 18/18 *100%* | SPT | *WH-WH WH* | 37.0 | | | 24 | Ash (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Wet Sandy @ 27 *[Continued from previous page]* | |
| 11 | 18/18 *100%* | SPT | *1-1 1* N=2 | 44.0 | | | 26 | | |
| 12 | 18/18 *100%* | SPT | *2-4 5* N=9 | 26.0 | | | 28 | | |
| | | | | | | | 30 | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | |

Borehole Detail

Elevation ft. MSL: 532, 530, 528, 526, 524

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/15/2024
**Finish:** 8/15/2024
**WEATHER:** 85F and Rainy

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-05
**Well ID:** DB05D
**Surface Elev:** 553.24 ft. MSL
**Completion:** 28.50 ft. BGS
**Station:** 1,129,181.97N
2,456,241.37E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

| SAMPLE | | | TESTING | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft$^3$) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Elevation ft. MSL |
| 1 | 18/18 *100%* | SPT | *WH-WH WH* | 34.0 | | | 0 | | 552 |
| | | | | | | | 2 | ASH (Silt Like) w/ trace fine sand, Very Soft, Greenish Black (10GY 2.5/1), Moist | |
| 2 | 18/18 *100%* | SPT | *WH-WH WH* | 41.0 | | | 4 | | 550 |
| | | | | | | | 6 | | 548 |
| 3 | 18/18 *100%* | SPT | *WH-WH WH* | 44.0 | | | 8 | ASH (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet | 546 |
| 4 | 18/18 *100%* | SPT | *WH-WH WH* | 47.0 | | | 10 | | 544 |
| | | | | | | | 12 | | 542 |
| 5 | 18/18 *100%* | SPT | *WH-WH WH* | 53.0 | | | 14 | | 540 |
| 6 | 18/18 *100%* | SPT | *WH-WH WH* | 52.0 | | | 16 | ASH (Silt Like), Very Soft, Dark Greenish Gray (5GY 4/1), Wet | 538 |
| 7 | 18/18 *100%* | SPT | *WH-WH WH* | 47.0 | | | 18 | | 536 |
| | | | | 41.0 | | | 20 | ASH (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Wet | 534 |

Borehole Detail

Remarks

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/15/2024
**Finish:** 8/15/2024
**WEATHER:** 85F and Rainy

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** DB-05
**Well ID:** DB05D
**Surface Elev:** 553.24 ft. MSL
**Completion:** 28.50 ft. BGS
**Station:** 1,129,181.97N
2,456,241.37E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

| SAMPLE | | | TESTING | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Elevation ft. MSL |
| 8 | 18/18 *100%* | SPT | *WH-WH WH* | | | | | | |
| | | | | | | | 22 | | 532 |
| 9 | 18/18 *100%* | SPT | *WH-WH WH* | 43.0 | | | | ASH (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Wet *[Continued from previous page]* | |
| | | | | | | | 24 | | 530 |
| 10 | 18/18 *100%* | SPT | *WH-WH WH* | 55.0 | | | | | |
| | | | | | | | 26 | | 528 |
| 11 | 18/18 *100%* | SPT | *WH-2 4* N=6 | 24.0 | | | | | |
| | | | | | | | 28 | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling, High Plasticity | 526 |

Borehole Detail

Remarks

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/20/2024
**Finish:** 8/20/2024
**WEATHER:** 75F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-01
**Well ID:** n/a
**Surface Elev:** 568.9 ft. MSL
**Completion:** 35.5 ft. BGS
**Station:** 1,127,471.50N
2,456,543.15E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 19.50 - During Drilling
▼ =
▼ =

| SAMPLE | | | TESTING | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) / % Recovery | Type | Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| 1 | 10/18 *56%* | SPT | *5-15* *20* N=35 | 24.0 | | | 2 | Ash (Sand Like), Medium Coarse, Poorly Graded, Medium Dense, Greenish Black (10GY 2.5/1), Moist | | 568 | |
| 2 | 9/18 *50%* | SPT | *4-4* *4* N=8 | 30.0 | | | 4 | | | 566 | |
| 3 | 18/18 *100%* | SPT | *WH-WH* *WH* | 70.0 | | | 6 | Lime Sludge (Silt Like), Soft, Light Greenish Gray (5G 7/1), No Plasticity, Moist | | 564 | |
| 4 | 18/18 *100%* | SPT | *WH-WH* *1* | 57.0 | | | 8 | | | 562 | |
| 5 | 18/18 *100%* | SPT | *WH-WH* *WH* | 63.0 | | | 10 | | | 560 | |
| 6 | 18/18 *100%* | SPT | *2-4* *2* N=6 | 41.0 | | | 12 | Ash (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Moist 13 - 2 inch sandy wet seam | | 558 | |
| 7 | 18/18 *100%* | SPT | *3-10* *15* N=25 | 38.0 | | | 14 | | | 556 | |
| | | | | 36.0 | | | 16 | | | 554 | |
| | | | | | | | 18 | Ash (Sand Like), Medium Coarse, Poorly Graded, Loose-Medium Dense, Greenish Black (10GY 2.5/1), Moist Wet @ 19.5 | | 552 | |
| | | | | | | | ▼ 20 | | | 550 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/20/2024
**Finish:** 8/20/2024
**WEATHER:** 75F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-01
**Well ID:** n/a
**Surface Elev:** 568.9 ft. MSL
**Completion:** 35.5 ft. BGS
**Station:** 1,127,471.50N
2,456,543.15E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 19.50 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 18/18 100% | SPT | 5-5 4 N=9 | | | | 20 | Ash (Sand Like), Medium Coarse, Poorly Graded, Loose-Medium Dense, Greenish Black (10GY 2.5/1), Moist Wet @ 19.5 *[Continued from previous page]* | | 548 | |
| 9 | 14/18 78% | SPT | 2-3 2 N=5 | 105.6 | | | 22 | | | 546 | |
| 10 | 18/18 100% | SPT | 2-3 4 N=7 | 96.0 | | | 24 | | | 544 | |
| 11 | 18/18 100% | SPT | WR-1 1 N=2 | 75.0 | | | 26 | | | 542 | |
| 12 | 18/18 100% | SPT | WH-1 1 N=2 | 86.0 | | | 28 | Ash (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet | | 540 | |
| 13 | 18/18 100% | SPT | WR-WH 1 | 77.0 | | | 30 | | | 538 | |
| 14 | 18/18 100% | SPT | WR-WH 4 | 24.0 | | | 32 | | | 536 | |
| 15 | 12/18 67% | SPT | WH-3 4 N=7 | 26.0 | | | 34 | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | | 534 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/20/2024
**Finish:** 8/20/2024
**WEATHER:** 75F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-02
**Well ID:** LB02D
**Surface Elev:** 568.06 ft. MSL
**Completion:** 35.00 ft. BGS
**Station:** 1,127,826.17N
2,456,727.26E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 15.00 - During Drilling
▼ =
▼ =

| SAMPLE | | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) / % Recovery | Type | Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| 1 | 13/18 72% | SPT | 9-16 16 N=32 | 16.0 | | | 2 | Ash (Sand Like), Fine Grained w/ fines, Med Dense, Greenish Black (10GY 2.5/1), Moist | | 566 | |
| 2 | 9/18 50% | SPT | 6-3 4 N=7 | 14.0 | | | 4 | | | 564 | |
| | | | | | | | 6 | Ash (Silt Like) w/ trace sand, Soft, Light Greenish Gray (5G 7/1), Moist, High Plasticity | | 562 | |
| 3 | 8/18 44% | SPT | 2-4 6 N=10 | 15.0 | | | 8 | | | 560 | |
| | | | | | | | | Lime Sludge (Silt Like), Med Stiff, Light Greenish Gray (5G 7/1) w/ Brown Mottling, Moist, No Plasticity | | | |
| 4 | 9/18 50% | SPT | 2-3 4 N=7 | 18.0 | | | 10 | | | 558 | |
| 5 | 2/18 11% | SPT | 1-1 1 N=2 | 15.0 | | | 12 | | | 556 | |
| | | | | | | | 14 | Ash (Sand Like), Fine Grained w/ fines,Loose, Greenish Black (10GY 2.5/1), Moist | | 554 | |
| 6 | 14/18 78% | SPT | 3-4 5 N=9 | 21.0 | | | ▼ | Wet at 15 | | | |
| | | | | | | | 16 | | | 552 | |
| 7 | 9/18 50% | SPT | WH-WH 1 | 82.0 | | | 18 | Ash (Silt Like), w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet | | 550 | |
| | | | | 99.0 | | | 20 | | | | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/20/2024
**Finish:** 8/20/2024
**WEATHER:** 75F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-02
**Well ID:** LB02D
**Surface Elev:** 568.06 ft. MSL
**Completion:** 35.00 ft. BGS
**Station:** 1,127,826.17N
2,456,727.26E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 15.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 11/18 *61%* | SPT | *WH-WH* *WH* | | | | | | | | |
| 9 | 18/18 *100%* | SPT | *WH-WH* *WH* | 101.4 | | | 22 | | | 546 | |
| 10 | 18/18 *100%* | SPT | *WH-WH* *1* | 91.0 | | | 24 | | | 544 | |
| 11 | 18/18 *100%* | SPT | *1-1* *1* N=2 | 139.8 | | | 26 | Ash (Silt Like), w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet *[Continued from previous page]* | | 542 | |
| 12 | 6/18 *33%* | SPT | *WR-WR* *WR* | 111.1 | | | 28 | | | 540 | |
| 13 | 18/18 *100%* | SPT | *WR-WR* *2* | 142.9 | | | 30 | | | 538 | |
| 14 | 9/18 *50%* | SPT | *2-3* *6* N=9 | 30.0 | | | 32 | | | 536 | |
| | | | | | | | 34 | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | | 534 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/19/2024
**Finish:** 8/19/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-03
**Well ID:** n/a
**Surface Elev:** 562.9 ft. MSL
**Completion:** 33.5 ft. BGS
**Station:** 1,128,249.84N
2,456,722.48E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 14.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) *% Recovery* | Type | TESTING *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/18 *67%* | SPT | *1-1* *1* N=2 | 28.0 | | | 2 | Ash (Sand Like), Medium Coarse, Poorly Graded, Very Loose, Greenish Black (10GY 2.5/1), Moist | | 562 | |
| 2 | 16/18 *89%* | SPT | *WH-WH* *WH* | 79.0 | | | 4 | | | 560 | |
| 3 | 16/18 *89%* | SPT | *1-1* *1* N=2 | 50.0 | | | 6 | | | 558 | |
| 4 | 13/18 *72%* | SPT | *4-1* *1* N=2 | 76.0 | | | 8 | Ash (Silt Like) w/ Sand, Very Soft, Greenish Black (10GY 2.5/1), Moist<br>12.5-13 Med Coarse Sand - Wet | | 556 | |
| 5 | 18/18 *100%* | SPT | *1-1* *1* N=2 | 74.0 | | | 10 | | | 554 | |
| 6 | 18/18 *100%* | SPT | *WH-WH* *WH* | 80.0 | | | 12 | | | 552 | |
| 7 | 18/18 *100%* | SPT | *1-1* *1* N=2 | 73.0 | | | 14 ▼ | | | 550 | |
| | | | | 74.0 | | | 16 | Ash (Silt Like), Layered Fine and Coarse Materials, Very Soft, Greenish Black (10GY 2.5/1), Wet | | 548 | |
| | | | | | | | 18 | Lime Sludge, Very Soft, Light Greenish Gray (5G 7/1), Wet | | 546 | |
| | | | | | | | 20 | Ash (Sand Like), Very Loose, Fine-Medium Grained, Greenish Black (10GY 2.5/1), Wet | | 544 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/19/2024
**Finish:** 8/19/2024
**WEATHER:** 80F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-03
**Well ID:** n/a
**Surface Elev:** 562.9 ft. MSL
**Completion:** 33.5 ft. BGS
**Station:** 1,128,249.84N
2,456,722.48E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 14.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 17/18 94% | SPT | 1-1 1 N=2 | | | | | | | | |
| | | | | 84.0 | | | 22 | Ash (Sand Like), Very Loose, Fine-Medium Grained, Greenish Black (10GY 2.5/1), Wet *[Continued from previous page]* | | 542 | |
| 9 | 16/18 89% | SPT | WH-WH 1 | | | | | | | 540 | |
| | | | | 86.0 | | | 24 | | | | |
| 10 | 18/18 100% | SPT | WH-WH WH | | | | | | | 538 | |
| | | | | 74.0 | | | 26 | | | | |
| 11 | 18/18 100% | SPT | WH-WH WH | | | | | | | 536 | |
| | | | | | | | 28 | Ash (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet | | | |
| | | | | 100.0 | | | | | | 534 | |
| 12 | 18/18 100% | SPT | WR-WR WR | | | | 30 | | | | |
| | | | | | | | | | | 532 | |
| | | | | 26.0 | | | 32 | | | | |
| 13 | 16/18 89% | SPT | 3-3 5 N=8 | | | | | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | | 530 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/21/2024
**Finish:** 8/21/2024
**WEATHER:** 75F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-04
**Well ID:** n/a
**Surface Elev:** 566.3 ft. MSL
**Completion:** 22.0 ft. BGS
**Station:** 1,127,977.32N
2,457,073.44E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 9.50 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3/18 *17%* | SPT | *WH-1* *2* N=3 | 19.0 | | | 2 | Clay, Silty, Soft, High Plasticity, Light Reddish Brown (2.5YR 6/4), Moist | | 566 | |
| 2 | 6/18 *33%* | SPT | *1-1* *1* N=2 | 18.0 | | | 4 | | | 564 | |
| 3 | 14/18 *78%* | SPT | *WH-WH* *WH* | 177.9 | | | 6 | | | 562 | |
| 4 | 18/18 *100%* | SPT | *WR-WR* *WR* | 72.0 | | | 8 | Ash, (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Moist | | 560 | |
| 5 | 18/18 *100%* | SPT | *WR-WR* *WH* | 43.0 | | | ▼ 10 | | | 558 | |
| 6 | 18/18 *100%* | SPT | *WH-WH* *WH* | 61.0 | | | 12 | | | 556 | |
| 7 | 6/18 *33%* | SPT | *WR-WR* *WR* | 68.0 | | | 14 | Ash, (Silt Like), Very Soft, Greenish Black (10GY 2.5/1), Wet | | 554 | |
| 8 | 14/18 *78%* | SPT | *WR-WR* *WR* | 87.0 | | | 16 | | | 552 | |
| 9 | 18/18 | SPT | *WR-WR* *WR* | 60.0 | | | 18 | Lime Sludge, Very Soft, Light Greenish Gray (5G 7/1), Wet | | 550 | |
| | | | | | | | 20 | | | 548 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/21/2024
**Finish:** 8/21/2024
**WEATHER:** 75F and Sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-04
**Well ID:** n/a
**Surface Elev:** 566.3 ft. MSL
**Completion:** 22.0 ft. BGS
**Station:** 1,127,977.32N
2,457,073.44E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 9.50 - During Drilling
▼ =
▼ =

| SAMPLE | | | TESTING | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| | *100%* | | | | | | | Lime Sludge, Very Soft, Light Greenish Gray (5G 7/1), Wet *[Continued from previous page]* | | 546 | |
| 10 | 18/18 *100%* | SPT | *WR-1* *2* N=3 | 30.0 | | | 22 | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | | | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/16/2024
**Finish:** 8/16/2024
**WEATHER:** 85F and Overcast

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-05
**Well ID:** n/a
**Surface Elev:** 565.4 ft. MSL
**Completion:** 37.5 ft. BGS
**Station:** 1,128,266.90N
2,456,131.15E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 12.00 - During Drilling
▼ =
▼ =

| SAMPLE | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| 1 | 10/18 *56%* | SPT | *1-WH WH* | | | | 2 | Ash (Sand Like), Medium Grained, Poorly Graded, Very Loose, Greenish Black (10GY 2.5/1), Moist | | 564 | |
| 2 | 18/18 *100%* | SPT | *WH-WH WH* | | | | 4 | | | 562 | |
| 3 | 14/18 *78%* | SPT | *WH-WH WH* | 47.0 | | | 6 | | | 560 | |
| 4 | 11/18 *61%* | SPT | *WH-WH WH* | 92.0 | | | 8 | Lime Sludge (Silt Like), Very Soft, Light Greenish Gray (5G 7/1) w/ Brown Mottling, Moist, Medium Plasticity | | 558 | |
| 5 | 14/18 *78%* | SPT | *WH-WH WH* | 74.0 | | | 10 | | | 556 | |
| 6 | 18/18 *100%* | SPT | *WH-WH WH* | 62.0 | | | ▼ 12 | | | 554 | |
| 7 | 18/18 *100%* | SPT | *WH-WH WH* | 74.0 | | | 14 | Ash (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet, High Plasticity | | 552 | |
| | | | | 74.0 | | | 16 | | | 550 | |
| | | | | | | | 18 | | | 548 | |
| | | | | 74.0 | | | 20 | Ash (Sand Like), Medium Grained, Poorly Graded, Very Loose, Greenish Black (10GY 2.5/1), Wet | | 546 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 8/16/2024
**Finish:** 8/16/2024
**WEATHER:** 85F and Overcast

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-550 ATV Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** G. Tabacchi

**BOREHOLE ID:** LB-05
**Well ID:** n/a
**Surface Elev:** 565.4 ft. MSL
**Completion:** 37.5 ft. BGS
**Station:** 1,128,266.90N
2,456,131.15E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 12.00 - During Drilling
▼ =
▼ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 18/18 100% | SPT | WH-WH WH | | | | | | | | |
| 9 | 18/18 100% | SPT | WH-WH WH | 70.0 | | | 22 | | | 544 | |
| 10 | 18/18 100% | SPT | WH-WH WH | 73.0 | | | 24 | Ash (Sand Like), Medium Grained, Poorly Graded, Very Loose, Greenish Black (10GY 2.5/1), Wet *[Continued from previous page]* | | 542 | |
| 11 | 18/18 100% | SPT | WH-WH WH | 71.0 | | | 26 | | | 540 | |
| 12 | 18/18 100% | SPT | WR-WR WR | 82.0 | | | 28 | Ash (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet, High Plasticity | | 538 | |
| 13 | 18/18 100% | SPT | WR-WR WR | 86.0 | | | 30 | | | 536 | |
| 14 | 18/18 100% | SPT | WH-WH WH | 89.0 | | | 32 | Ash (Sand Like), Medium Grained, Poorly Graded, Very Loose, Greenish Black (10GY 2.5/1), Wet | | 534 | |
| 15 | 16/18 89% | SPT | 2-4 4 N=8 | 28.0 | | | 34 | Ash (Silt Like) w/ trace sand, Very Soft, Greenish Black (10GY 2.5/1), Wet, High Plasticity | | 532 | |
| | | | | | | | 36 | Clay, Silty, Medium Stiff, Moist, Light Reddish Brown (2.5YR 6/4) w/ Gray Mottling | | 530 | |
| | | | | | | | | | | 528 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/20/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** Bucket Auger Rig
**Drilling Method:** Bucket Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DO06
**Well ID:** DO06
**Surface Elev:** 552.77 ft. MSL
**Completion:** 30.30 ft. BGS
**Station:** 1,129,174.10N
2,456,191.27E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▽ = 2.00 - During Drilling
▽ = 4.76 - 6/23/25
▽ =

| SAMPLE Number | SAMPLE Recov / Total (in) *% Recovery* | SAMPLE Type | TESTING *Blows / 6 in* N - Value **RQD** | TESTING Water Content (%) | TESTING Dry Density (lb/ft³) | TESTING Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | | 552 | |
| | | | | | | | 2 ▽ | | | | |
| | | | | | | | 4 ▽ | | | 550 | |
| | | | | | | | 6 | | | 548 | |
| | | | | | | | 8 | | | 546 | |
| | | | | | | | 10 | Very dark grayish brown (10YR3/2), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) | | 544 | |
| | | | | | | | 12 | | | 542 | |
| | | | | | | | 14 | | | 540 | |
| | | | | | | | 16 | | | 538 | |
| | | | | | | | 18 | | | 536 | |
| | | | | | | | 20 | | | 534 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/20/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** Bucket Auger Rig
**Drilling Method:** Bucket Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DO06
**Well ID:** DO06
**Surface Elev:** 552.77 ft. MSL
**Completion:** 30.30 ft. BGS
**Station:** 1,129,174.10N
2,456,191.27E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▽ = 2.00 - During Drilling
▽ = 4.76 - 6/23/25
▽ =

| SAMPLE | | | TESTING | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft$^3$) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail / Elevation ft. MSL / Remarks |
| | | | | | | | 22 | | 532 |
| | | | | | | | 24 | Very dark grayish brown (10YR3/2), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) *[Continued from previous page]* | 530 |
| | | | | | | | 26 | | 528 |
| | | | | | | | 28 | | 526 |
| | | | | | | | 30 | Dark gray (10YR4/1), moist, medium, SILT with some clay and trace sand. | 524 |

End of Boring = 30.3 feet

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/19/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-850 Track Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DO07
**Well ID:** DO07
**Surface Elev:** 552.75 ft. MSL
**Completion:** 27.00 ft. BGS
**Station:** 1,129,197.21N
2,456,094.95E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 4.00 - During Drilling
▼ = 3.72 - 6/23/25
▼ =

| SAMPLE Number | SAMPLE Recov / Total (in) % Recovery | SAMPLE Type | TESTING Blows / 6 in N - Value RQD | TESTING Water Content (%) | TESTING Dry Density (lb/ft³) | TESTING Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18/18 100% | SS | woh-1 1 N=2 | | | | 0 | | | 552 | |
| | | | | | | | 2 | | | | |
| | | | | | | | 4 ▼ | | | 550 | |
| | | | | | | | 6 | | | 548 | |
| | | | | | | | 8 | | | 546 | |
| | | | | | | | 10 | Very dark grayish brown (10YR3/2), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) | | 544 | |
| | 24/24 100% | SS | woh-woh woh-woh | | | | 12 | | | 542 | |
| | | | | | | | 14 | | | 540 | |
| | 20/24 83% | SS | woh-woh woh-woh | | | | 16 | | | 538 | |
| | | | | | | | 18 | | | 536 | |
| | | | | | | | 20 | | | 534 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/19/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-850 Track Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DO07
**Well ID:** DO07
**Surface Elev:** 552.75 ft. MSL
**Completion:** 27.00 ft. BGS
**Station:** 1,129,197.21N
2,456,094.95E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▽ = 4.00 - During Drilling
▽ = 3.72 - 6/23/25
▽ =

| SAMPLE | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) / % Recovery | Type | Blows / 6 in / N - Value / RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| | 24/24 100% | SS | woh-woh woh-woh | | | | 22 | Black (10YR2/1), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) | | 532 | |
| | | | | | | | | | | 530 | |
| | | | | | | | 24 | | | 528 | |
| | 24/24 100% | SS | woh-woh 3-4 | | | | 26 | Black (10YR2/1), wet, loose, very coarse- to medium-grained SAND with little silt. (Bottom Ash) | | | |
| | | | | | | | | Yellowish brown (10YR5/6), moist, medium, SILT with some clay and trace sand. | | 526 | |

End of Boring = 27.0 feet

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/19/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-850 Track Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DO08
**Well ID:** DO08
**Surface Elev:** 551.80 ft. MSL
**Completion:** 28.27 ft. BGS
**Station:** 1,129,401.38N
2,456,257.44E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 1.75 - During Drilling
▼ = 3.20 - 6/23/25
▼ =

| SAMPLE Number | Recov / Total (in) *% Recovery* | Type | TESTING *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 17/24 *71%* | SS | *woh-woh woh-woh* | | | | 0 | | | 552 | |
| | | | | | | | 2 | | | 550 | |
| | | | | | | | 4 | | | 548 | |
| | | | | | | | 6 | | | 546 | |
| | | | | | | | 8 | Very dark grayish brown (10YR3/2), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) | | 544 | |
| | 24/24 *100%* | SS | *woh-woh woh-1* | | | | 10 | | | 542 | |
| | | | | | | | 12 | | | 540 | |
| | | | | | | | 14 | | | 538 | |
| | 24/24 *100%* | SS | *woh-woh woh-woh* | | | | 16 | | | 536 | |
| | | | | | | | 18 | Black (10YR2/1), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) | | 534 | |
| | | | | | | | 20 | | | 532 | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/19/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** CME-850 Track Drill
**Drilling Method:** Hollow Stem Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DO08
**Well ID:** DO08
**Surface Elev:** 551.80 ft. MSL
**Completion:** 28.27 ft. BGS
**Station:** 1,129,401.38N
2,456,257.44E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▽ = 1.75 - During Drilling
▽ = 3.20 - 6/23/25
▽ =

| SAMPLE Number | Recov / Total (in) / % Recovery | Type | TESTING Blows / 6 in, N - Value, RQD | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) Qp (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24/24 100% | SS | woh-woh woh-woh | | | | | | | | |
| | | | | | | | 22 | | | 530 | |
| | | | | | | | | Black (10YR2/1), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) *[Continued from previous page]* | | | |
| | | | | | | | 24 | | | 528 | |
| | 24/24 100% | SS | woh-woh woh-woh | | | | | | | | |
| | | | | | | | 26 | | | 526 | |
| | 22/24 92% | SS | woh-1 2-3 N=3 | | | | | Dark gray (10YR4/1), moist, medium, SILT with some clay and trace sand. | | | |
| | | | | | | | 28 | | | 524 | |
| | | | | | | | | End of Boring = 28.27 feet | | | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/20/2025
**WEATHER:** 85°F, sunny

**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** Bucket Auger Rig
**Drilling Method:** Bucket Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DW01
**Well ID:** DW01
**Surface Elev:** 553.01 ft. MSL
**Completion:** 30.30 ft. BGS
**Station:** 1,129,174.10N
2,456,191.27E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▼ = 2.00 - During Drilling
▼ = 4.95 - 6/23/25
▼ =

| SAMPLE | | | TESTING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail | Elevation ft. MSL | Remarks |
| | | | | | | | 0 | | | 553 | |
| | | | | | | | 2 ▼ | | | 552 | |
| | | | | | | | 4 | | | 550 | |
| | | | | | | | 4 ▼ | | | 548 | |
| | | | | | | | 6 | | | 546 | |
| | | | | | | | 8 | | | 544 | |
| | | | | | | | 10 | Very dark grayish brown (10YR3/2), wet, soft, SILT with trace very fine-grained sand. (Fly Ash) | | 542 | |
| | | | | | | | 12 | | | 540 | |
| | | | | | | | 14 | | | 538 | |
| | | | | | | | 16 | | | 536 | |
| | | | | | | | 18 | | | 534 | |
| | | | | | | | 20 | | | | |

**NOTE(S):**

# FIELD BORING LOG

HANSON™

**CLIENT:** City Water, Light and Power
**Site:** CWLP Ash Pond Dewatering
**Location:** Springfield, IL
**Project:** 25E0006.00
**DATES:** **Start:** 6/19/2025
**Finish:** 6/20/2025
**WEATHER:** 85°F, sunny

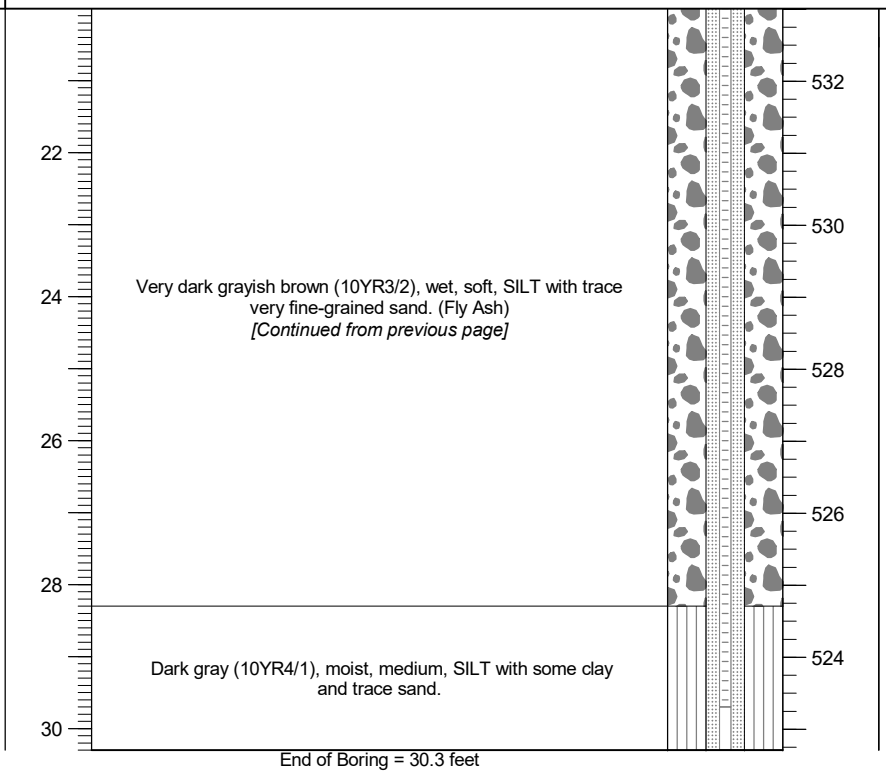
**CONTRACTOR:** Skinner Limited
**Rig mfg/model:** Bucket Auger Rig
**Drilling Method:** Bucket Auger
**FIELD STAFF:** **Driller:** T. Skinner
**Helper:** C. Vanburen
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** DW01
**Well ID:** DW01
**Surface Elev:** 553.01 ft. MSL
**Completion:** 30.30 ft. BGS
**Station:** 1,129,174.10N
2,456,191.27E

**TOPOGRAPHIC MAP INFORMATION:**
**Quadrangle:** Springfield East
**Township:** Woodside
**Section** 12, **Tier** 15; **Range** 5

**WATER LEVEL INFORMATION:**
▽ = 2.00 - During Drilling
▽ = 4.95 - 6/23/25
▽ =

| SAMPLE | | | TESTING | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Recov / Total (in) *% Recovery* | Type | *Blows / 6 in* N - Value **RQD** | Water Content (%) | Dry Density (lb/ft³) | Qu (tsf) *Qp* (tsf) Failure Type | Depth ft. BGS | Lithologic Description | Borehole Detail / Elevation ft. MSL / Remarks |




End of Boring = 30.3 feet

**NOTE(S):**

# APPENDIX A6:
## FLOW PATH INVESTIGATION WELL LOGS

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Site Grid
Northing: 39.7704029
Easting: -89.59912433

Weather: Sunny, 80F

**Boring Information:**
Boring No: AP-6SA
Well No: AP-6S
Surf Elev.: 534

**Depth Information:**
Total: 14.0
Auger: 14.0
Core: 0.0

**Dates:**
Start: 5/13/2025
Finish: 5/13/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 534.0 |
| | 1 | | 4.1 | | | | Grey (5/1 10YR) silty CLAY, grading to olive (6/2 5GY) with yellow (7/8 10YR) mottles | 530.0 |
| 5 | 2 | | 4.2 | | | | | |
| | | | | | | | Grey (5/1 10YR) clayey SAND, with olive (6/2 5GY) and some yellow (7/8 2.5Y) mottles | 525.0 |
| 10 | 3 | | 3.8 | | | | Dark grey (4/1 10YR) SAND, with clay, with black (2/1 10YR) mottles, organics | |
| | | | | | | | End of Boring = 14 Feet | 520.0 |
| 15 | | | | | | | | |
| | | | | | | | | 515.0 |
| 20 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.76959656
Easting: -89.60064954

Weather: Sunny, 80F

**Boring Information:**
Boring No: AP-8SA
Well No: AP-8S
Surf Elev.: 535.9

**Depth Information:**
Total: 15.0
Auger: 15.0
Core: 0.0

**Dates:**
Start: 5/14/2025
Finish: 5/14/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: B. Hunsberger
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 535.9 |
| 0 | | | | | | | Dark grey (4/1 10YR) silty CLAY, with some fine sand and organics | |
| | | | | | | | Dark grey (4/1 10YR) silty CLAY, trace fine sand, moist | 535.0 |
| | 1 | | 5' | | | | Brown (4/3 10YR) silty CLAY, little fine sand, moist | |
| 5 | | | | | | | Grey (5/1 10YR) clayey SILT to silty CLAY, little fine sand, very moist | 530.0 |
| | 2 | | 5' | | | | with brown (5/3 10YR) laminatations, increased stiffness | |
| | | | | | | | Grey (5/1 10YR) clayey SILT to silty CLAY, little fine sand, very moist | |
| | | | | | | | Grey (5/1 10YR) sandy CLAY, soft | |
| 10 | | | | | | | Grey (5/1 10YR) clayey SILT to silty CLAY, little fine sand, very moist | |
| | 3 | | 5' | | | | Grey (5/1 01YR) silty CLAY, little fine sand, moist, some brown bands, trace rootlets | 525.0 |
| | | | | | | | Grey (5/1 10YR) soft CLAY, with silt | |
| | | | | | | | Grey (5/1 01YR) silty CLAY, little fine sand, moist, some brown bands, trace rootlets | |
| 15 | | | | | | | Grey (5/1 10YR) soft CLAY, some silt | |
| | | | | | | | Grey (5/1 01YR) silty CLAY, little fine sand, moist, some brown bands, trace rootlets | 520.0 |
| | | | | | | | End of Boring = 15 Feet | |
| 20 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.762762
Easting: -89.59991904

Weather: Sunny, 67F

**Boring Information:**
Boring No: AP-15D
Well No: AP-15D
Surf Elev.: 536.3

**Depth Information:**
Total: 30.5
Auger: 30.5
Core: 0.0

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA, 5' CB, 3' & 2' split spoon

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

**Dates:**
Start: 5/12/2025
Finish: 5/12/2025

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 536.3 |
| 0 | | | | | | | Brown (5/3 10YR) clayey SILT, with organics, spongy texture, very moist | |
| | 1 | | 3.92 | | | | Grey (5/1 10YR) silty CLAY, moist | 535.0 |
| 5 | 2 | | 4 | | | | Yellow (7/8 2.5Y) silty CLAY, with black (2/1 10YR) and olive (6/2 10Y) mottles, wet | 530.0 |
| 10 | | | | | | | Yellow (7/8 10YR) SAND, with trace clay, olive (6/2 10Y) and dark grey (4/1 10YR) mottles, wet | |
| | 3 | | 3.85 | | | | Yellow (7/8 2.5Y) clayey SAND, very fine to fine grain size | 525.0 |
| 15 | 4 | | 4 | | | | Yellow (7/8 2.5Y) SAND, coarse grain size, with some medium grains, saturated | 520.0 |
| 20 | | | | 1 | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: AP-15D** Boring No: AP-15D Well No: AP-15D

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 2.3 | 1<br>3<br>4<br>4<br>4<br>4 | | | color grades to grey (5/1 10YR) | 515.0 |
| | 6 | | 3 | wg<br>wg<br>wg<br>1<br>1<br>2 | | | Grey (5/1 10YR) clayey SAND, fine grain size, saturated | |
| 25 | 7 | | 4 | | | | Light grey (7/1 10YR) CLAY, wet, high plasticity, highly adhesive | 510.0 |
| | | | | | | | Grey (5/1 10YR) clayey SAND, medium grain size | |
| | | | | | | | Grey (6/1 10YR) clayey SAND, very fine grain size | |
| 30 | 8 | | 0.6 | wg<br>60\2 | | | Dark grey (4/1 10YR) SHALE, wet | |
| | | | | | | | End of Boring = 30.5 Feet | 505.0 |
| 35 | | | | | | | | 500.0 |
| 40 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.76277306
Easting: -89.59992106

Weather: Sunny, 67F

**Boring Information:**
Boring No: AP-15S
Well No: AP-15S
Surf Elev.: 533.6

**Depth Information:**
Total: 24.5
Auger: 24.5
Core: 0.0

**Dates:**
Start: 5/12/2025
Finish: 5/12/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA, 5' CB, 3' & 2' Split spoon

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 533.6 |
| 0 | 1 | | 3.9 | | | | Dark (3/1 10YR) silty CLAY, with coal fragments and organics, moist | |
| | | | | | | | Dark grey (3/1 10YR) CLAY, moist | 530.0 |
| 5 | 2 | | 4.8 | | | | Yellow (7/8 2.5Y) sandy CLAY, with olive (6/2 10Y) and grey (5/1 10YR) mottles | |
| | | | | | | | Yellow (7/8 2.5 Y) clayey SAND, very moist, with olive (6/2 5GY) and grey (5/1 10YR) mottles | 525.0 |
| 10 | 3 | | 4.9 | | | | Yellow (7/8 2.5Y) CLAY, fine to medium grain size, wet | |
| | | | | | | | Yellow (7/8 2.5Y) clayey SAND, very moist, with olive (6/2 10Y) | 520.0 |
| 15 | 4 | | 2.9 | wg wg 2 4 5 8 | | | Yellowish brown (5/6 10YR) SAND, fine to medium grain size, trace clay, wet | |
| | 5 | | 1.5 | wg 2 3 5 | | | | 515.0 |
| 20 | | | | 5 | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: AP-15S** Boring No: AP-15S Well No: AP-15S

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | 5 | | | Yellowish brown (5/6 10YR) clayey SAND, very fine grain size | |
| | 6 | | 2.3 | 6 8 8 7 5 | | | Grey (6/1 10YR) SAND, medium to coarse grain size, wet | |
| | | | | | | | Grey (5/1 10YR) silty CLAY, moist, with sand | |
| | 7 | | 1.8 | 2 2 2 2 | | | Light grey (7/1 10YR) CLAY, firm, wet | 510.0 |
| 25 | | | | | | | End of Boring = 24.5 Feet | 505.0 |
| 30 | | | | | | | | 500.0 |
| 35 | | | | | | | | 495.0 |
| 40 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.77159212
Easting: -89.60008687

Weather: Sunny, 70F

**Boring Information:**
Boring No: AP-16
Well No: AP-16
Surf Elev.: 533.6

**Depth Information:**
Total: 23.0
Auger: 23.0
Core: 0.0

**Dates:**
Start: 5/20/2025
Finish: 5/20/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 533.6 |
| | | | | | | | Light brown (6/3 7.5YR) SILT, organics | |
| | 1 | | 4.8 | | | | Grey (4/1 10YR) silty CLAY, moist, trace yellow (7/8 2.5Y) mottles | |
| | | | | | | | Olive (6/4 10Y) CLAY, with some brownish yellow (6/8 10YR) mottles | 530.0 |
| 5 | | | | | | | color grades to (8/1 10YR) with olive (6/4 10Y) and brownish yellow (6/8 10YR) mottles, moist | |
| | 2 | | 4.4 | | | | color grades to white (8/1 10YR) clayey SILT, moist, yellowish brown (4/6 10YR) mottles | 525.0 |
| 10 | | | | | | | white (8/1 N) with brown (7/6 10YR) mottles, wet | |
| | 3 | | 5 | | | | White (8/1 10YR) silty CLAY, moist, with brown (6/8 10YR) mottles | |
| | | | | | | | Light olive (6/3 5Y) clayey SAND, wet | 520.0 |
| | | | | | | | Light bluish grey (7/1 10B) silty CLAY with yellow (7/6 10YR) mottles, moist | |
| 15 | 4 | | 1.8 | | | | Grey (5/1 10YR) SAND, well sorted, medium to coarse grain size, coarsening downward, trace gravel, with clay | 515.0 |
| 20 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: AP-16** Boring No: AP-16 Well No: AP-16

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Grey (5/1 10YR) clayey SAND, well sorted, coarse to medium grain size, trace gravel | |
| | 5 | | 3.3 | | | | Black (2/1 10YR), grading to olive (6/2 5GY) clayey SHALE | |
| | | | | | | | End of Boring = 23 Feet | 510.0 |
| 25 | | | | | | | | 505.0 |
| 30 | | | | | | | | 500.0 |
| 35 | | | | | | | | 495.0 |
| 40 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.77042692
Easting: -89.59572184

Weather: Sunny, 73F

**Boring Information:**
Boring No: P03D
Well No: P03D
Surf Elev.: 530

**Depth Information:**
Total: 35.0
Auger: 35.0
Core: 0.0

**Dates:**
Start: 5/14/2025
Finish: 5/14/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 530.0 |
| 0 | 1 | | 4.8 | | | | Black (2/1 10YR) SILT, with organics | |
| | | | | | | | Light grey (7/1 10YR) clayey SILT, with shale and coal fragments | |
| 5 | 2 | | 4.7 | | | | Grey (4/1 10YR) clayey SILT with shale and coal fragments | 525.0 |
| | | | | | | | Olive (6/2 5GY) clayey SILT trace coal fragments | |
| 10 | 3 | | 4.3 | | | | Dark grey (3/1 10YR) silty SAND, with trace organics, wet, medium to coarse grain size | 520.0 |
| 15 | 4 | | 5 | | | | Light grey (7/1 10YR) silty CLAY, with (6/8 10YR) brown mottles | 515.0 |
| | | | | | | | Olive (6/2 5GY) silty CLAY, with thin interbedded very fine grained sand, moist | |
| 20 | | | | | | | | 510.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: P03D** Boring No: P03D Well No: P03D

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 4.4 | | | | Grey (5/1 10YR) CLAY, with olive (6/2 5GY) mottles, moist, with thin sand interbedded | |
| 25 | | | | | | | | 505.0 |
| | 6 | | 4.6 | | | | Grey (6/1 10YR) CLAY, wet, highly plastic, very sticky | |
| | | | | | | | Grey (5/1 10YR) clayey SAND, medium grain size, moist | |
| 30 | | | | | | | | 500.0 |
| | 7 | | 2.75 | | | | Grey (4/1 10YR) SAND, medium to coarse grain size, wet | |
| | | | | | | | Dark grey (3/1 10YR) SHALE | |
| 35 | | | | | | | End of Boring = 35 Feet | 495.0 |
| 40 | | | | | | | | 490.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Site Grid
Northing: 39.77042711
Easting: -89.59573599

Weather: Sunny, 67F

**Boring Information:**
Boring No: P03S
Well No: P03S
Surf Elev.: 529.9

**Depth Information:**
Total: 14.0
Auger: 14.0
Core: 0.0

**Dates:**
Start: 5/14/2025
Finish: 5/14/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 529.9 |
| | 1 | | 4.75 | | | | Dark brown ( 3/2 10YR) SILT, with organics, trace coal and shale | |
| | | | | | | | Light grey (7/1 10YR) clayey SILT, with brown mottles, trace gravel | |
| 5 | | | | | | | | 525.0 |
| | 2 | | 4.6 | | | | Dark grey (3/1 10YR) clayey SILT, with coal and shale fragments | |
| | | | | | | | Olive (5/3 5Y) silty CLAY, with grey (5/1 10YR) mottles, trace coal | |
| 10 | | | | | | | Dark grey (3/1 10YR) silty SAND, wet, trace organics | 520.0 |
| | 3 | | 3.8 | | | | Dark grey (3/1 10YR) SAND, medium to coarse grain size, with silt, trace gravel | |
| | | | | | | | Olive (6/2 5GY) silty CLAY, moist, trace grey mottles | |
| | | | | | | | End of Boring = 14 Feet | |
| 15 | | | | | | | | 515.0 |
| 20 | | | | | | | | 510.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Site Grid
Northing: 39.77040608
Easting: -89.59696106

Weather: Sunny, 80F

**Boring Information:**
Boring No: P104S
Well No: P104S
Surf Elev.: 529.7

**Depth Information:**
Total: 36.5
Auger: 36.5
Core: 0.0

**Dates:**
Start: 5/15/2025
Finish: 5/15/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB and 2' Split Spoon

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 529.7 |
| 0 | 1 | | 4.4' | | | | Brown (4/6 10YR) clayey SILT, with coal fragments, black and yellow mottles | |
| | | | | | | | grades to black | |
| | | | | | | | Grey (5/1 10YR) clayey SILT, with coal fragments, black and yellow mottles | |
| 5 | | | | | | | | 525.0 |
| | | | | | | | Dark grey (3/1 10YR) SILT | |
| | 2 | | 4.8' | | | | Grey (5/1 10YR) silty CLAY, trace sand | |
| | | | | | | | Dark grey (4/1 10YR) CLAY, moist, trace coal fragments | |
| 10 | | | | | | | | 520.0 |
| | 3 | | 5' | | | | | |
| 15 | | | | | | | | 515.0 |
| | 4 | | 4.9' | | | | Dark grey (4/1 10YR) silty CLAY, moist, trace organics and sand | |
| 20 | | | | | | | | 510.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: G104S** Boring No: G104S Well No: G104S

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 2.9' | | | | | |
| | | | | | | | Grey (5/1 10YR) SAND, with clay, wet, with little gravel | |
| | 6 | | 1.6' | wg<br>wg<br>1 | | | Grey (6/1 10YR) CLAY, moist | 505.0 |
| 25 | | | | | | | End of Boring = 25 Feet | |
| 30 | | | | | | | | 500.0 |
| 35 | | | | | | | | 495.0 |
| 40 | | | | | | | | 490.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.77031764
Easting: -89.59489383

Weather: Sunny, 78F

**Boring Information:**
Boring No: R103S
Well No: R103S
Surf Elev.: 535.1

**Depth Information:**
Total: 30.0
Auger: 30.0
Core: 0.0

**Dates:**
Start: 5/19/2025
Finish: 5/19/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 535.1 |
| | 1 | | 4.5 | | | | White (8/1 10YR) SILT, with many brown (6/4 10YR) mottles, organics, with trace sand | |
| 5 | | | | | | | Olive (6/2 5GY) silty CLAY, with brown (6/4 10YR) mottles, and trace black (2/1 10YR) mottles | 530.0 |
| | 2 | | Full | | | | Light grey (7/1 10YR) grading to brown (5/4 10YR) CLAY, with silt, with (6/8 10YR) mottles, soft | |
| 10 | | | | | | | | 525.0 |
| | 3 | | Full | | | | Light grey (7/1 10YR) clayey SILT, moist | |
| 15 | | | | | | | soft, wet | 520.0 |
| | 4 | | 4.4 | | | | Dark grey (4/1 10YR) sandy CLAY, wet, soft, trace, with brown ( 5/6 10YR) | |
| | | | | | | | Dark grey (4/1 10YR) SAND, wet, brown (5/7 10YR) mottles | |
| 20 | | | | | | | | 515.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Boring Information: R103** Boring No: R103 Well No: R103

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | 5 | | 3.5 | | | | Grey (5/1 10YR) sandy CLAY, with trace gravel, coal, and shale | |
| 25 | | | | | | | Grey (5/1 10YR) clayey SAND, with gravel | 510.0 |
| | 6 | | 4.1 | | | | Grey (5/1 10YR) weathered SHALE, with yellow (8/4 5Y) | |
| | | | | | | | Dark grey (3/1 10YR) SHALE, with lighter grey (5/1 10YR) bands | |
| 30 | | | | | | | End of Boring = 30 Feet | 505.0 |
| 35 | | | | | | | | 500.0 |
| 40 | | | | | | | | 495.0 |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.77018579
Easting: -89.59899292

Weather: Sunny, 80F

**Boring Information:**
Boring No: RW-3S
Well No: RW-3S
Surf Elev.: 535.9

**Depth Information:**
Total: 15.0
Auger: 15.0
Core: 0.0

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

**Dates:**
Start: 5/15/2025
Finish: 5/15/2025

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface | 535.9 |
| 0 | 1 | | 4.75 | | | | Grey (5/1 10YR) clayey SILT, with orgnics and gravel | 535.0 |
| | | | | | | | Greyish brown (5/2 10YR) silty CLAY, with reddish yellow (6/8 7.5YR) mottles and organics | |
| 5 | 2 | | 4.0 | | | | Greenish grey (8/1 5GY) SILT, with clay, brown (5/8 10YR) mottles, trace sand near bottom | 530.0 |
| 10 | | | | | | | Pale brown (6/3 10YR) SAND, wet | |
| | 3 | | 3.75 | | | | Greenish grey (8/1 5GY) SILT, with clay, brown (5/8 10YR) mottles, trace sand near bottom | 525.0 |
| | | | | | | | Pale brown (6/3 10YR)to grey (6/1 10YR) silty SAND, wet, with organics | |
| | | | | | | | Grey (6/1 10YR) clayey SAND, wet, with organics | |
| 15 | | | | | | | End of Boring = 15 Feet | 520.0 |
| 20 | | | | | | | | |

Notes:

**Andrews Engineering, Inc.**
3300 Ginger Creek Drive
Springfield, IL 62711

# FIELD BORING LOG

**Site Information:**
Name: Springfield City Water, Light, and Power
Location: Springfield, IL
County: Sangamon
Site No.: 1678250020
AEI No.: 240338|0011

**Location:**
Coord. System: Latitude & Longitude
Northing: 39.77037607
Easting: -89.60084024

Weather: Sunny, 70F

**Boring Information:**
Boring No: T4S
Well No: T4S
Surf Elev.: 546.8

**Depth Information:**
Total: 15.0
Auger: 15.0
Core: 0.0

**Dates:**
Start: 5/20/2025
Finish: 5/20/2025

**Drilling Contractor:**
Contractor Name: Skinner LTD
City: Hindsburo, IL
Equipment: 4.25" HSA with 5' CB

**Personnel:**
Geologist: N. Beck
Driller: T. Skinner
Helper(s): C. Vonbrehens, T. Buckler

- Continuous Barrel (CB) | - Split Spoon (SS) | - Shelby Tube | - Core | - Blind Drill

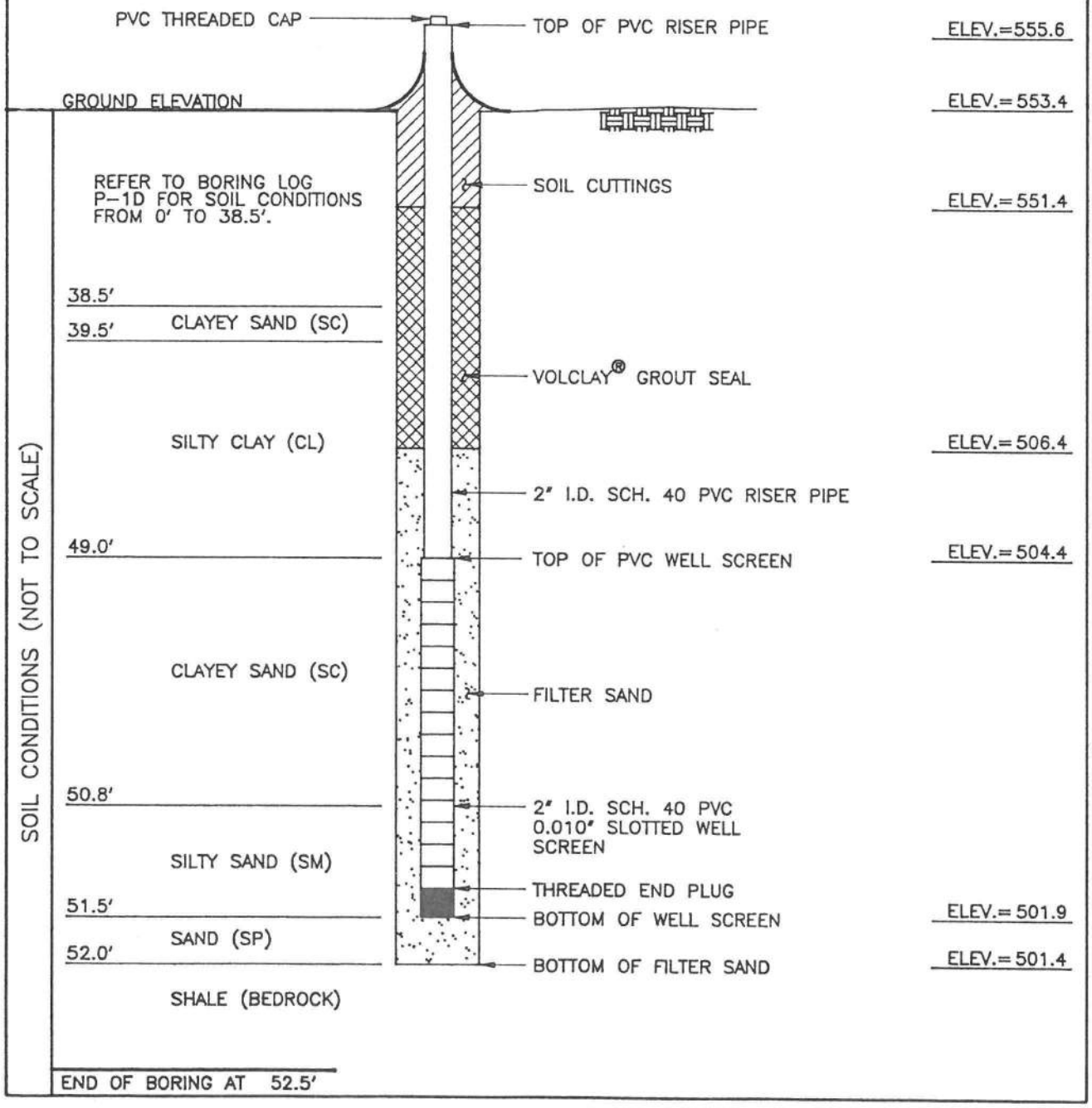
| Depth (ft) | Run No. | Sample Type | Sample Recov. | Blow Count | qu/su (tsf) | Lithology | Description/Comments | Elev. (MSL) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | 546.8 |
| | | | | | | | Dark brown (3/3 10YR) clayey SILT, moist | |
| | 1 | | 4.75 | | | | Yellowish brown (5/8 10YR) silty CLAY, moist, with organics | 545.0 |
| 5 | 2 | | 1.9 | | | | Pale brown (8/4 10YR) SILT, with clay, organics, trace sand, dry | 540.0 |
| | 3 | | 3 | | | | hard | |
| 10 | 4 | | 1.5 | | | | Pale brown (8/4 10YR) sandy SILT, with black mottles | 535.0 |
| | 5 | | 0.5 | | | | Pale brown (7/3 10YR), sandy CLAY, with black mottles, organics, moist | |
| | 6 | | 2.3 | | | | Light grey (7/2 10YR) clayey SAND, moist, with black mottles, organics, and trace gravel | |
| 15 | | | | | | | End of Boring = 15 Feet | 530.0 |
| 20 | | | | | | | | |

Notes:

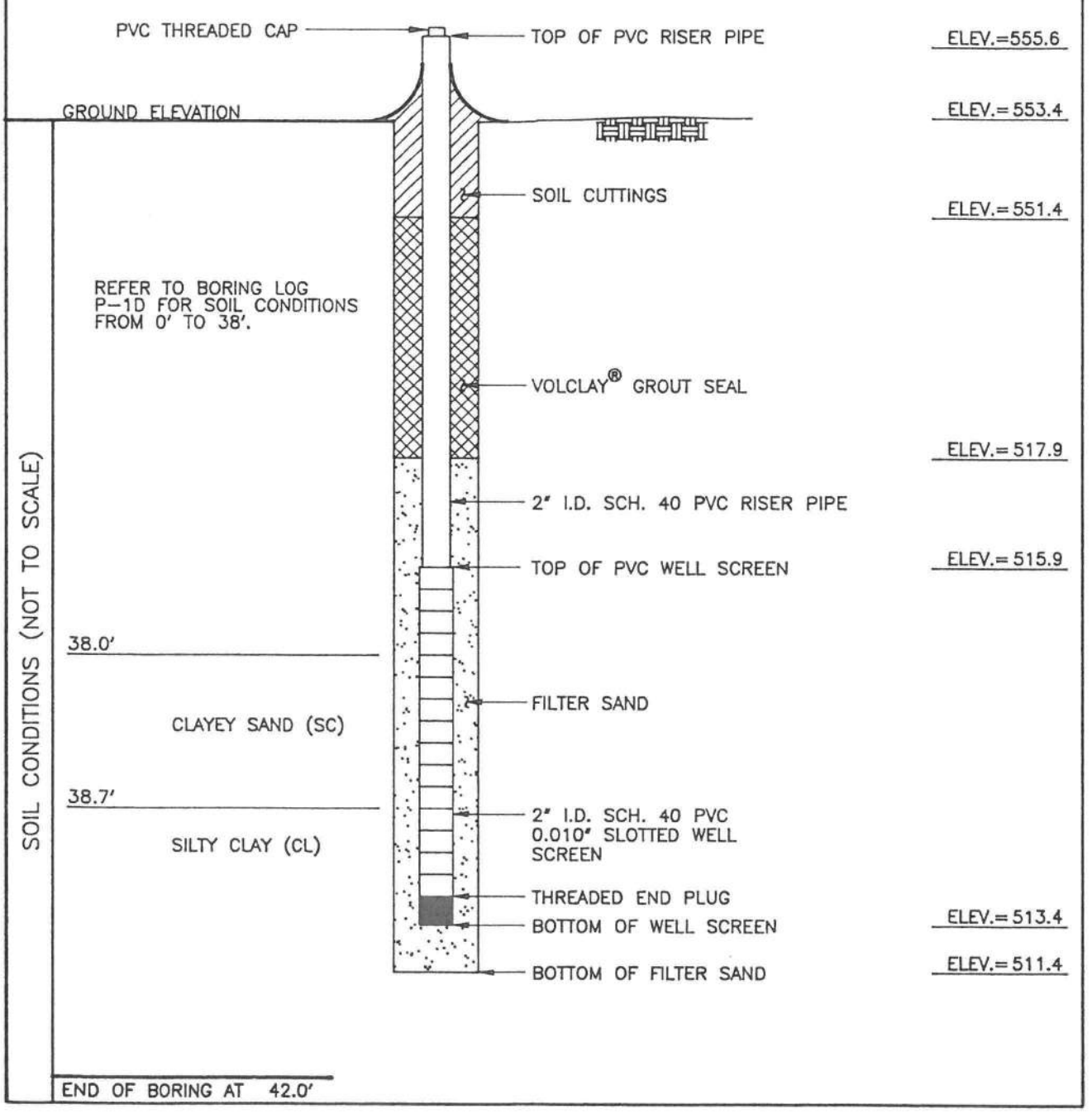
# APPENDIX B:
## WELL CONSTRUCTION REPORTS

# APPENDIX B1:
## FGDS UNIT 2 LANDFILL WELL/PIEZOMETER CONSTRUCTION REPORTS

| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-1D<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL | | BORING NO. P-1D |
| LOCATION SPRINGFIELD, ILLINOIS | | LOCATION N 4806.1<br>E 1973.1 |
| CLIENT CWL&P | | INSTALLATION DATE 7/21/92 |
| ENGINEER KRISHNA REDDY | | WEATHER CLOUDY, 70'S |
| DRILLER KEVIN SHAMWAY | | |



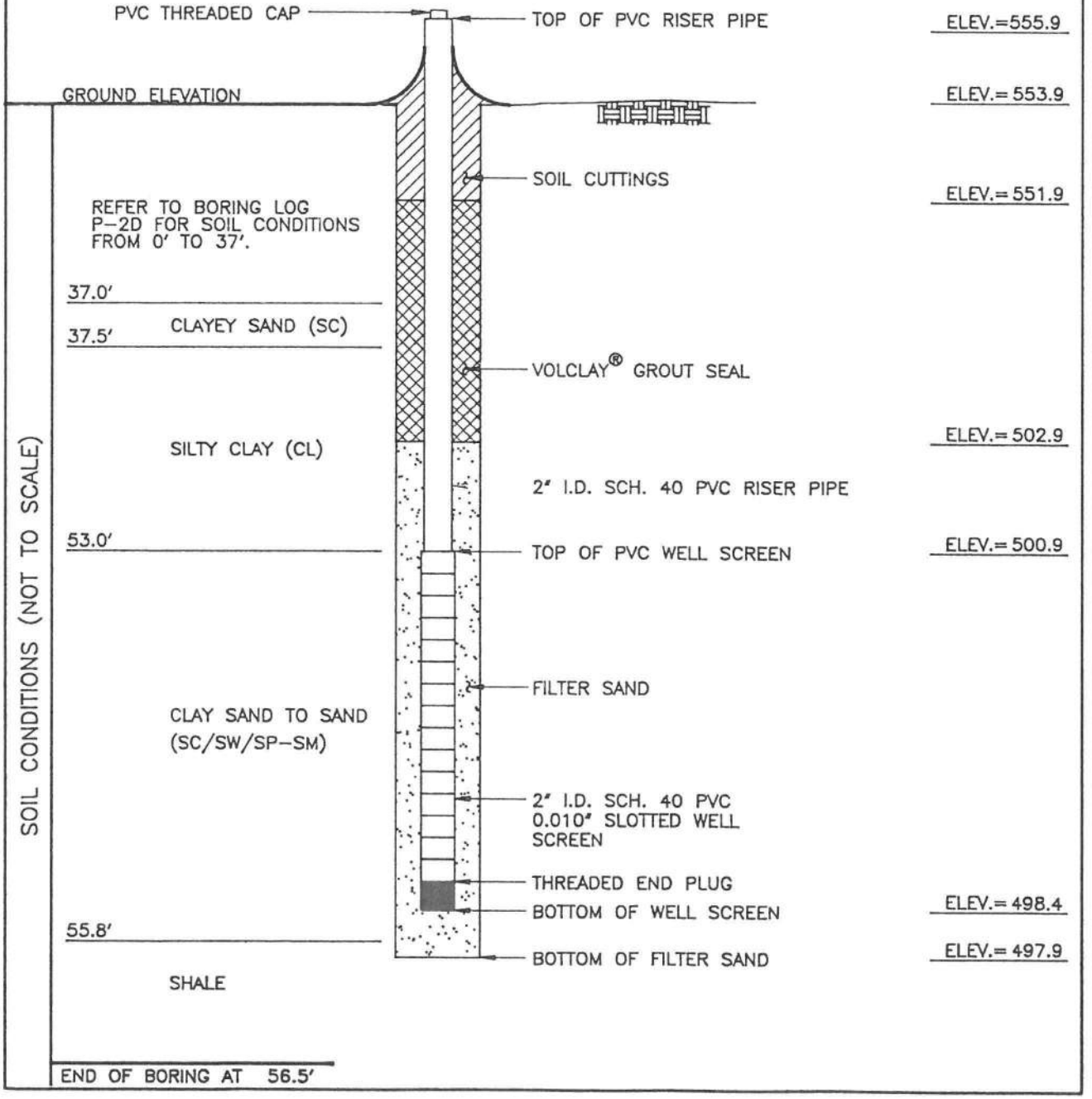
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-1S<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL<br>LOCATION SPRINGFIELD, ILLINOIS<br>CLIENT CWL&P<br>ENGINEER KRISHNA REDDY<br>DRILLER KEVIN SHAMWAY | | BORING NO. P-1S<br>LOCATION N 4821.3<br>E 1973.9<br>INSTALLATION DATE 7/21/92<br>WEATHER P. CLOUDY, 70'S |



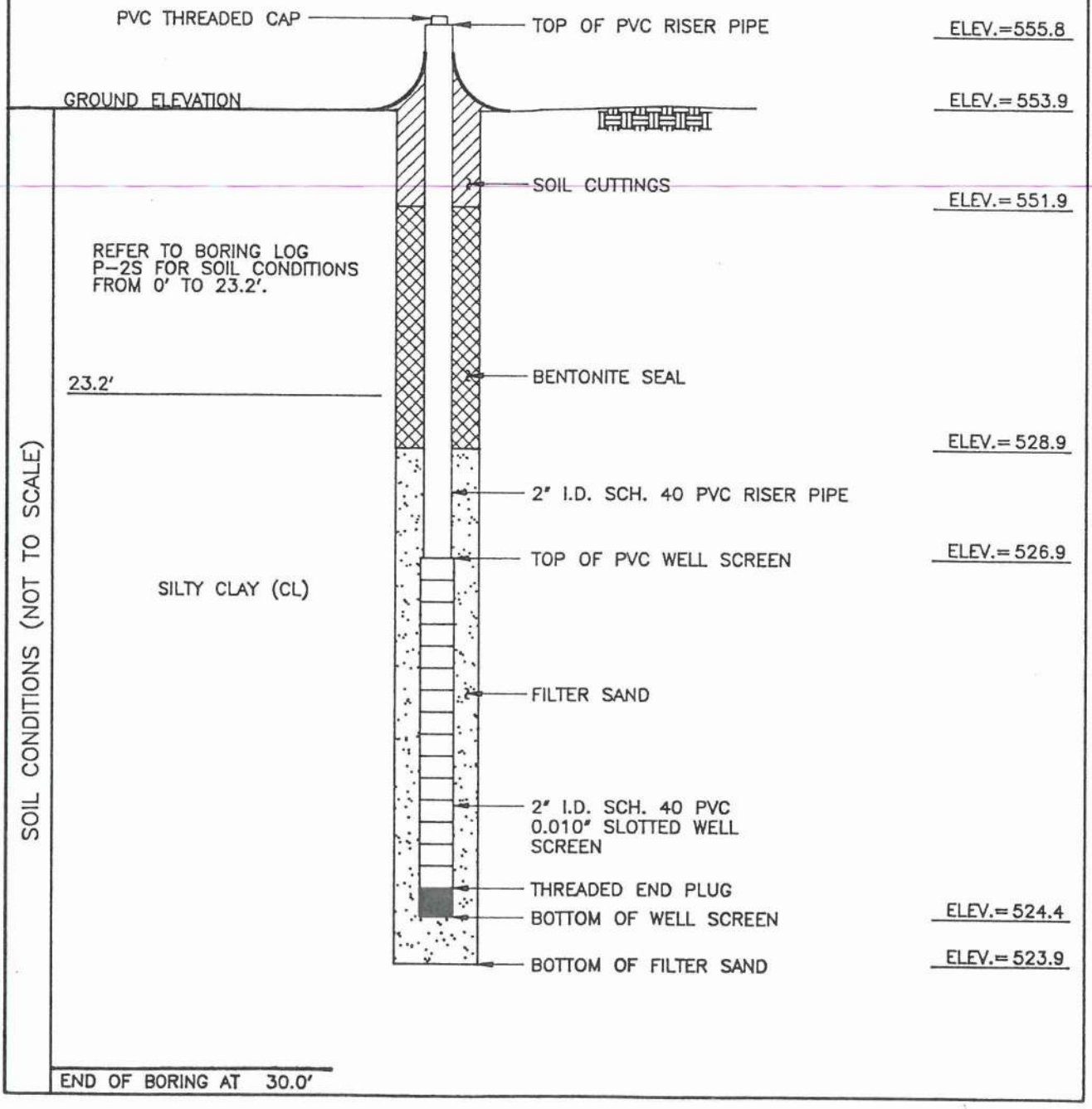
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-2D<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

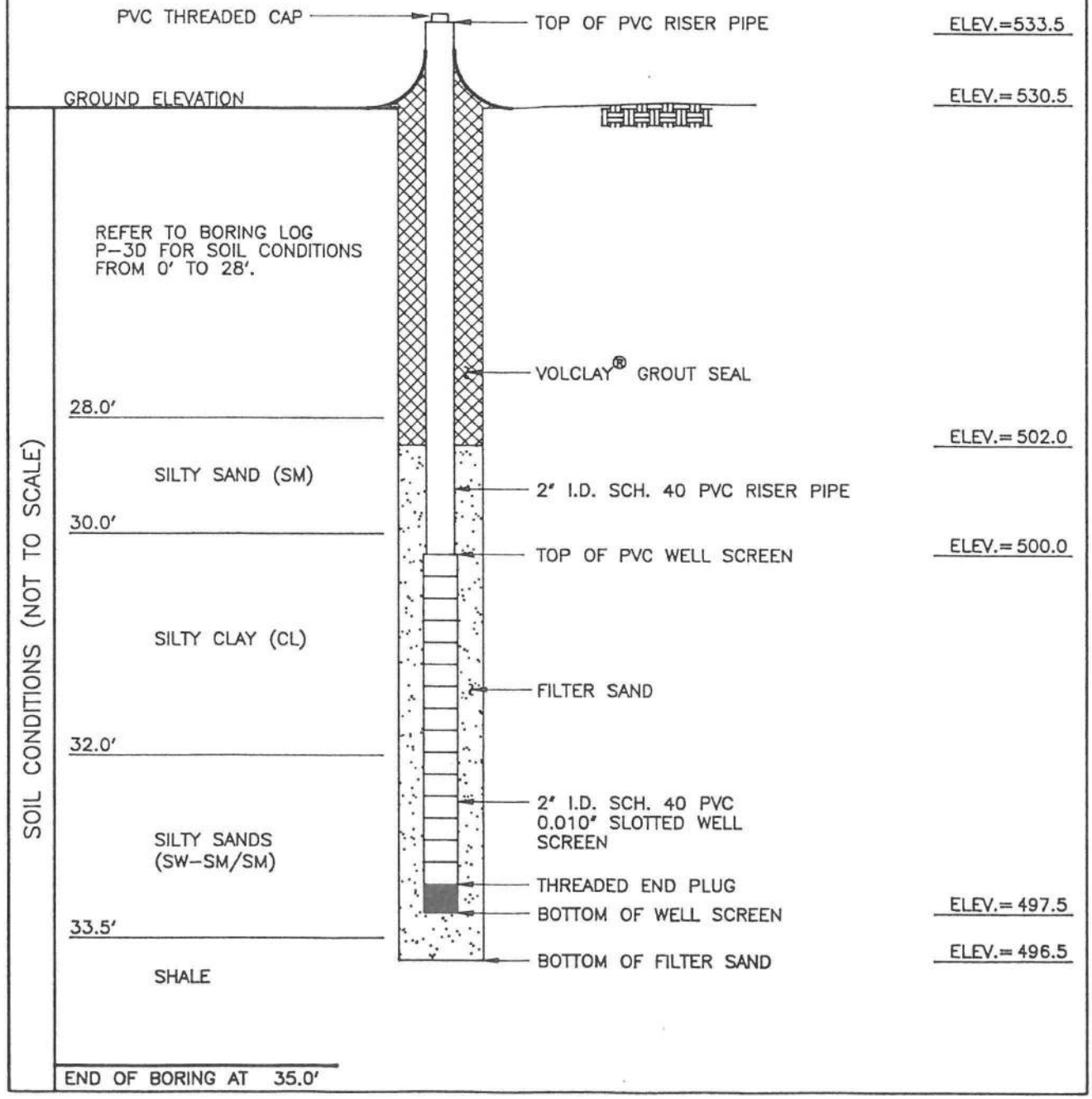
BORING NO. P-2D
LOCATION N 5526.0
E 1975.9
INSTALLATION DATE 7/22/92
WEATHER CLOUDY, RAINY, 70'S



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-2S<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL<br>LOCATION SPRINGFIELD, ILLINOIS<br>CLIENT CWL&P<br>ENGINEER KRISHNA REDDY<br>DRILLER KEVIN SHAMWAY | | BORING NO. P-2S<br>LOCATION N 5237.1<br>E 1976.3<br>INSTALLATION DATE 7/22/92<br>WEATHER CLOUDY, RAINY, 70'S |



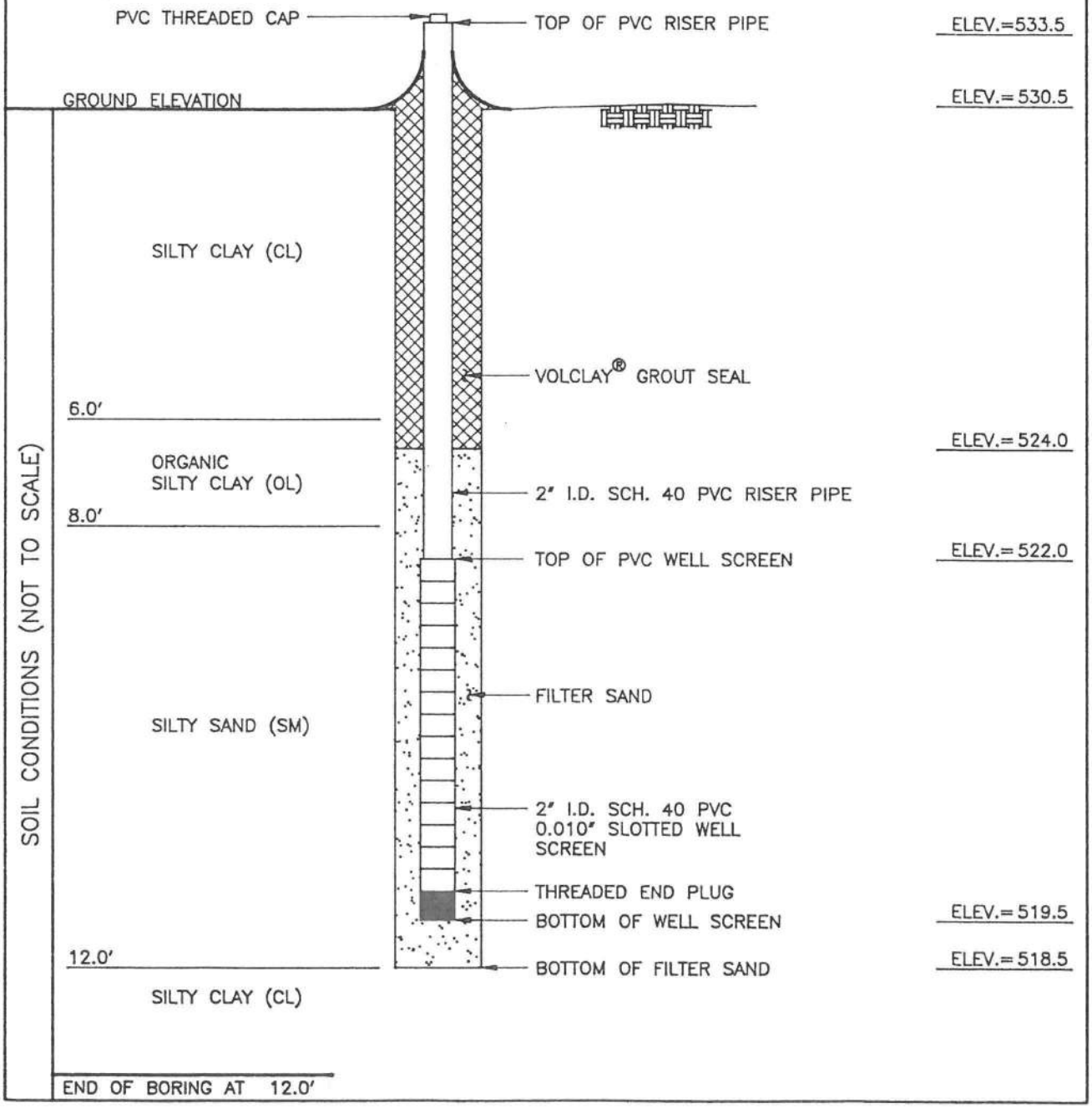
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-3D<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL | | BORING NO. P-3D |
| LOCATION SPRINGFIELD, ILLINOIS | | LOCATION N 5672.5 |
| CLIENT CWL&P | | E 2645.4 |
| ENGINEER KRISHNA REDDY | | INSTALLATION DATE 8/17/92 |
| DRILLER KEVIN SHAMWAY | | WEATHER SUNNY, 70'S |



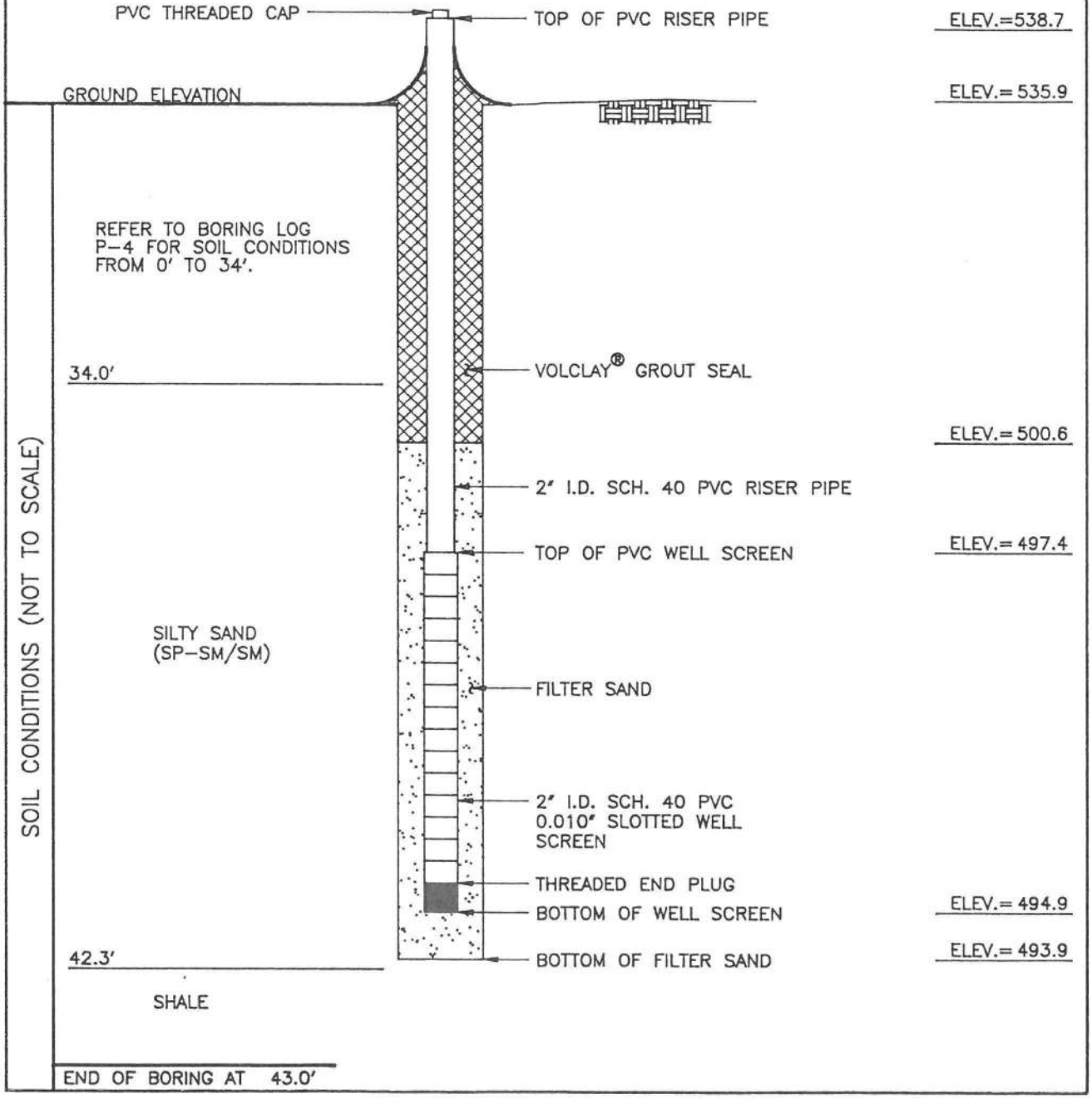
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-3S<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

BORING NO. P-3S
LOCATION N 5672.5
E 2651.4
INSTALLATION DATE 8/17/92
WEATHER SUNNY, 70'S



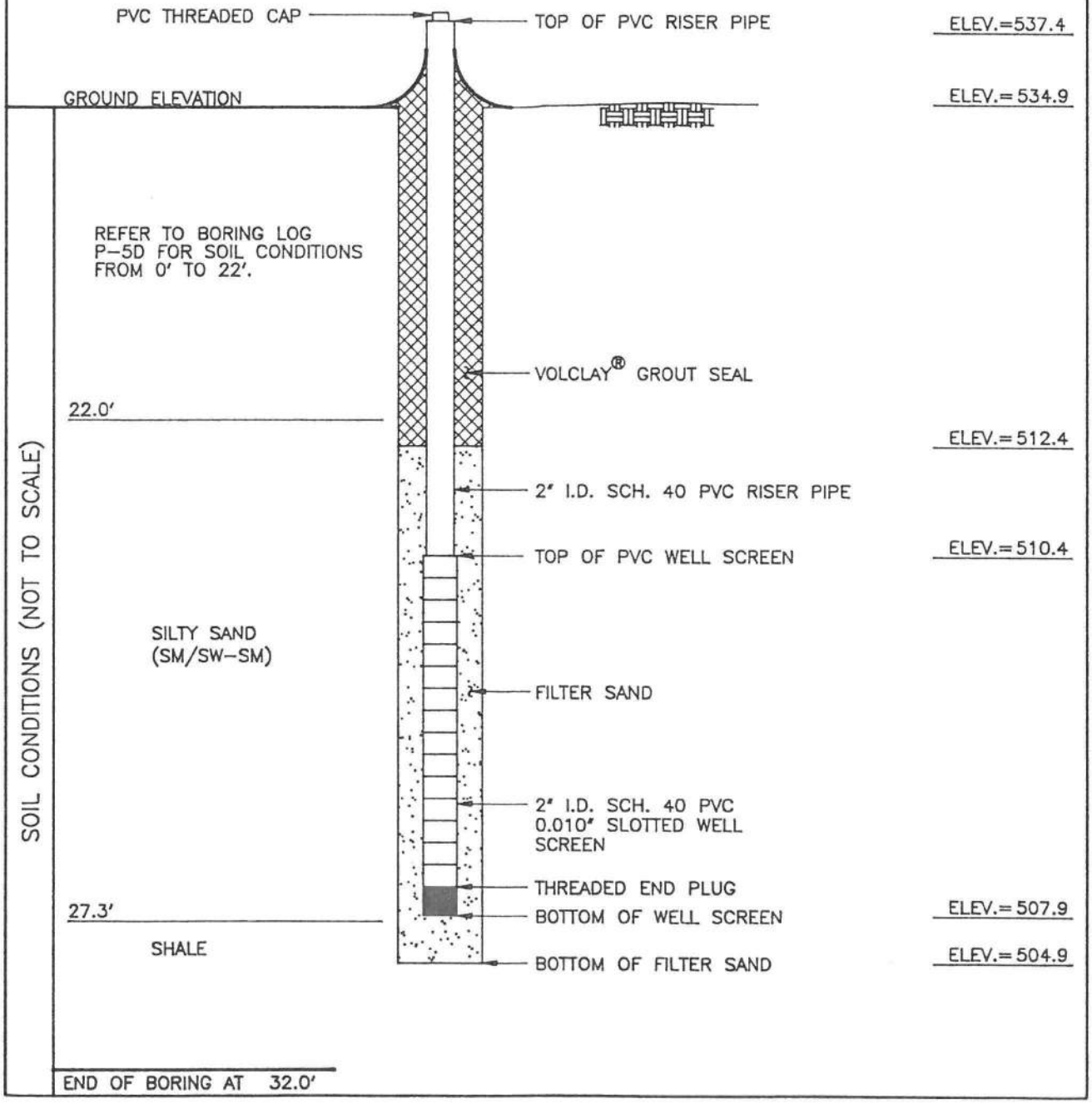
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-4<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL | | BORING NO. P-4 |
| LOCATION SPRINGFIELD, ILLINOIS | | LOCATION N 5156.3 |
| CLIENT CWL&P | | E 2880.7 |
| ENGINEER KRISHNA REDDY | | INSTALLATION DATE 8/16/92 |
| DRILLER KEVIN SHAMWAY | | WEATHER SUNNY, 70'S |



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-5D<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

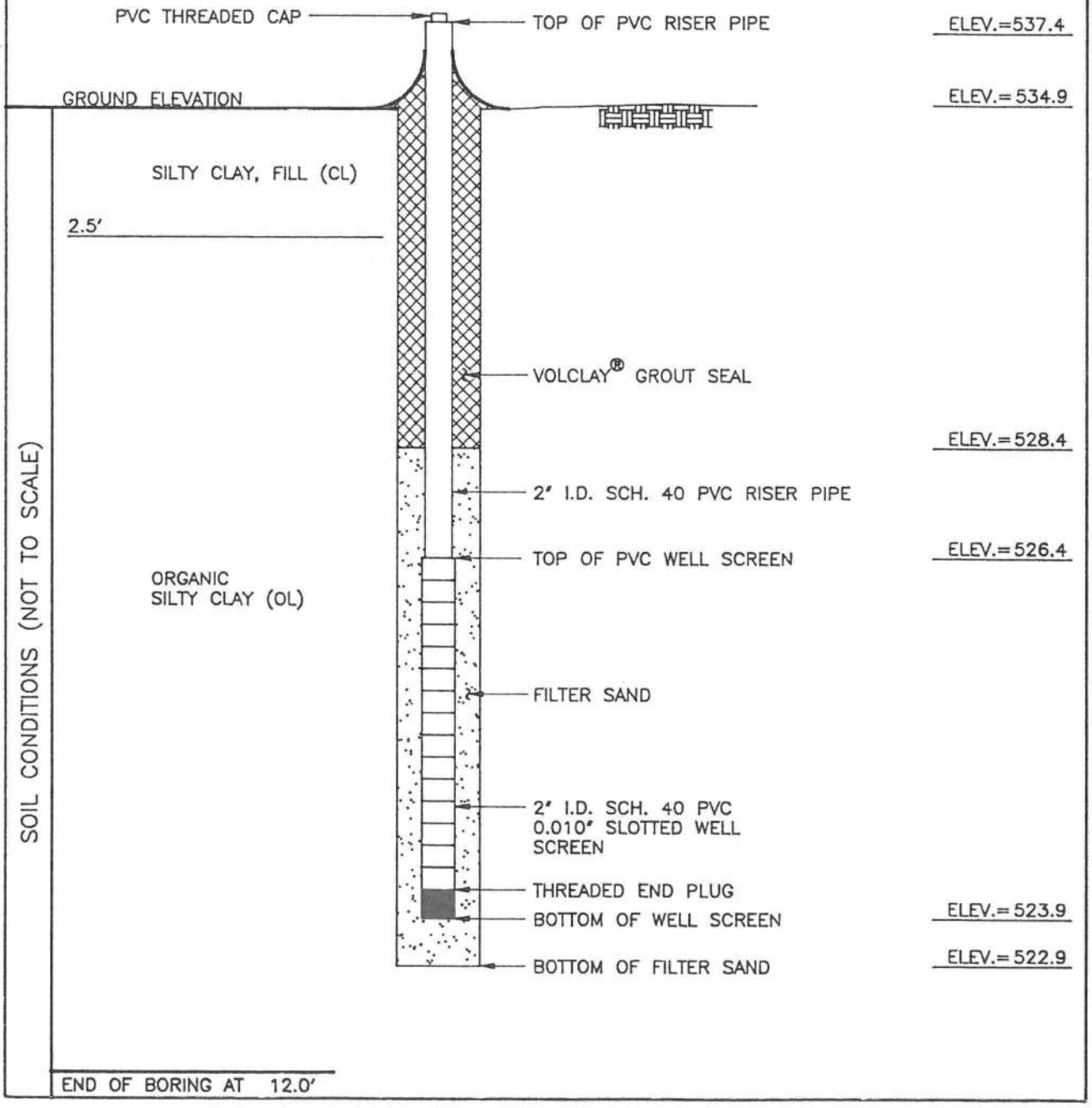
BORING NO. P-5D
LOCATION N 4516.7
E 2885.0
INSTALLATION DATE 8/16/92
WEATHER SUNNY, 70'S



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-5S<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

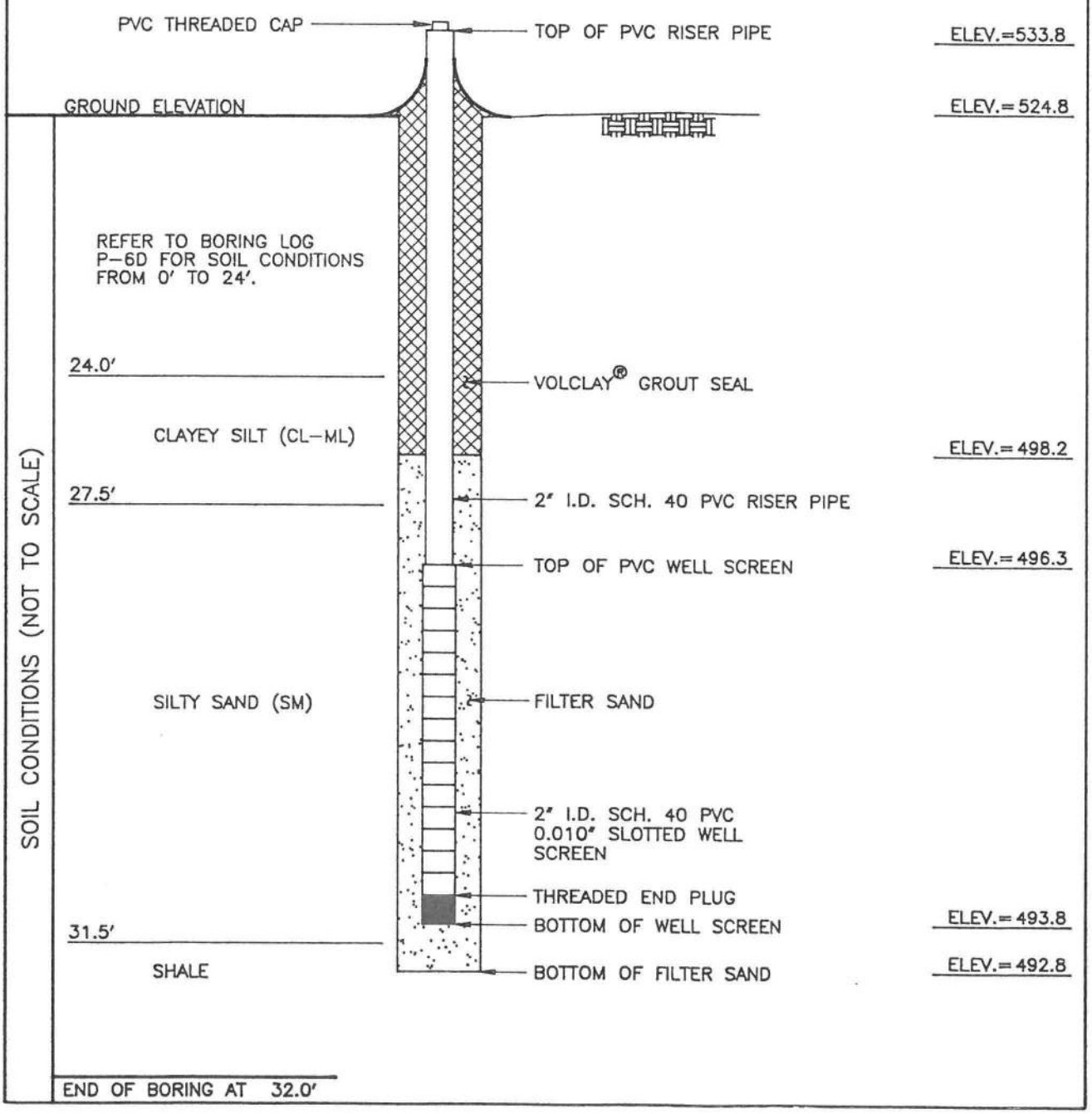
BORING NO. P-5S
LOCATION N 4510.7
E 2887.0
INSTALLATION DATE 8/16/92
WEATHER SUNNY, 70'S



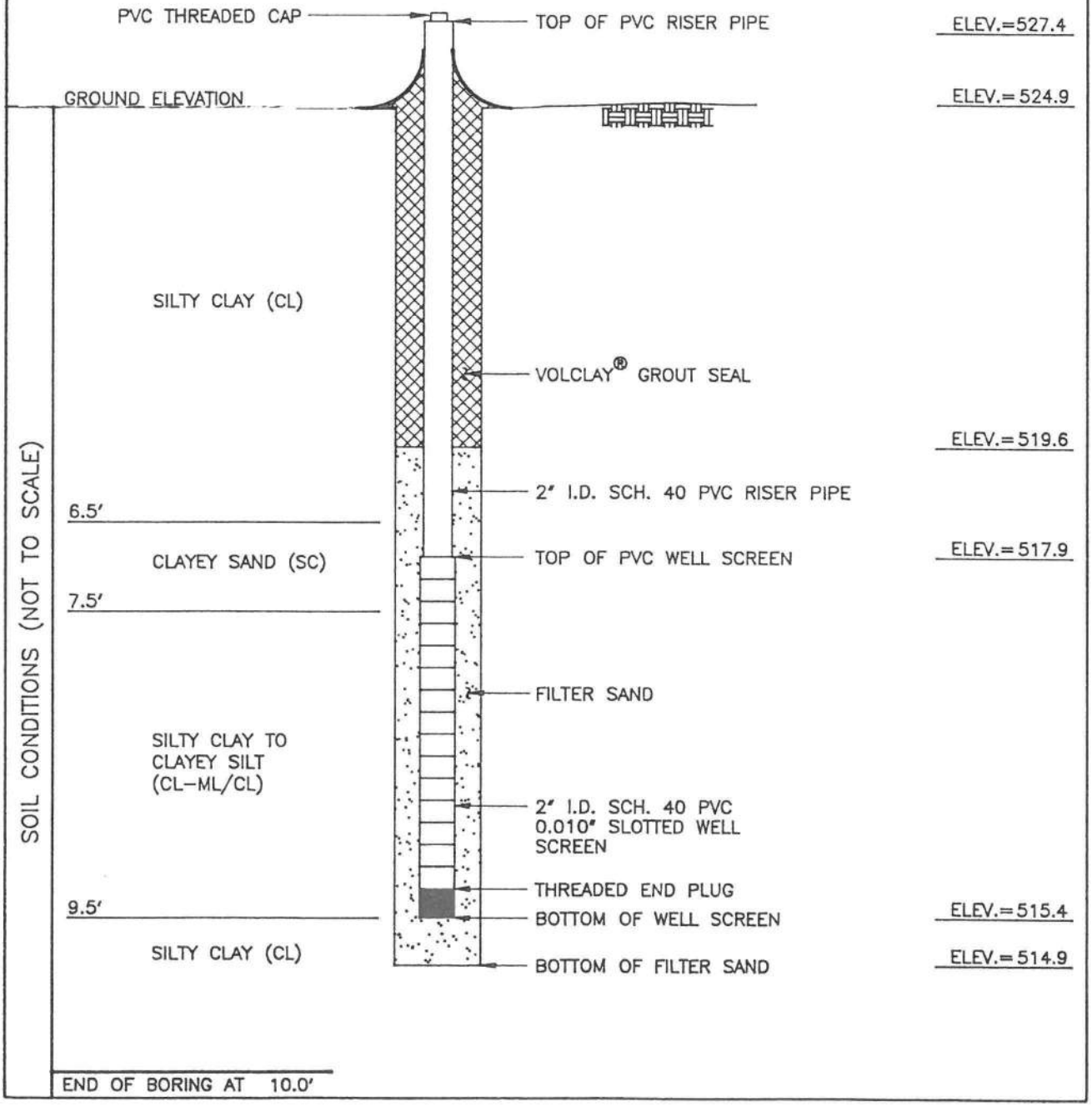
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-6D<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

BORING NO. P-6D
LOCATION N 4717.0
E 2186.8
INSTALLATION DATE 8/12/92
WEATHER SUNNY, 70'S



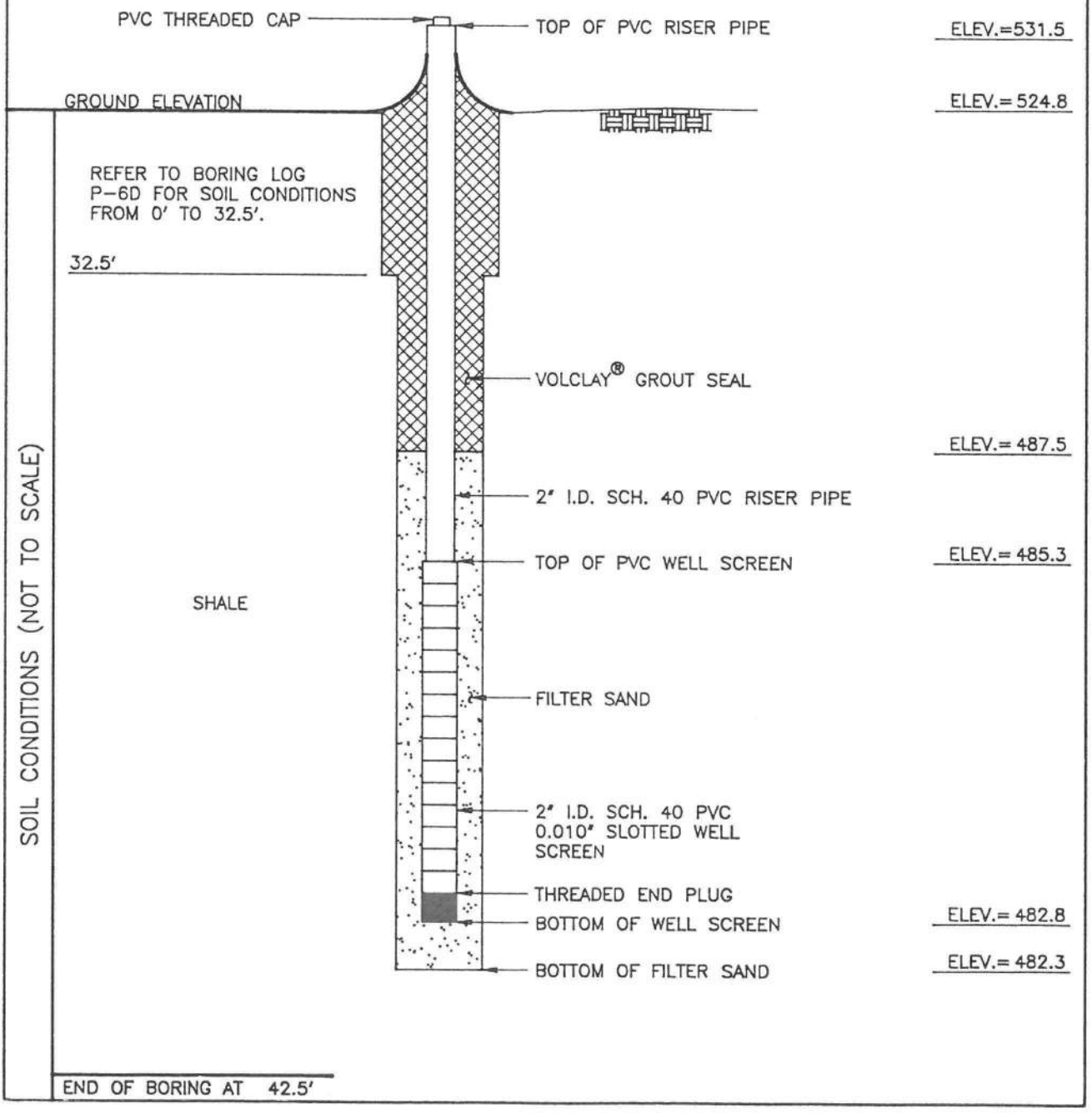
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-6S<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL | | BORING NO. P-6S |
| LOCATION SPRINGFIELD, ILLINOIS | | LOCATION N 4725.7 |
| CLIENT CWL&P | | E 2191.4 |
| ENGINEER KRISHNA REDDY | | INSTALLATION DATE 8/12/92 |
| DRILLER KEVIN SHAMWAY | | WEATHER SUNNY, 70'S |



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-6R<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

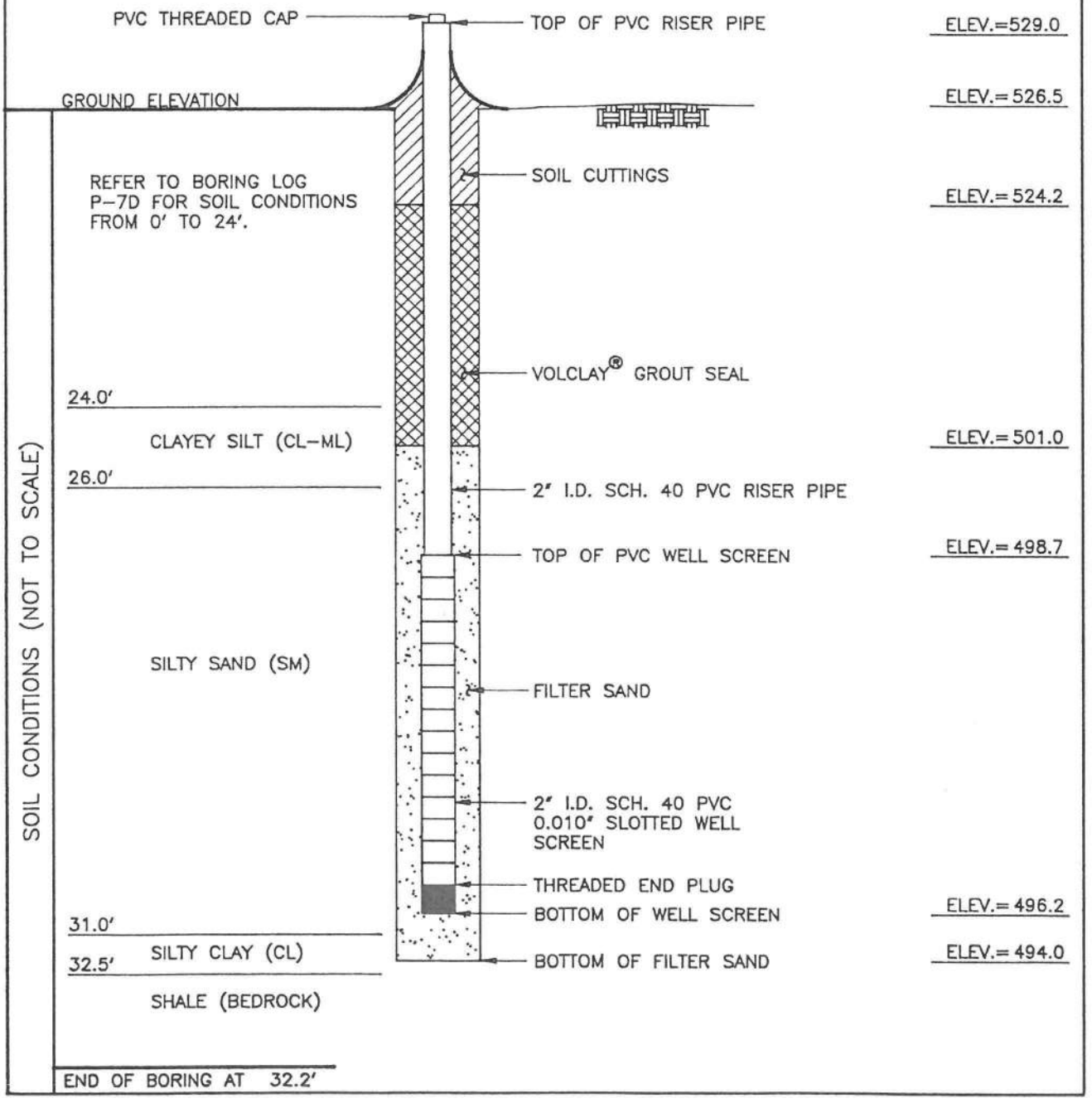
BORING NO. P-6R
LOCATION N 4719.5
E 2175.7
INSTALLATION DATE 8/6/92
WEATHER SUNNY, 70'S



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-7D<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

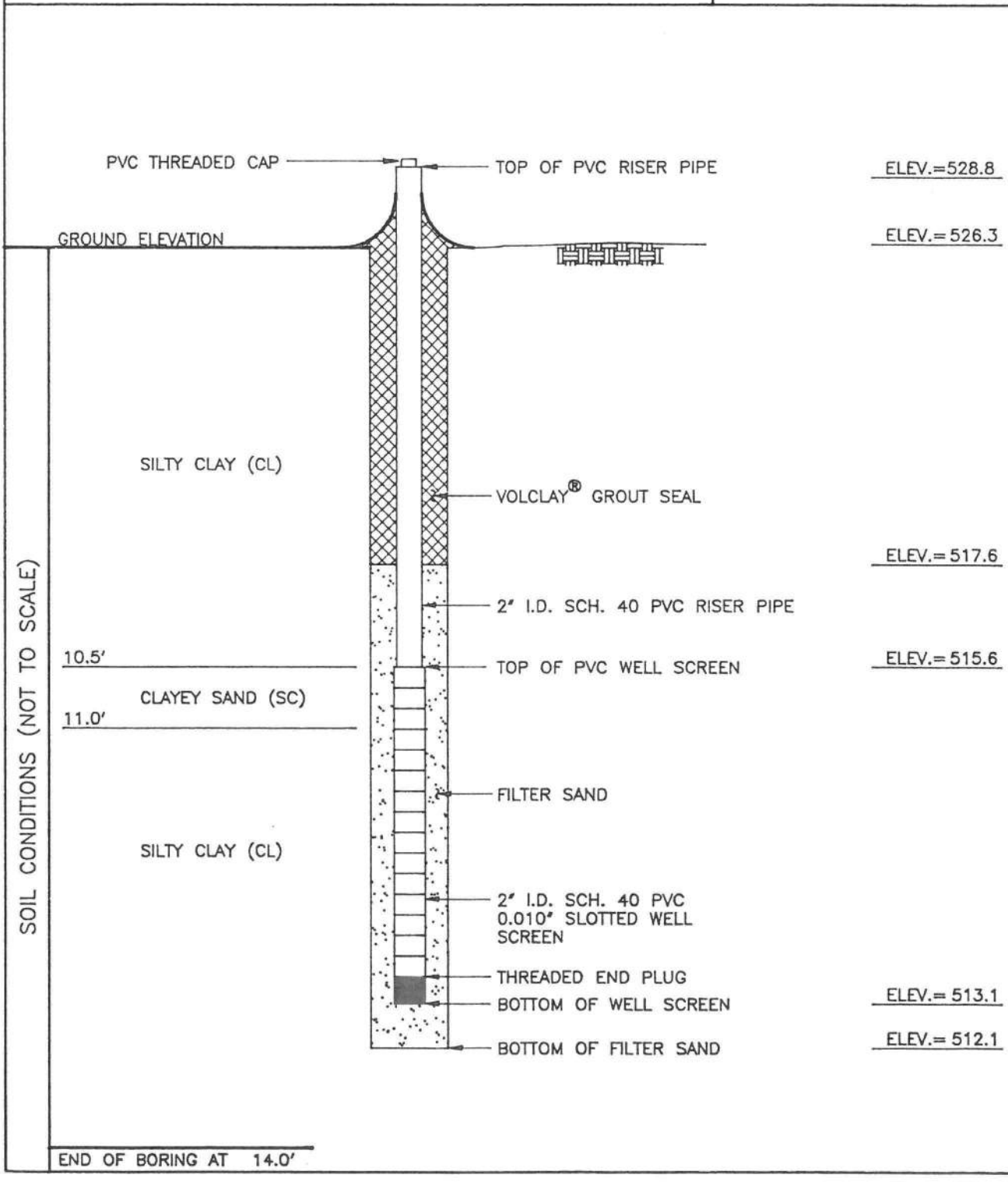
BORING NO. P-7D
LOCATION N 5345.8
E 2429.5
INSTALLATION DATE 7/30/92
WEATHER RAIN, WARM, 80'S



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-7S<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

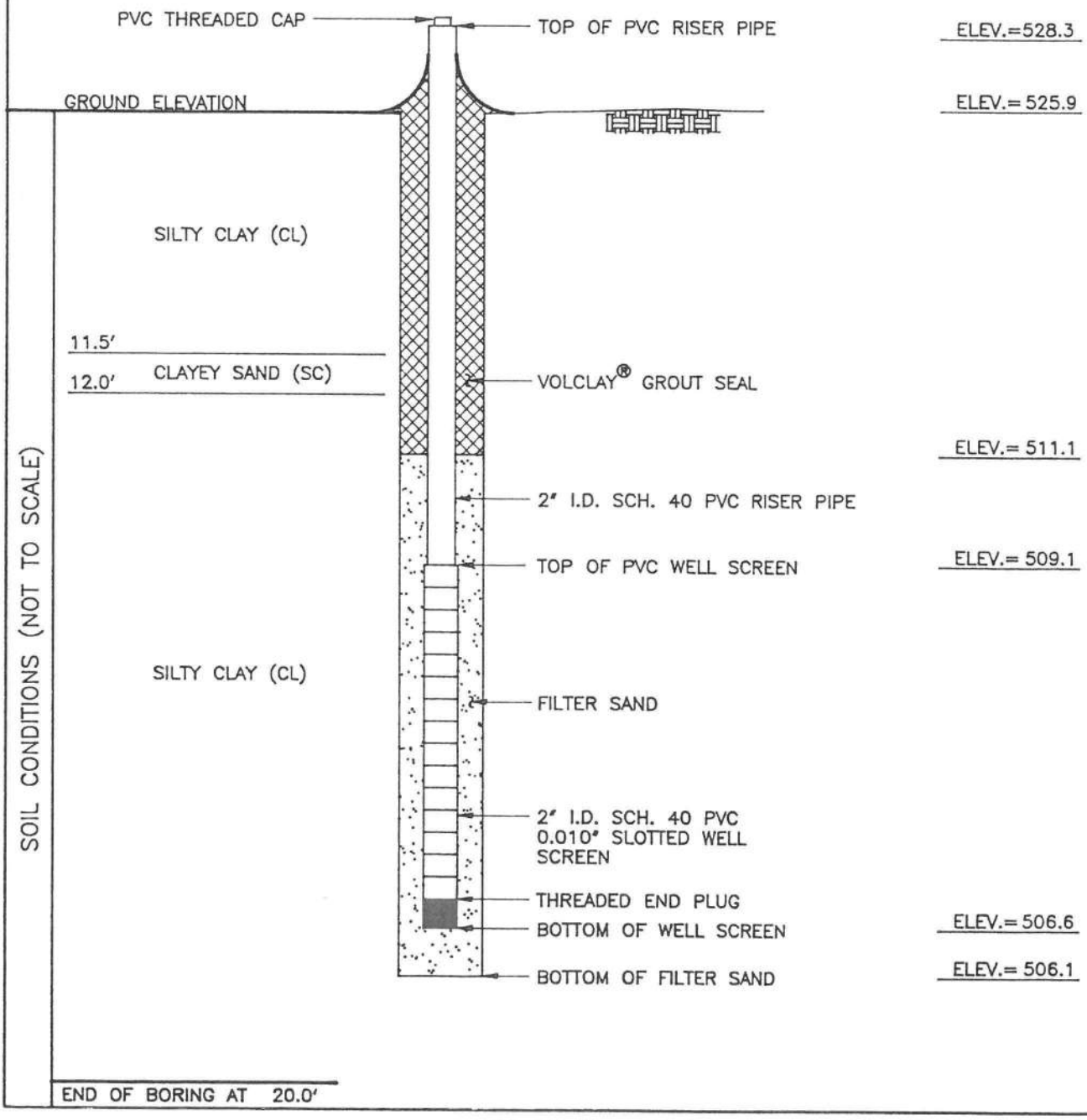
BORING NO. P-7S
LOCATION N 5337.1
E 2426.3
INSTALLATION DATE 7/30/92
WEATHER RAIN, WARM, 80'S



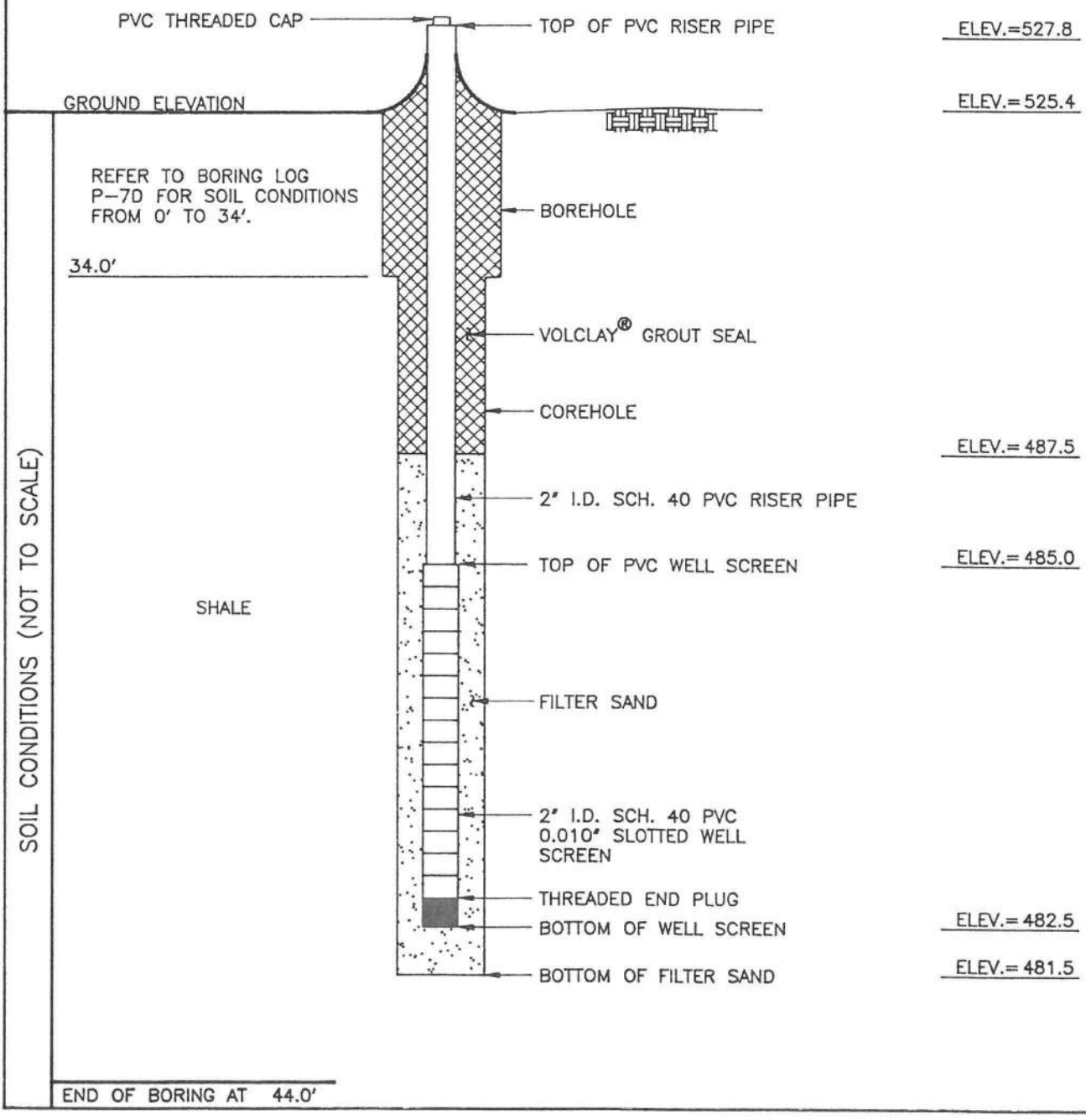
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-7M<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER KRISHNA REDDY
DRILLER KEVIN SHAMWAY

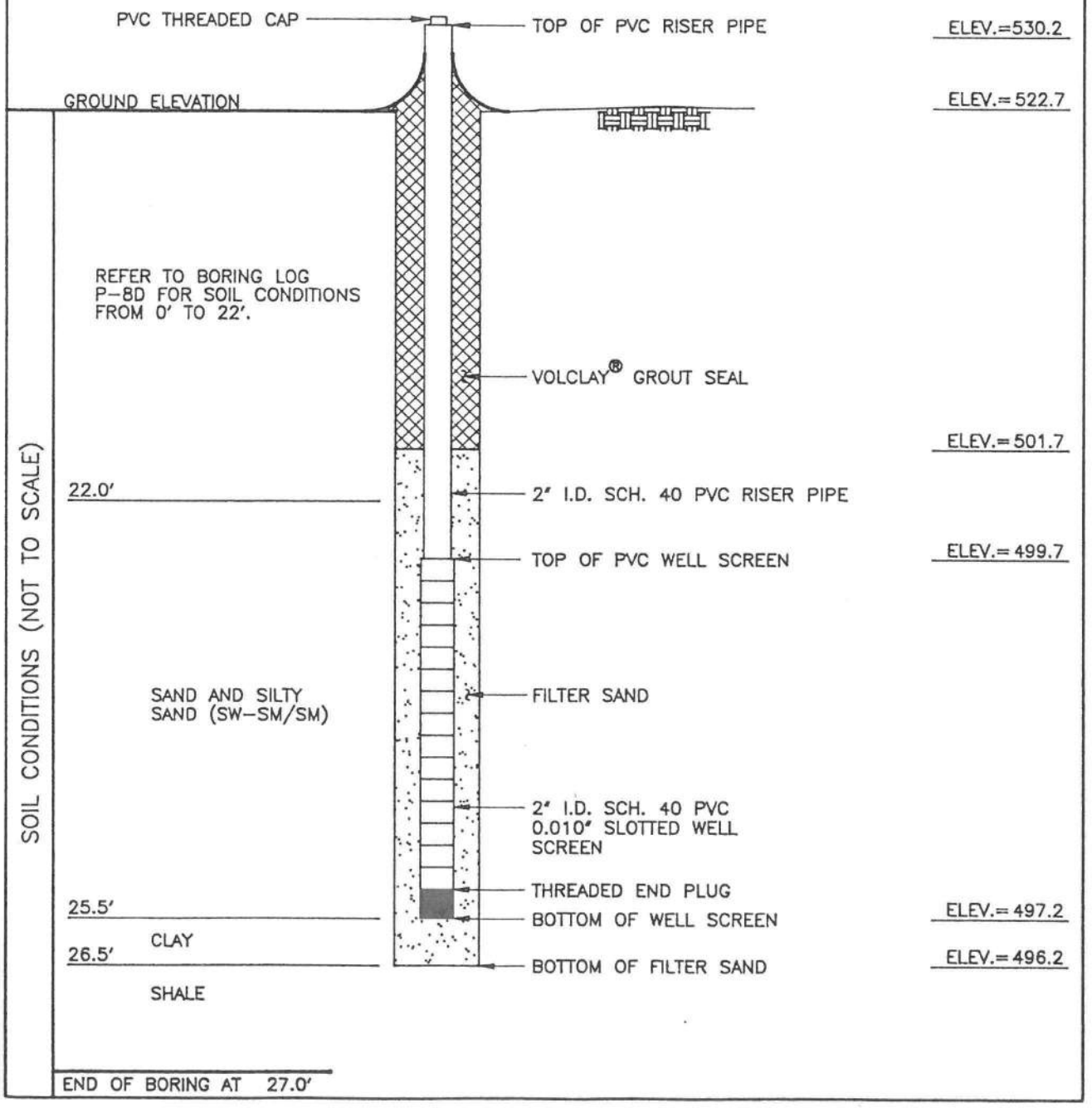
BORING NO. P-7M
LOCATION N 5337.0
E 2432.8
INSTALLATION DATE 7/30/92
WEATHER RAIN, WARM, 80'S



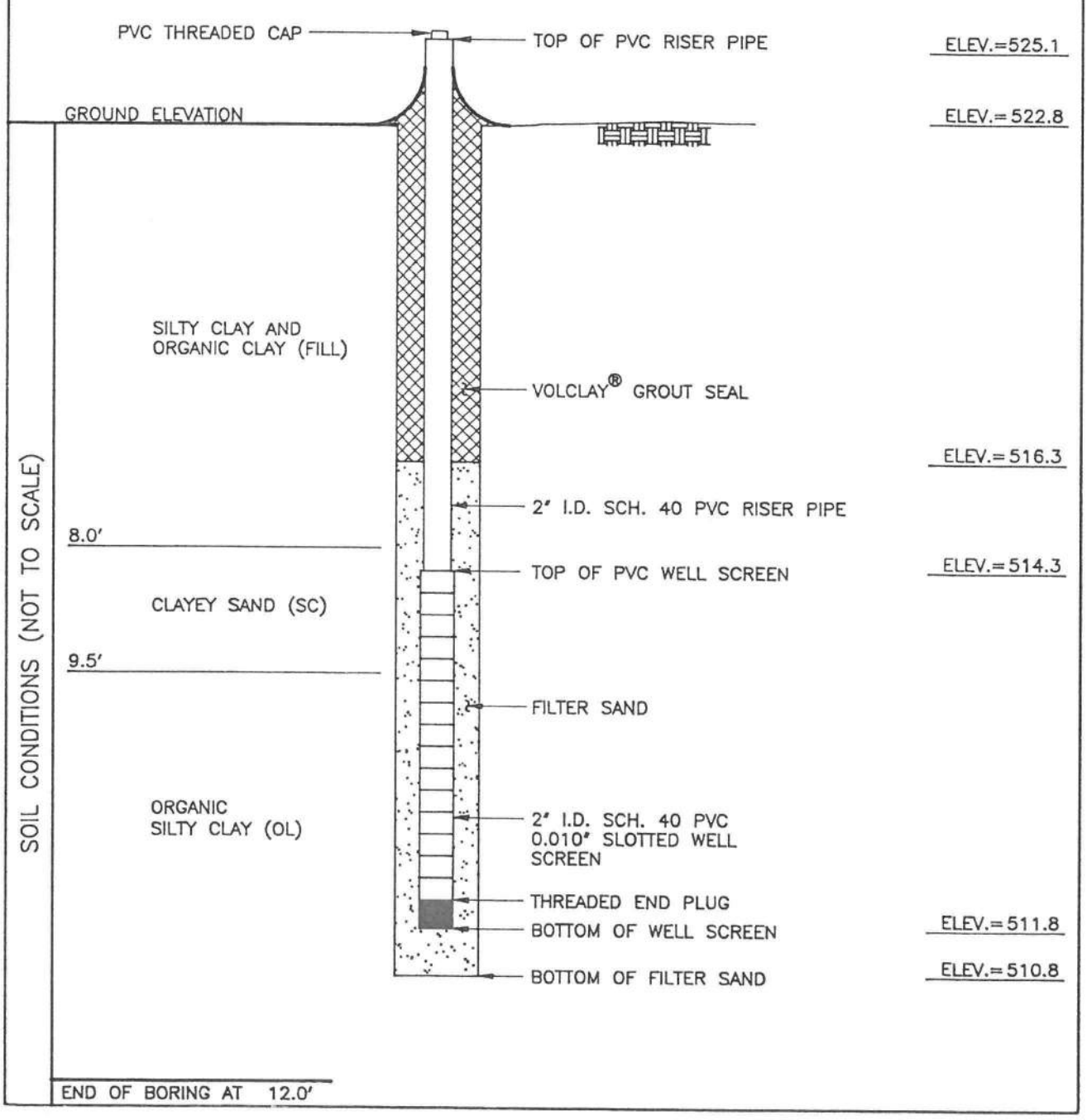
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-7R<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL<br>LOCATION SPRINGFIELD, ILLINOIS<br>CLIENT CWL&P<br>ENGINEER KRISHNA REDDY<br>DRILLER KEVIN SHAMWAY | | BORING NO. P-7R<br>LOCATION N 5326.9<br>E 2424.5<br>INSTALLATION DATE 7/31/92<br>WEATHER CLOUDY, DRIZZLE, 70'S |



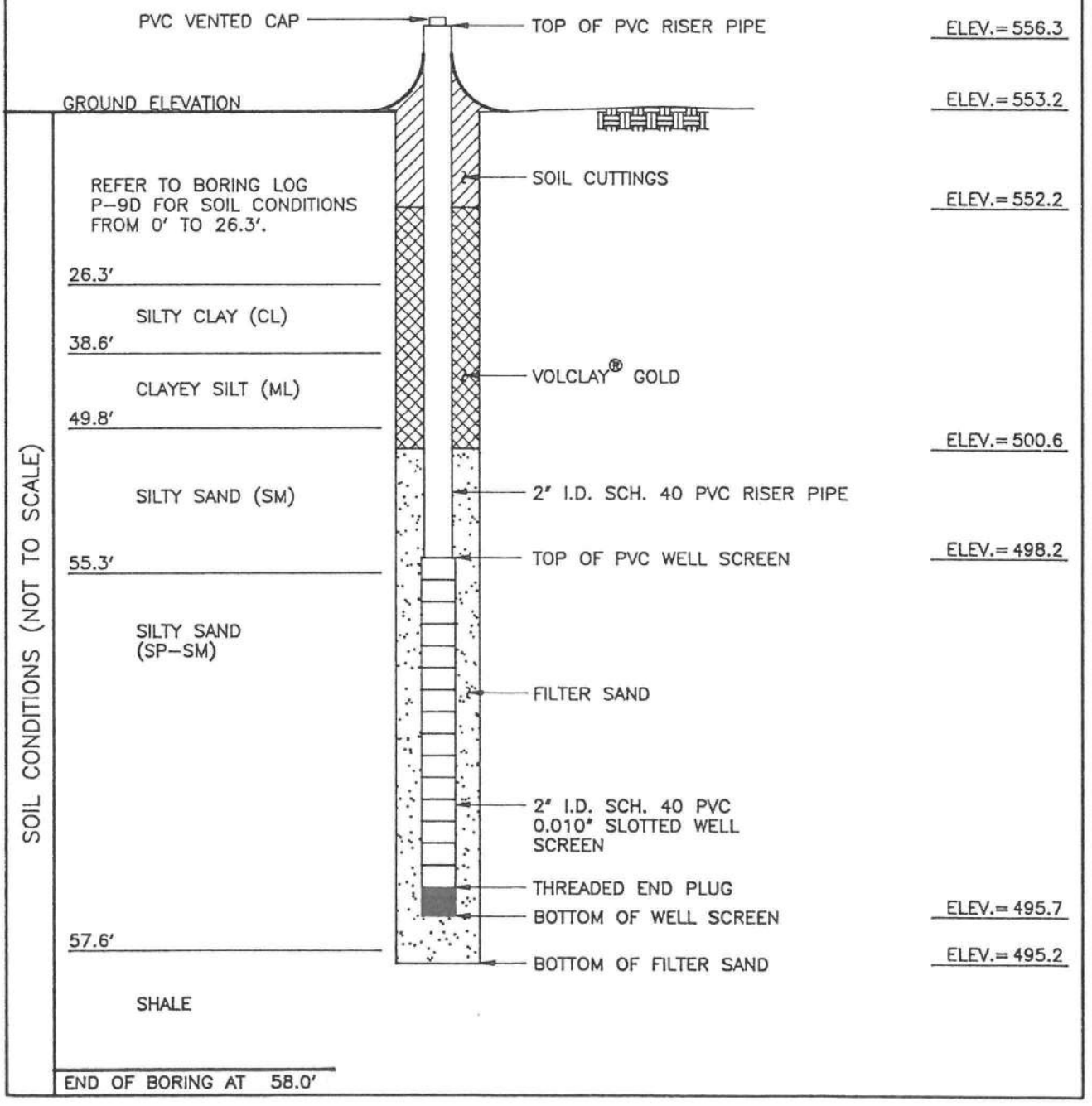
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-8D<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL<br>LOCATION SPRINGFIELD, ILLINOIS<br>CLIENT CWL&P<br>ENGINEER KRISHNA REDDY<br>DRILLER KEVIN SHAMWAY | | BORING NO. P-8D<br>LOCATION N 4939.7<br>E 2482.7<br>INSTALLATION DATE 8/13/92<br>WEATHER CLOUDY, 70'S |



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-8S<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL<br>LOCATION SPRINGFIELD, ILLINOIS<br>CLIENT CWL&P<br>ENGINEER KRISHNA REDDY<br>DRILLER KEVIN SHAMWAY | | BORING NO. P-8S<br>LOCATION N 4933.1<br>E 2486.0<br>INSTALLATION DATE 8/13/92<br>WEATHER CLOUDY, 70'S |



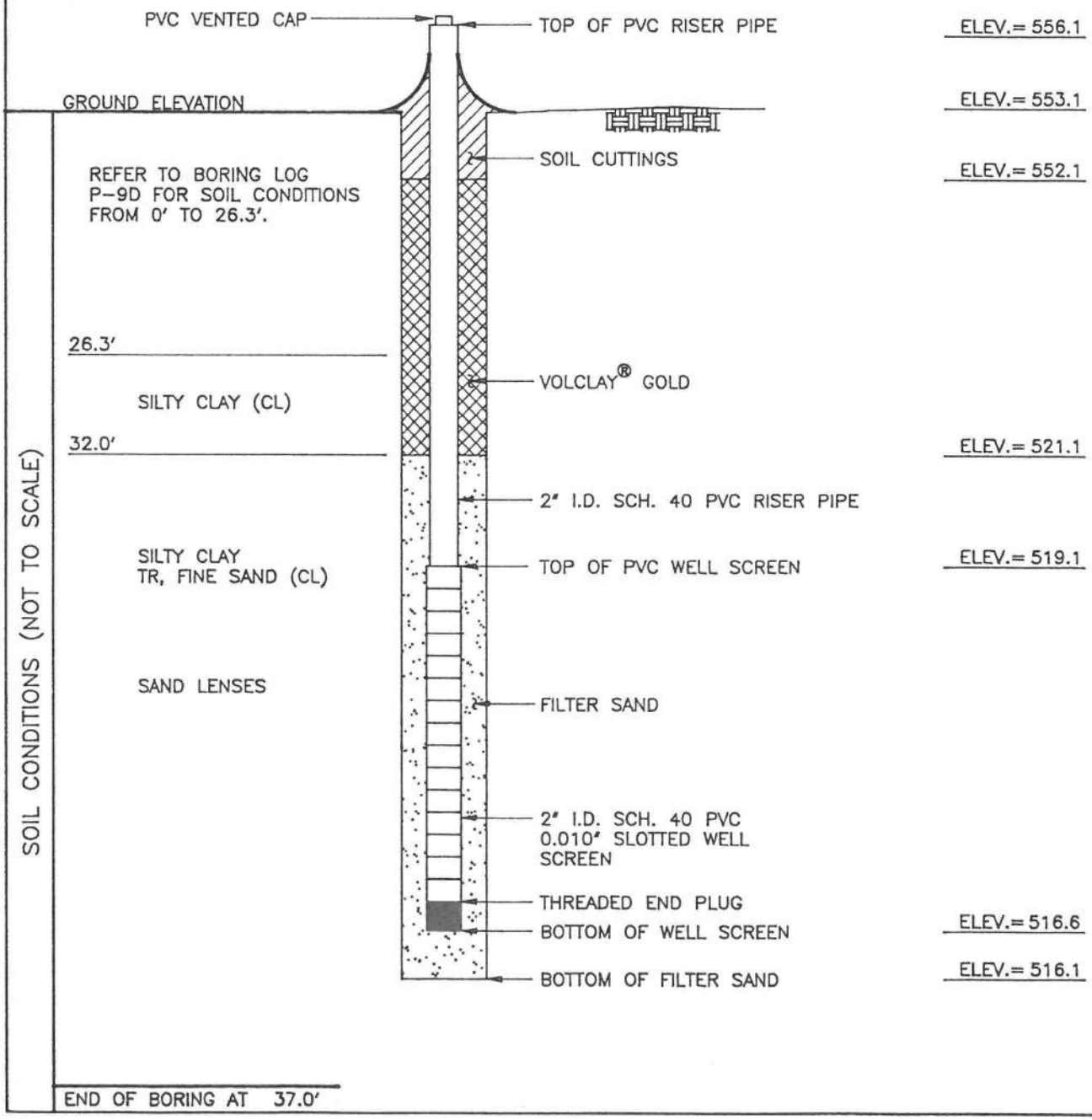
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-9D<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL | | BORING NO. P-9D |
| LOCATION SPRINGFIELD, ILLINOIS | | LOCATION N 4446.3 |
| CLIENT CWL&P | | E 2422.4 |
| ENGINEER/GEOLOGIST STEVE SCHILLING | | INSTALLATION DATE 8/18/92 |
| DRILLER KEVIN SHAMWAY | | WEATHER PTLY CLDY, 70'S |



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. P-9S<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
ENGINEER/GEOLOGIST STEVE SCHILLING
DRILLER KEVIN SHAMWAY

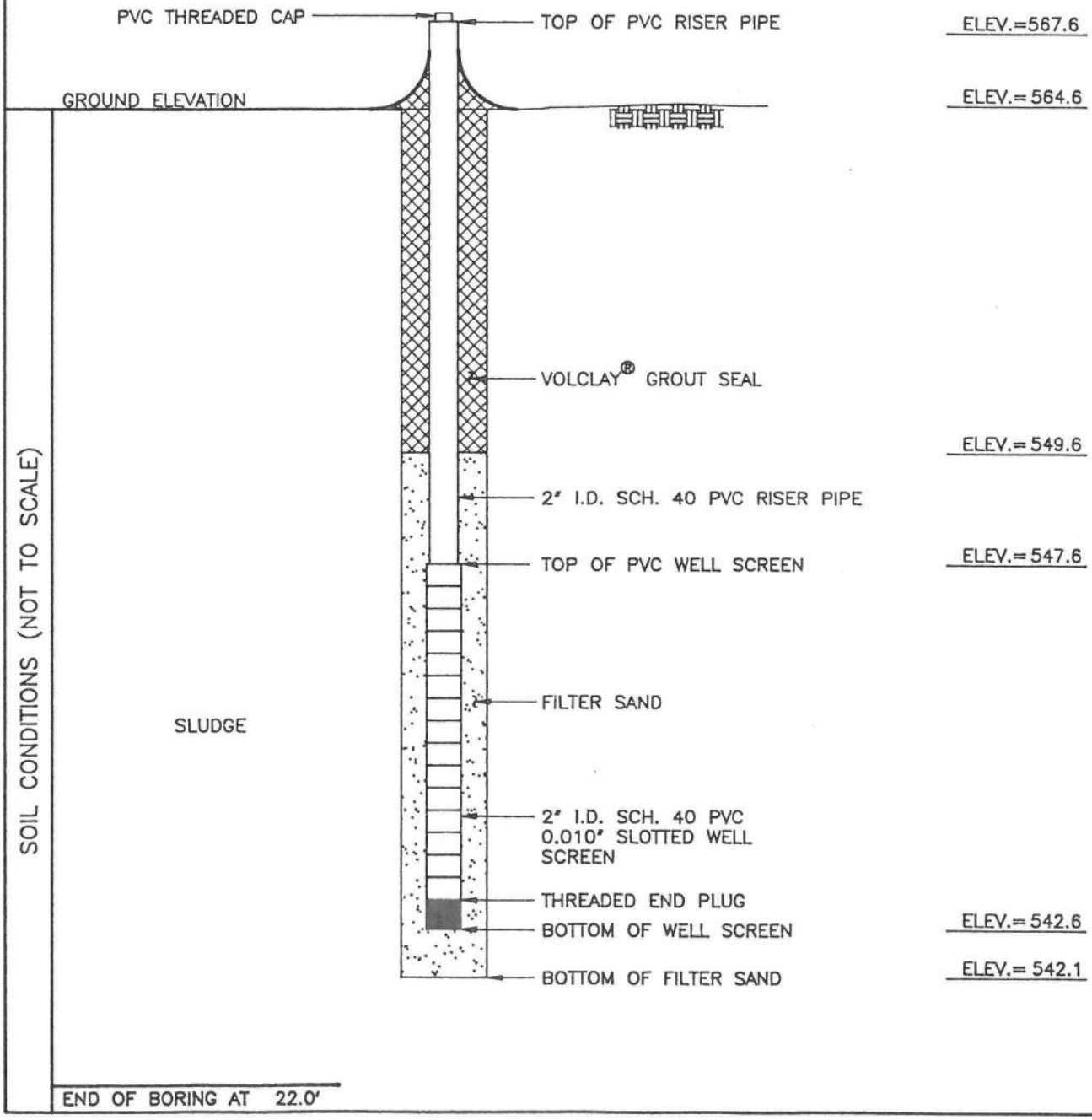
BORING NO. P-9S
LOCATION N 4447.3
E 2415.6
INSTALLATION DATE 8/19/92
WEATHER CLOUDY, 70'S



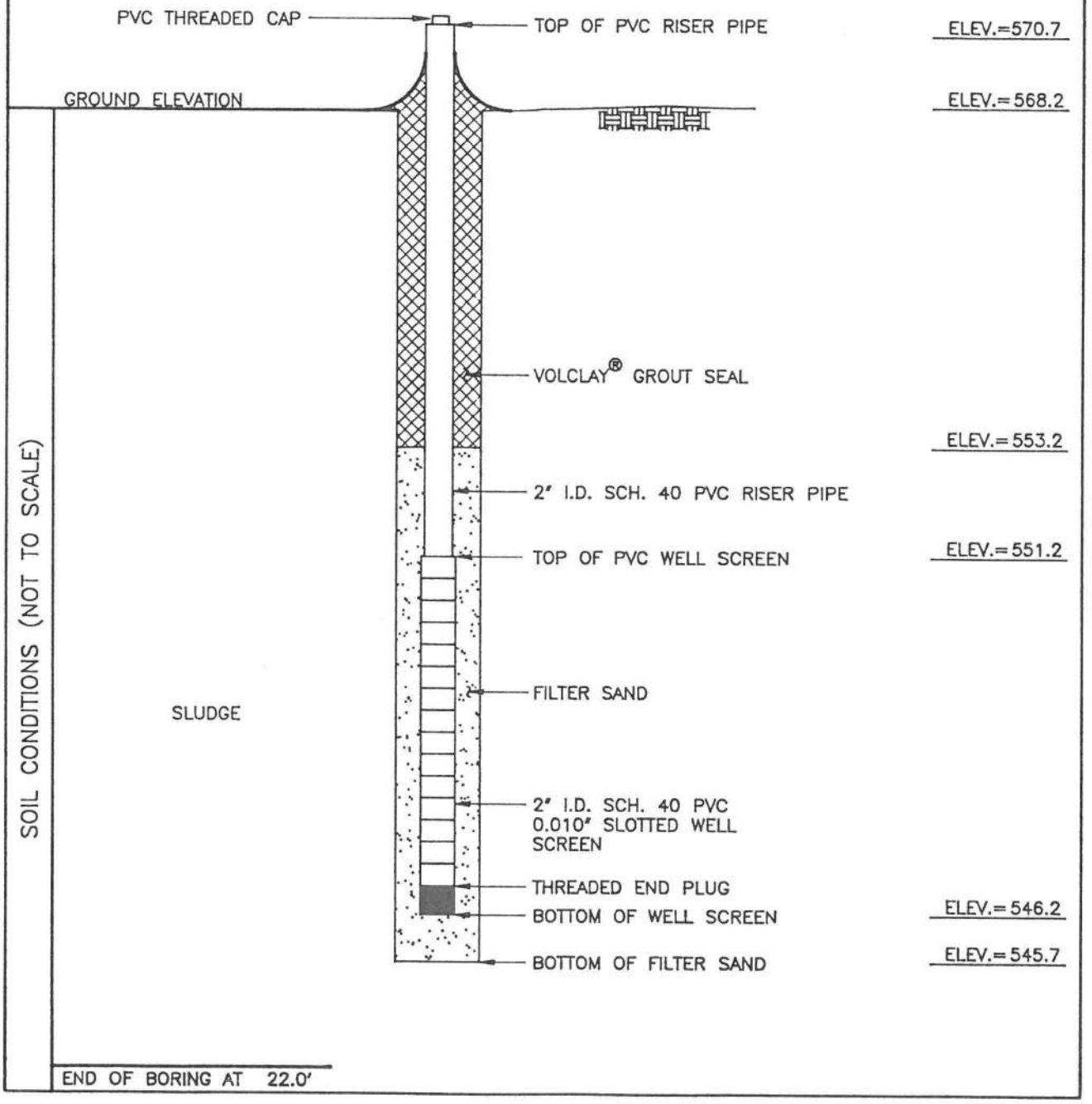
| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. LP-1<br>PROJ. NO. 496B |
|---|---|---|

PROJECT FGDS LANDFILL
LOCATION SPRINGFIELD, ILLINOIS
CLIENT CWL&P
GEOLOGIST STEVE VANHOOK
DRILLER MANUAL ROSARIO

BORING NO. LP-1
LOCATION N 4326.5
E 2639.9
INSTALLATION DATE 7/25/92
WEATHER CLOUDY, 70'S



| PATRICK ENGINEERING INC. | PIEZOMETER INSTALLATION REPORT | PIEZ. NO. LP-2<br>PROJ. NO. 496B |
|---|---|---|
| PROJECT FGDS LANDFILL<br>LOCATION SPRINGFIELD, ILLINOIS<br>CLIENT CWL&P<br>GEOLOGIST STEVE VANHOOK<br>DRILLER MANUAL ROSARIO | | BORING NO. LP-2<br>LOCATION N 4257.5<br>E 2365.8<br>INSTALLATION DATE 7/25/92<br>WEATHER CLOUDY, 70'S |



# APPENDIX B2:
## FGDS UNIT 2 LANDFILL MONITORING WELL CONSTRUCTION REPORTS

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: R-101

Site Name: CWLP - Ash Disposal Facility Grid Coordinate: Northing 623.22 Easting 1426.13

Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: January 15, 1990

Driller: B. Williamson Geologist: -- Date Completed: January 15, 199

Drilling Method: Hollow Stem Auger - 3¼" I.D. Drilling Fluids (type): None

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite Grout

Amount of cement: # of bags 3 lbs. per bag 94

Amount of bentonite: # of bags 0.1 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Pellet

Amount of bentonite: # of Bags 0.8 lbs. per bag 50

Type of Sand Pack: Silica Sand (Marco-Sandblasting)

Source of Sand: Henry Nelch & Son Co., Springfield, IL

Amount of Sand: # of bags 1.8 lbs. per bag 100

## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | | | -- | |
| Riser pipe above w.t. | | | 2" | |
| Riser pipe below w.t. | | | 2" | |
| Screen | | | 2" | |
| Coupling joint screen to riser | | | -- | |
| Protective casing | | | | 6"X5' Steel |

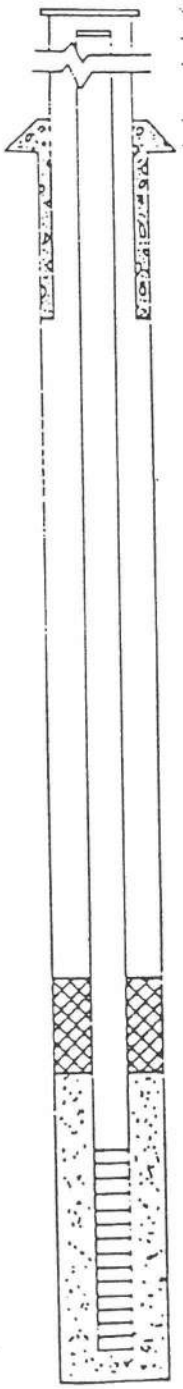
## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 31.6' |
| Protective casing length | 5' |
| Screen length | 6' |
| Bottom of screen to end cap | 0.3' |
| Top of screen to first joint | 0.3' |
| Total length of casing | 37.6' |
| Screen slot size | 0.010 |
| # of openings in screen | -- |
| Diameter of borehole (in) | 6 |
| ID of riser pipe (in) | 2 |

Elevations — .01 ft.

546 83 MSL Top of Protective Casing
546 68 MSL Top of Riser Pipe
+2.9 ft. Casing Stickup
543 78 MSL Ground Surface
-3.1 ft. Top of annular sealant
-21.3 ft. Top of Seal
2.8 ft. Total Seal Interval
-24.1 ft. Top of Sand
-25.8 ft. Top of Screen
6.0 ft. Total Screen Interval
-31.8 ft. Bottom of Screen
-34.0 ft. Bottom of Borehole



Completed by: Surveyed by: Ill. registration #

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: R-102

Site Name: CWLP - Ash Disposal Facility Grid Coordinate: Northing 2294.50 Easting 674.54

Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: January 11, 1990

Driller: B. Williamson Geologist: -- Date Completed: January 11, 19

Drilling Method: Hollow Stem Auger - 3¼" I.D. Drilling Fluids (type): None

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite Grout

Amount of cement: # of bags 4 lbs. per bag 94

Amount of bentonite: # of bags 0.1 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Pellet

Amount of bentonite: # of Bags 0.7 lbs. per bag 50

Type of Sand Pack: Silica Sand (Marco-Sandblasting)

Source of Sand: Henry Nelch & Son Co., Springfield, IL

Amount of Sand: # of bags 2.0 lbs. per bag 100

## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | | | -- | |
| Riser pipe above w.t. | | | 2" | |
| Riser pipe below w.t. | | | 2" | |
| Screen | | | 2" | |
| Coupling joint screen to riser | | | -- | |
| Protective casing | | | | 6"X5' Steel |

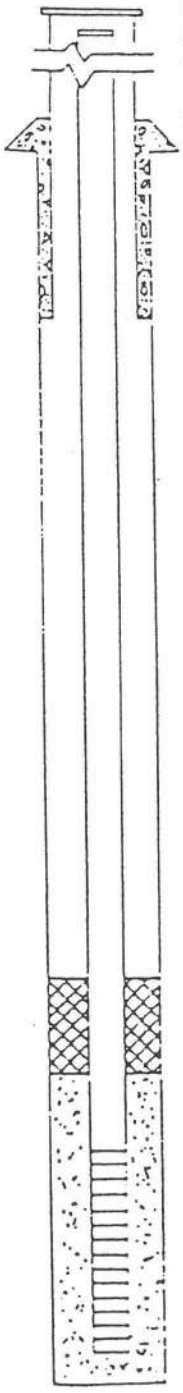
## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 34.6' |
| Protective casing length | 5' |
| Screen length | 6' |
| Bottom of screen to end cap | 0.3' |
| Top of screen to first joint | 0.3' |
| Total length of casing | 40.6' |
| Screen slot size | 0.010 |
| # of openings in screen | -- |
| Diameter of borehole (in) | 6 |
| ID of riser pipe (in) | 2 |

Elevations — .01 ft.

| | | |
|---|---|---|
| 539 35 | | MSL Top of Protective Casi |
| 539 16 | | MSL Top of Riser Pipe |
| | +3.4 | ft. Casing Stickup |
| 535 76 | | MSL Ground Surface |
| | -3.0 | ft. Top of annular sealant |
| | -25.5 | ft. Top of Seal |
| | 2.9 | ft. Total Seal Interval |
| | -28.4 | ft. Top of Sand |
| | -31.2 | ft. Top of Screen |
| | 6.0 | ft. Total Screen Interval |
| | -37.2 | ft. Bottom of Screen |
| | -38.0 | ft. Bottom of Borehole |



Completed by: Surveyed by: Ill. registration #

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: R-103

Site Name: CWLP - Ash Disposal Facility Grid Coordinate: Northing 2208.19 Easting 1504.46

Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: January 13, 1990

Driller: B. Williamson Geologist: -- Date Completed: January 13, 19

Drilling Method: Hollow Stem Auger - 3¼" I.D. Drilling Fluids (type): None

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite Grout

Amount of cement: # of bags 3 lbs. per bag 94

Amount of bentonite: # of bags 0.1 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Pellet

Amount of bentonite: # of Bags 0.8 lbs. per bag 50

Type of Sand Pack: Silica Sand (Marco-Sandblasting)

Source of Sand: Henry Nelch & Son Co., Springfield, IL

Amount of Sand: # of bags 1.7 lbs. per bag 100

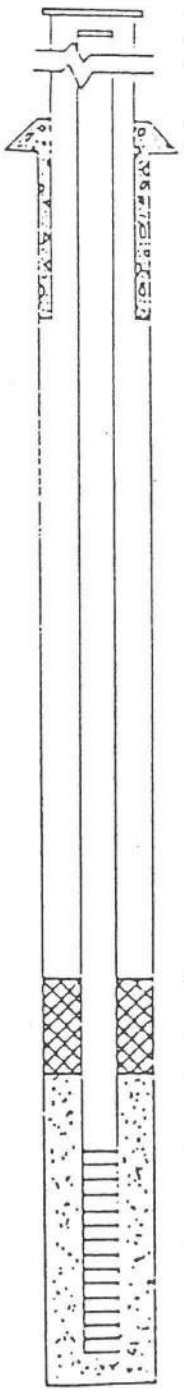
## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | | | -- | |
| Riser pipe above w.t. | | | 2" | |
| Riser pipe below w.t. | | | 2" | |
| Screen | | | 2" | |
| Coupling joint screen to riser | | | -- | |
| Protective casing | | | | 6"X5' Steel |

## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 28.8' |
| Protective casing length | 5' |
| Screen length | 6' |
| Bottom of screen to end cap | 0.3' |
| Top of screen to first joint | 0.3' |
| Total length of casing | 34.8 |
| Screen slot size | 0.010 |
| # of openings in screen | -- |
| Diameter of borehole (in) | 6 |
| ID of riser pipe (in) | 2 |



Elevations — .01 ft.

| | | |
|---|---|---|
| 538 66 | | MSL Top of Protective Casi |
| 538 58 | | MSL Top of Riser Pipe |
| | +2.5 | ft. Casing Stickup |
| 536 08 | | MSL Ground Surface |
| | -3.2 | ft. Top of annular sealant |
| | -20.5 | ft. Top of Seal |
| | 2.9 | ft. Total Seal Interval |
| | -23.4 | ft. Top of Sand |
| | -26.3 | ft. Top of Screen |
| | 6.0 | ft. Total Screen Interval |
| | -32.3 | ft. Bottom of Screen |
| | -33.0 | ft. Bottom of Borehole |

Completed by: Surveyed by: Ill. registration #

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G-104

Site Name: CWLP - Ash Disposal Facility Grid Coordinate: Northing 2296.94 Easting 938.06

Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: January 12, 1990

Driller: B. Williamson Geologist: -- Date Completed: January 12, 19

Drilling Method: Hollow Stem Auger - 3¼" I.D. Drilling Fluids (type): None

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite Grout

Amount of cement: # of bags 3.3 lbs. per bag 94

Amount of bentonite: # of bags 0.1 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Pellet

Amount of bentonite: # of Bags 0.6 lbs. per bag 50

Type of Sand Pack: Silica Sand (Marco-Sandblasting)

Source of Sand: Henry Nelch & Son Co., Springfield, IL

Amount of Sand: # of bags 1.9 lbs. per bag 100

## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | | | -- | |
| Riser pipe above w.t. | | | 2" | |
| Riser pipe below w.t. | | | 2" | |
| Screen | | | 2" | |
| Coupling joint screen to riser | | | -- | |
| Protective casing | | | | 6"X5' Steel |

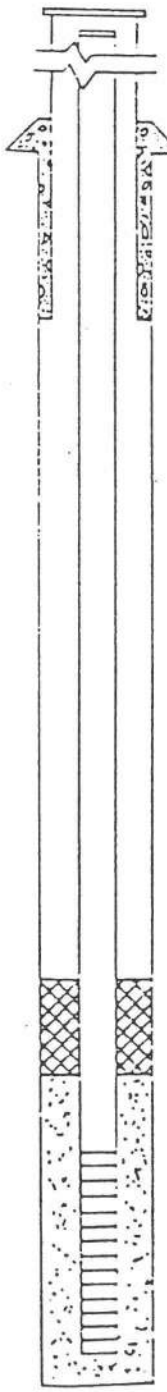
## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 27.9' |
| Protective casing length | 5' |
| Screen length | 6' |
| Bottom of screen to end cap | 0.3' |
| Top of screen to first joint | 0.3' |
| Total length of casing | 33.9 |
| Screen slot size | 0.010 |
| # of openings in screen | -- |
| Diameter of borehole (in) | 6 |
| ID of riser pipe (in) | 2 |

Elevations — .01 ft.

| | | |
|---|---|---|
| 533 | 52 | MSL Top of Protective Casi |
| 532 | 95 | MSL Top of Riser Pipe |
| ____ | +2.3 | ft. Casing Stickup |
| 530 | 65 | MSL Ground Surface |
| ____ | -2.8 | ft. Top of annular sealant |
| ____ | 21.5 | ft. Top of Seal |
| ____ | 2.1 | ft. Total Seal Interval |
| ____ | -23.6 | ft. Top of Sand |
| ____ | -25.6 | ft. Top of Screen |
| ____ | 6.0 | ft. Total Screen Interval |
| ____ | -31.6 | ft. Bottom of Screen |
| ____ | -36.0 | ft. Bottom of Borehole |



Completed by: Surveyed by: Ill. registration #

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G-105 / G120

Site Name: CWLP - Ash Disposal Facility Grid Coordinate. Northing: 1641.61 Easting: 610.10

Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: January 9, 1990

Driller: B. Williamson Geologist: -- Date Completed: January 16, 19
(Re-Drilled w/4½" I.D.)

Drilling Method: Hollow Stem Auger - 3¼" I.D & 4½" I.D Drilling Fluids (type): None

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite Grout

Amount of cement: # of bags 6 lbs. per bag 94

Amount of bentonite: # of bags 0.2 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Pellet

Amount of bentonite: # of Bags 0.5 lbs. per bag 50

Type of Sand Pack: Silica Sand (Marco-Sandblasting)

Source of Sand: Henry Nelch & Son Co., Springfield, IL

Amount of Sand: # of bags 1.8 lbs. per bag 100

## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | | | -- | |
| Riser pipe above w.t. | | | 2" | |
| Riser pipe below w.t. | | | 2" | |
| Screen | | | 2" | |
| Coupling joint screen to riser | | | -- | |
| Protective casing | | | | 6"X5' Steel |

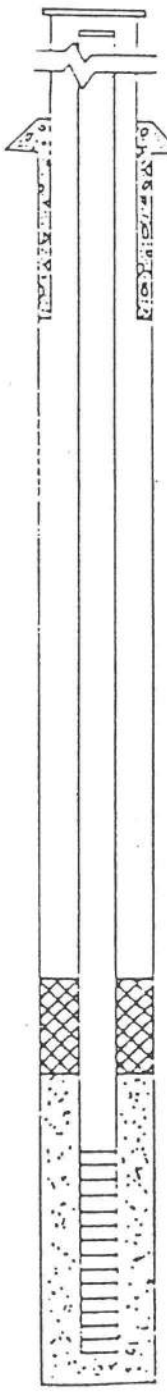
## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 43.9 |
| Protective casing length | Flush Mount |
| Screen length | 6' |
| Bottom of screen to end cap | 0.3' |
| Top of screen to first joint | 0.3' |
| Total length of casing | 49.9 |
| Screen slot size | 0.010 |
| # of openings in screen | -- |
| Diameter of borehole (in) | 8 |
| ID of riser pipe (in) | 2 |

## Elevations — .01 ft.

| | | |
|---|---|---|
| 553 | 49 | MSL Top of Protective Cas |
| 553 | 25 | MSL Top of Riser Pipe |
| | +0.1 | ft. Casing Stickup |
| 553 | 49 | MSL Ground Surface |
| | -2.9 | ft. Top of annular sealant |
| | -40.5 | ft. Top of Seal |
| | 2.0 | ft. Total Seal Interval |
| | -42.5 | ft. Top of Sand |
| | -43.8 | ft. Top of Screen |
| | 6.0 | ft. Total Screen Interval |
| | -49.8 | ft. Bottom of Screen |
| | -53.0 | ft. Bottom of Borehole |



Completed by: Surveyed by: Ill. registration #

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G-106

Site Name: CWLP Ash Disposal Facility Grid Coordinate: Northing 1760.44 Easting 983.64

Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: February 23, 1990

Driller: B. Williamson Geologist: -- Date Completed: February 23, 199

Drilling Method: Hollow stem auger- 3¼" I.D. Drilling Fluids (type): none

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite grout

Amount of cement: # of bags 4 lbs. per bag 94

Amount of bentonite: # of bags 0.1 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Pellet

Amount of bentonite: # of Bags 0.8 lbs. per bag 50

Type of Sand Pack: Silica Sand (Marco - Sandblasting)

Source of Sand: Henry Nelch & Son Co. Springfield, IL

Amount of Sand: # of bags 2.0 lbs. per bag 100.0

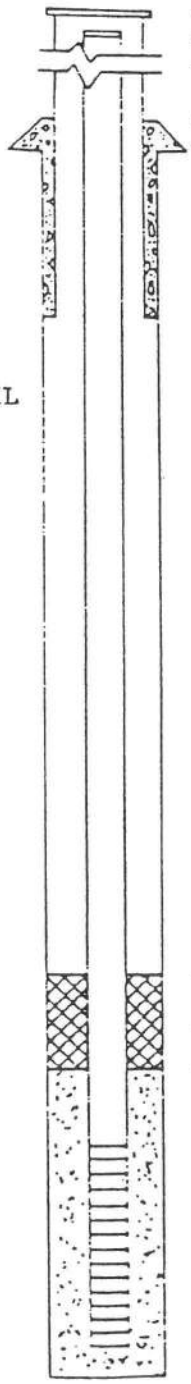
## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | | | -- | |
| Riser pipe above w.t. | | | 3" | |
| Riser pipe below w.t. | | | 3" | |
| Screen | | | 3" | |
| Coupling joint screen to riser | | | -- | |
| Protective casing | | | | 6"x5' |

## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 31.3' |
| Protective casing length | 5' |
| Screen length | 8' |
| Bottom of screen to end cap | 0.3' |
| Top of screen to first joint | 0.3' |
| Total length of casing | 39.3' |
| Screen slot size | 0.010 |
| # of openings in screen | -- |
| Diameter of borehole (in) | 6 |
| ID of riser pipe (in) | 3 |



## Elevations — .01 ft.

| | | |
|---|---|---|
| 525 | 49 | MSL Top of Protective Casing |
| 525 | 37 | MSL Top of Riser Pipe |
| | 1.2 | ft. Casing Stickup |
| 524 | 17 | MSL Ground Surface |
| | -3.0 | ft. Top of annular sealant |
| | -16.5 | ft. Top of Seal |
| | 5.6 | ft. Total Seal Interval |
| | -22.1 | ft. Top of Sand |
| | -27.0 | ft. Top of Screen |
| | 8.0 | ft. Total Screen Interval |
| | -35.0 | ft. Bottom of Screen |
| | -35.0 | ft. Bottom of Borehole |

Completed by: Surveyed by: Ill. registration #

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G-110

Site Name: EGDS Landfill/ City Water, Light and Power Grid Coordinate: Northing 3728.6 Easting 2315.7

Drilling Contractor: AE Exploration Corporation Date Drilled Start: 07/12/93

Driller: M. Moore Geologist: B. Hunsberger Date Completed: 07/12/93

Drilling Method: Hollow Stem Auger Drilling Fluids (type): None

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite

Amount of cement: # of bags 8 lbs. per bag 94

Amount of bentonite: # of bags 1 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Grout

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: #10-20 Silica Sand

Source of Sand: Best Environmental - Chardon, OH

Amount of Sand: # of bags 10 lbs. per bag 50

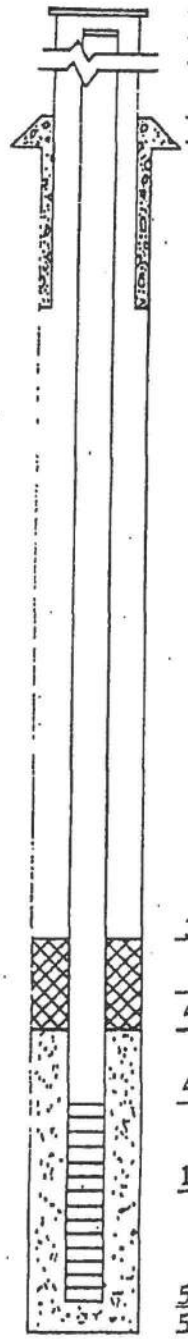
## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | Flush | | | |
| Riser pipe above w.t. | 304 | | | |
| Riser pipe below w.t. | 304 | | | |
| Screen | 304 | | | |
| Coupling joint screen to riser | Flush | | | |
| Protective casing | | | | Steel |

## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 47.11' |
| Protective casing length | 5.0' |
| Screen length | 10.0' |
| Bottom of screen to end cap | 0.21 |
| Top of screen to first joint | 0.065 |
| Total length of casing | 57.11' |
| Screen slot size | .01" |
| # of openings in screen | --- |
| Diameter of borehole (in) | 8.0" |
| Diameter riser pipe (in) | 2.0" |



## Elevations — .01 ft.

| | | |
|---|---|---|
| 557 20 | | MSL Top of Protective Casing |
| 557 11 | | MSL Top of Riser Pipe |
| 2 61 | | ft. Casing Stickup |
| 554 50 | | MSL Ground Surface |
| 3 0 | | ft. Top of annular sealant |
| 37 0 | | ft. Top of Seal |
| 5 0 | | ft. Total Seal Interval |
| 42 0 | | ft. Top of Sand |
| 44 5 | | ft. Top of Screen |
| 10 0 | | ft. Total Screen Interval |
| 54 5 | | ft. Bottom of Screen |
| 59 5 | | ft. Bottom of Borehole |

Completed by: Brad Hunsberger Surveyed by: City Water, Light and Power Rich Davis IL registration #: 2098

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G-111

Site Name: City Water, Light & Power Grid Coordinate: Northing 4445.0 Easting 2249.0

Drilling Contractor: AE Exploration Corporation Date Drilled Start: July 20, 1993

Driller: A. Weisenhofer Geologist: R. Hasenyager Date Completed: July 21, 1993

Drilling Method: Hollow Stem Auger Drilling Fluids (type): N/A

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite

Amount of cement: # of bags 8 lbs. per bag 94

Amount of bentonite: # of bags 1/2 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Bentonite Grout

Amount of bentonite: # of Bags 1/2 lbs. per bag 50

Type of Sand Pack: Quartz sand (1020)

Source of Sand: Best Sand

Amount of Sand: # of bags 4 1/2 lbs. per bag 50

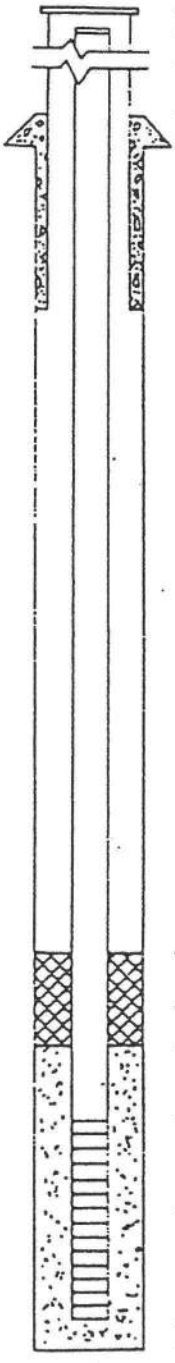
## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | 304 | | Sch 40 | |
| Riser pipe above w.t. | | | Sch 40 | |
| Riser pipe below w.t. | 304 | | | |
| Screen | 304 | | | |
| Coupling joint screen to riser | 304 | | | |
| Protective casing | | | | Steel |

## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 56.55 feet |
| Protective casing length | 5.0 feet |
| Screen length | 4.72 feet |
| Bottom of screen to end cap | 0.27 feet |
| Top of screen to first joint | 0.21 feet |
| Total length of casing | 61.75 feet |
| Screen slot size | 0.01 inches |
| # of openings in screen | |
| Diameter of borehole (in) | 8.0 inches |
| ID of riser pipe (in) | 2.0 inches |



## Elevations — .01 ft.

| | | |
|---|---|---|
| 555 | .83 | MSL Top of Protective Casing |
| 555 | .63 | MSL Top of Riser Pipe |
| 2 | .03 | ft. Casing Stickup |
| 553 | .6 | MSL Ground Surface |
| 3 | .60 | ft. Top of annular sealant |
| 48 | .00 | ft. Top of Seal |
| 5 | .08 | ft. Total Seal Interval |
| 53 | .08 | ft. Top of Sand |
| 54 | .61 | ft. Top of Screen |
| 4 | .72 | ft. Total Screen Interval |
| 59 | .33 | ft. Bottom of Screen |
| 59 | .60 | ft. Bottom of Borehole |

Completed by: Rhonald Haseyanger Surveyed by: CWP Rich Davis Ill. registration # 2098

**Illinois Environmental Protection Agency** — **Well Completion Report**

Site Number: 1678250020 County: Sangamon

Site Name: City Water Light & Power Landfill Well #: R111

State Plane Coordinate: X E2456708.31 Y N1129507.08 (or) Latitude: ° ' " Longitude: ° ' " Borehole #: R111

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: SKS Engineers, Inc. Driller: D. Baldwin

Consulting Firm: _____ Geologist: N/A

Drilling Method: Hollow Stem Auger Drilling Fluid (Type): None

Logged By: D. Baldwin (SKS Engineers, Inc.) Date Started: 5/26/09 Date Finished: 5/29/09

Report Form Completed By: D. Baldwin Date: 7/2/09

## ANNULAR SPACE DETAILS

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite

Installation Method: Slurry

Setting Time: _____

Type of Bentonite Seal - - Granular, Pellet, (Slurry) (Choose One)

Installation Method: Tremie

Setting Time: _____

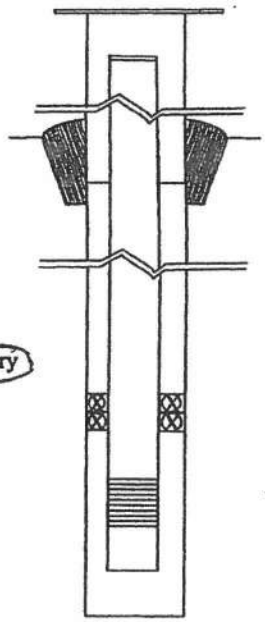
Type of Sand Pack: Quartz Sand

Grain Size: 1020 (Sieve Size)

Installation Method: Free Drop

Type of Backfill Material: _____ (if applicable)

Installation Method: _____



| | Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|---|
| | 552.69 | 0.0 | Top of Protective Casing |
| | 552.39 | .30 | Top of Riser Pipe |
| | 552.69 | 0.0 | Ground Surface |
| | 549.69 | 3.0 | Top of Annular Sealant |
| | ____ | ____ | Static Water Level (After Completion) |
| | 549.69 | 3.0 | Top of Seal |
| | 502.59 | 50.1 | Top of Sand Pack |
| | 501.49 | 51.2 | Top of Screen |
| | 495.89 | 56.8 | Bottom of Screen |
| | 495.59 | 57.1 | Bottom of Well |
| | 495.59 | 57.1 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

### WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or(Other) |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, (PVC) or Other |
| Riser Pipe Below W.T. | (SS304) SS316, PTFE, PVC, or Other |
| Screen | (SS304) SS316, PTFE, PVC, or Other |

### CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8 |
| ID of Riser Pipe (inches) | 2 |
| Protective Casing Length (feet) | Flush Mount |
| Riser Pipe Length (feet) | 51.2 |
| Bottom of Screen to End Cap (feet) | .31 |
| Screen Length (1st slot to last slot) (feet) | 4.72 |
| Total Length of Casing (feet) | 56.8 |
| Screen Slot Size ** | .010 |

**Hand-Slotted Well Screens are Unacceptable

Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G-112

Site Name: City Water, Light & Power Grid Coordinate: Northing 4450.9 Easting 2560.6

Drilling Contractor: AE Exploration Corporation Date Drilled Start: July 21, 1993

Driller: A. Weisenhofer Geologist: R. Hasenyager Date Completed: July 23, 1993

Drilling Method: Hollow Stem Auger Drilling Fluids (type): N/A

## Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Cement/Bentonite

Amount of cement: # of bags 8 lbs. per bag 94

Amount of bentonite: # of bags 1/2 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Bentonite Grout

Amount of bentonite: # of Bags 1/2 lbs. per bag 50

Type of Sand Pack: Quartz Sand (1020)

Source of Sand: Best Sand

Amount of Sand: # of bags 6 lbs. per bag 50

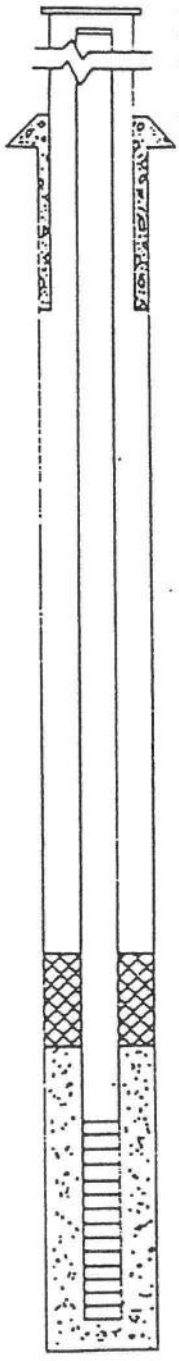
## Well Construction Materials

| | Stainless Steel Specify Type | Teflon Specify Type | PVC Specify Type | Other Specify Type |
|---|---|---|---|---|
| Riser coupling joint | 304 | | Sch 40 | |
| Riser pipe above w.t. | | | Sch 40 | |
| Riser pipe below w.t. | 304 | | | |
| Screen | 304 | | | |
| Coupling joint screen to riser | 304 | | | |
| Protective casing | | | | Steel |

## Measurements

to .01 ft. (where applicable)

| | |
|---|---|
| Riser pipe length | 54.81 feet |
| Protective casing length | 5.0 feet |
| Screen length | 4.73 feet |
| Bottom of screen to end cap | 0.29 feet |
| Top of screen to first joint | 0.21 feet |
| Total length of casing | 60.04 feet |
| Screen slot size | 0.01 inches |
| # of openings in screen | |
| Diameter of borehole (in) | 8.0 inches |
| ID of riser pipe (in) | 2.0 inches |



## Elevations — .01 ft.

| | | |
|---|---|---|
| 555 | .06 | MSL Top of Protective Casing |
| 554 | .88 | MSL Top of Riser Pipe |
| 2 | .18 | ft. Casing Stickup |
| 552 | .7 | MSL Ground Surface |
| 4 | .10 | ft. Top of annular sealant |
| 46 | .10 | ft. Top of Seal |
| 5 | .07 | ft. Total Seal Interval |
| 51 | .17 | ft. Top of Sand |
| 52 | .78 | ft. Top of Screen |
| 4 | .73 | ft. Total Screen Interval |
| 57 | .51 | ft. Bottom of Screen |
| 57 | .80 | ft. Bottom of Borehole |

Completed by: Rhonald Hasenyager Surveyed by: CUNP-Rich Davis Ill. registration # 2098

**Illinois Environmental Protection Agency** — **Well Completion Report**

Site Number: 1678250020 County: Sangamon

Site Name: FGDS Development Landfill Well #: AW-1

State Plane Coordinate: X ____ Y ____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: AW-1

N 4512.2 E 2030.49

Surveyed by: David Mihelsic IL Registration #: 3762

Drilling Contractor: Reynolds Drilling Corp. Driller: Andrew Rachford

Consulting Firm: Rapps Engineering & Applied Science Geologist: Ken Miller

Drilling Method: HSA Drilling Fluid (Type): NA

Logged By: Ken Miller Date Started: 12/29/08 Date Finished: 12/30/08

Report Form Completed By: Ken Miller Date: 5/18/09

## ANNULAR SPACE DETAILS

Type of Surface Seal: Cement

Type of Annular Sealant: Bentonite Grout

Installation Method: Tremie

Setting Time: >24 hrs

Type of Bentonite Seal - - Granular, (Pellet), Slurry (Choose One)

Installation Method: Poured

Setting Time: 20 hrs

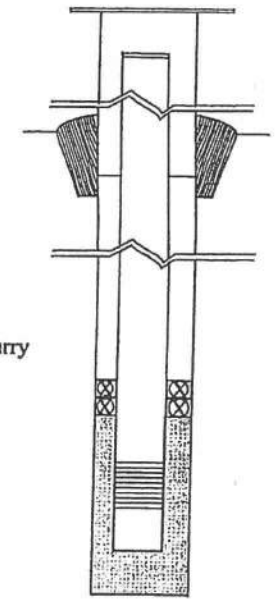
Type of Sand Pack: Quartz Sand

Grain Size: 50 (Sieve Size)

Installation Method: Poured

Type of Backfill Material: (if applicable)

Installation Method:



| Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|
| ____ | ____ | Top of Protective Casing |
| 555.60 | -2.75 | Top of Riser Pipe |
| 552.85 | 0 | Ground Surface |
| 549.85 | 3.00 | Top of Annular Sealant |
| ____ | ____ | Static Water Level (After Completion) |
| 513.90 | 38.95 | Top of Seal |
| 510.90 | 41.95 | Top of Sand Pack |
| 508.90 | 43.95 | Top of Screen |
| 498.90 | 53.95 | Bottom of Screen |
| 498.51 | 54.34 | Bottom of Well |
| 498.51 | 54.34 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

### WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or (Other) |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, (PVC), or Other |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, (PVC), or Other |
| Screen | SS304, SS316, PTFE, (PVC), or Other |

### CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8.25 |
| ID of Riser Pipe (inches) | 2 |
| Protective Casing Length (feet) | 5 |
| Riser Pipe Length (feet) | 46.70 |
| Bottom of Screen to End Cap (feet) | 0.4 |
| Screen Length (1st slot to last slot) (feet) | 10 |
| Total Length of Casing (feet) | 57.09 |
| Screen Slot Size ** | 0.010 |

**Hand-Slotted Well Screens are Unacceptable

**Illinois Environmental Protection Agency** — **Well Completion Report**

Site Number: 1678250020 County: Sangamon

Site Name: FGDS Development Landfill Well #: AW-2

State Plane Coordinate: X ____ Y ____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: AW-2

N 5480.91 E 2361.46

Surveyed by: David Mihelsic IL Registration #: 3762

Drilling Contractor: Reynolds Drilling Corp. Driller: Kerry Doetzel

Consulting Firm: Rapps Engineering & Applied Science Geologist: Ken Miller

Drilling Method: HSA Drilling Fluid (Type): NA

Logged By: Ken Miller Date Started: 1/2/09 Date Finished: 1/2/09

Report Form Completed By: Ken Miller Date: 5/18/09

## ANNULAR SPACE DETAILS

Type of Surface Seal: Cement

Type of Annular Sealant: Bentonite Chips

Installation Method: Poured

Setting Time: >24 hrs

Type of Bentonite Seal - - Granular, Pellet, Slurry (Choose One)

Installation Method: Poured

Setting Time: >24 hrs

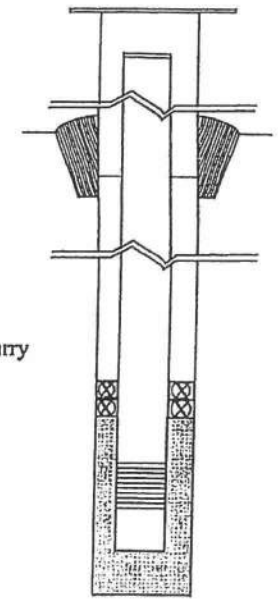
Type of Sand Pack: Quartz Sand

Grain Size: 50 (Sieve Size)

Installation Method: Poured

Type of Backfill Material: (if applicable)

Installation Method:



| | Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|---|
| | ____ | ____ | Top of Protective Casing |
| | 529.98 | -3.30 | Top of Riser Pipe |
| | 526.68 | 0 | Ground Surface |
| | 523.68 | 3.00 | Top of Annular Sealant |
| | ____ | ____ | Static Water Level (After Completion) |
| | 509.86 | 16.82 | Top of Seal |
| | 506.86 | 19.82 | Top of Sand Pack |
| | 504.86 | 21.82 | Top of Screen |
| | 494.86 | 31.82 | Bottom of Screen |
| | 494.46 | 32.22 | Bottom of Well |
| | 494.46 | 32.22 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

### WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, PVC, or Other |
| Screen | SS304, SS316, PTFE, PVC, or Other |

### CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8.25 |
| ID of Riser Pipe (inches) | 2 |
| Protective Casing Length (feet) | 5 |
| Riser Pipe Length (feet) | 25.12 |
| Bottom of Screen to End Cap (feet) | 0.4 |
| Screen Length (1st slot to last slot) (feet) | 10 |
| Total Length of Casing (feet) | 35.52 |
| Screen Slot Size ** | 0.010 |

**Hand-Slotted Well Screens are Unacceptable

**Illinois Environmental Protection Agency** — **Well Completion Report**

Site Number: 1678250020 County: Sangamon

Site Name: FGDS Development Landfill Well #: AW-3

State Plane Coordinate: X ____ Y ____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: AW-3

Surveyed by: David Mihelsic IL Registration #: 3762

Drilling Contractor: Reynolds Drilling Corp. Driller: Andrew Rachford

Consulting Firm: Rapps Engineering & Applied Science Geologist: Ken Miller

Drilling Method: HSA Drilling Fluid (Type): NA

Logged By: Ken Miller Date Started: 12/30/08 Date Finished: 12/31/08

Report Form Completed By: Ken Miller Date: 5/18/09

## ANNULAR SPACE DETAILS

Type of Surface Seal: Cement

Type of Annular Sealant: Bentonite Chips

Installation Method: Poured

Setting Time: >24 hrs

Type of Bentonite Seal -- Granular, (Pellet), Slurry (Choose One)

Installation Method: Poured

Setting Time: 16 hrs

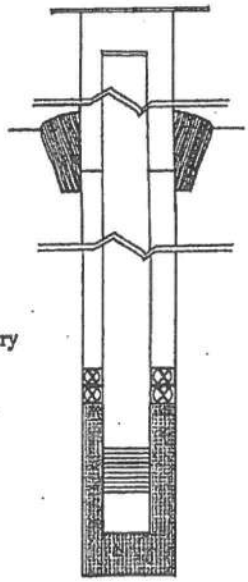
Type of Sand Pack: Quartz Sand

Grain Size: 50 (Sieve Size)

Installation Method: Poured

Type of Backfill Material: ____ (if applicable)

Installation Method: ____



| Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|
| ____ | ____ | Top of Protective Casing |
| 540.33 | -2.58 | Top of Riser Pipe |
| 537.75 | 0 | Ground Surface |
| 534.75 | 3.00 | Top of Annular Sealant |
| ____ | ____ | Static Water Level (After Completion) |
| 511.32 | 26.43 | Top of Seal |
| 508.32 | 29.43 | Top of Sand Pack |
| 506.32 | 31.43 | Top of Screen |
| 496.32 | 41.43 | Bottom of Screen |
| 495.92 | 41.83 | Bottom of Well |
| 495.92 | 41.83 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

### WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or (Other) |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, (PVC), or Other |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, (PVC), or Other |
| Screen | SS304, SS316, PTFE, (PVC), or Other |

### CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8.25 |
| ID of Riser Pipe (inches) | 2 |
| Protective Casing Length (feet) | 5 |
| Riser Pipe Length (feet) | 34.01 |
| Bottom of Screen to End Cap (feet) | 0.4 |
| Screen Length (1st slot to last slot) (feet) | 10 |
| Total Length of Casing (feet) | 44.41 |
| Screen Slot Size ** | 0.010 |

**Hand-Slotted Well Screens are Unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G121

Site Name: City Water, Light & Power – FGDS Development Borehole #: B96-1

Coordinates: X 2,481.5 Y 5,615.9 (or) Latitude: ° ' " Longitude: ° ' "

Surveyed by: Richard Davis, City Water, Light & Power IL Registration #: LS-2098

Drilling Contractor: AE Exploration Corp. Consulting Firm: Andrews Environmental Engineering, Inc.

Driller: A. Wiesenhofer Geologist: R. Hasenyager

Drilling Method: Hollow stem auger Logged by: R. Hasenyager

Drilling Fluids (type): n/a Report Form Completed by: R. Hasenyager

Date Well Started: 05/16/96 Date Well Finished: 05/16/96 Date Form Completed: 07/12/96

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: High-solids bentonite

Installation method: Tremi

Setting time: 24+ hours

Type of bentonite seal – *Ganular*, Pellet, Slurry (circle one)

Installation method: Free drop

Setting time: 70 minutes

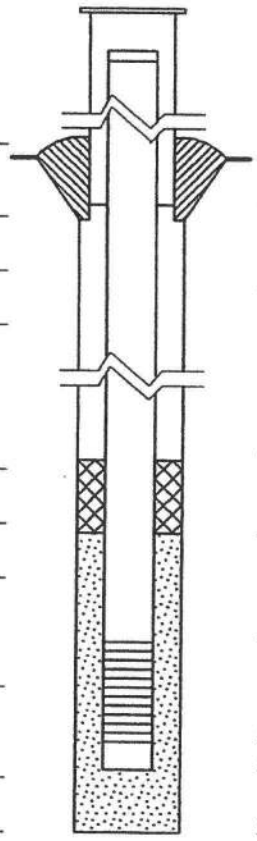
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 556.04 | -2.24 | Top of Protective Casing |
| 555.67 | -1.87 | Top of Riser Pipe |
| 553.80 | .00 | Ground Surface |
| 552.30 | 1.50 | Top of Annular Sealant |
| 528.55 | 25.25 | Static Water Level Measured on 5/24/96 (after completion) |
| 506.60 | 47.20 | Top of Seal |
| 504.00 | 49.80 | Top of Sandpack |
| 501.93 | 51.87 | Top of Screen |
| 497.96 | 55.84 | Bottom of Screen |
| 496.86 | 56.94 | Bottom of Well |
| 497.10 | 56.70 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

NOTES:

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.0 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 53.74 |
| Bottom of Screen to End Cap (ft) | 1.10 |
| Screen Length [1st slot to last slot] (ft) | 3.97 |
| Total Length of Casing (ft) | 58.81 |
| Screen Slot Size¥ | #10 (0.01") |

¥Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS (circle one)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC or *Other: Steel* |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, *PVC* or Other: |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, *PVC* or Other: |
| Screen | SS304, SS316, PTFE, *PVC* or Other: |

(AE950315)

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G122

Site Name: City Water, Light & Power – FGDS Development Borehole #: B96-2

Coordinates: X 2,305.1 Y 5,613.2 (or) Latitude: ° ' " Longitude: ° ' "

Surveyed by: Richard Davis, City Water, Light & Power IL Registration #: LS-2098

Drilling Contractor: AE Exploration Corp. Consulting Firm: Andrews Environmental Engineering, Inc.

Driller: A. Wiesenhofer Geologist: R. Hasenyager

Drilling Method: Hollow stem auger Logged by: R. Hasenyager

Drilling Fluids (type): n/a Report Form Completed by: R. Hasenyager

Date Well Started: 05/20/96 Date Well Finished: 05/20/96 Date Form Completed: 07/12/96

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: High-solids bentonite

Installation method: Tremi

Setting time: 24+ hours

Type of bentonite seal – ***Granular***, Pellet, Slurry (circle one)

Installation method: Free drop

Setting time: 45 minutes

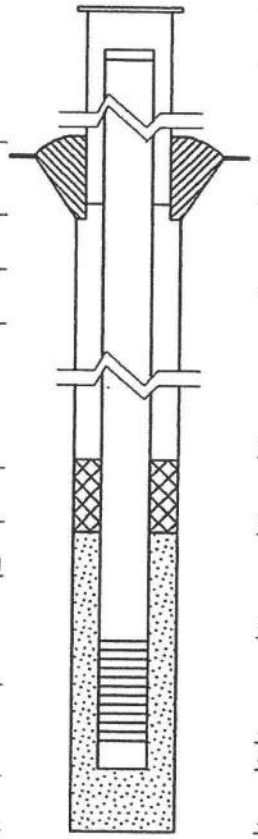
Type of sand pack: Quartz sand/formation sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 554.87 | -2.17 | Top of Protective Casing |
| 554.44 | -1.74 | Top of Riser Pipe |
| 552.70 | .00 | Ground Surface |
| 551.70 | 1.00 | Top of Annular Sealant |
| 526.51 | 26.19 | Static Water Level Measured on 5/24/96 (after completion) |
| 507.20 | 45.50 | Top of Seal |
| 504.90 | 47.80 | Top of Sandpack |
| 501.07 | 51.63 | Top of Screen |
| 497.10 | 55.60 | Bottom of Screen |
| 496.00 | 56.70 | Bottom of Well |
| 494.00 | 58.70 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (–) values above GS

NOTES:

## WELL CONSTRUCTION MATERIALS (circle one)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC or ***Other: Steel*** |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, ***PVC*** or Other: |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, ***PVC*** or Other: |
| Screen | SS304, SS316, PTFE, ***PVC*** or Other: |

(AE950315)

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.0 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 53.37 |
| Bottom of Screen to End Cap (ft) | 1.10 |
| Screen Length [1st slot to last slot] (ft) | 3.97 |
| Total Length of Casing (ft) | 58.44 |
| Screen Slot Size‡ | #10 (0.01") |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 1678250020 County: Sangamon Well #: G123

Site Name: City Water, Light & Power – FGDS Development Borehole #: B96-3

Coordinates: X 2,481.5 Y 5,615.9 (or) Latitude: ° ' " Longitude: ° ' "

Surveyed by: Richard Davis, City Water, Light & Power IL Registration #: LS-2098

Drilling Contractor: AE Exploration Corp. Consulting Firm: Andrews Environmental Engineering, Inc.

Driller: A. Wiesenhofer Geologist: Rhonald Hasenyager

Drilling Method: Hollow stem auger Logged by: Rhonald Hasenyager

Drilling Fluids (type): n/a Report Form Completed by: Rhonald Hasenyager

Date Well Started: 05/16/96 Date Well Finished: 05/16/96 Date Form Completed: 07/12/96

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: High-solids bentonite

Installation method: Tremi

Setting time: 24+ hours

Type of bentonite seal – *Ganular*, Pellet, Slurry (circle one)

Installation method: Free drop

Setting time: 30 minutes

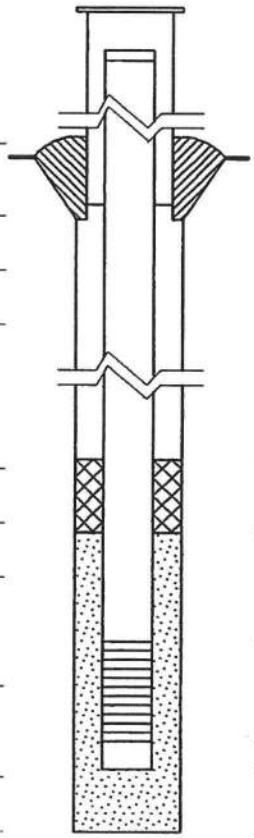
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: Bentonite chips (if applicable)

Installation method: Free drop



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 554.30 | -2.10 | Top of Protective Casing |
| 553.90 | -1.70 | Top of Riser Pipe |
| 552.20 | .00 | Ground Surface |
| 550.70 | 1.50 | Top of Annular Sealant |
| 526.35 | 25.85 | Static Water Level Measured on 5/24/96 (after completion) |
| 515.40 | 36.80 | Top of Seal |
| 513.70 | 38.50 | Top of Sandpack |
| 511.77 | 40.43 | Top of Screen |
| 507.81 | 44.39 | Bottom of Screen |
| 506.70 | 45.50 | Bottom of Well |
| 495.20 | 57.00 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

NOTES:

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.0 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 42.13 |
| Bottom of Screen to End Cap (ft) | 1.11 |
| Screen Length [1st slot to last slot] (ft) | 3.96 |
| Total Length of Casing (ft) | 47.20 |
| Screen Slot Size¥ | #10 (0.01") |

¥Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS (circle one)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC or ***Other: Steel*** |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, ***PVC*** or Other: |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, ***PVC*** or Other: |
| Screen | SS304, SS316, PTFE, ***PVC*** or Other: |

(AE950315)

# APPENDIX B3:
## IMPOUNDMENT MONITORING WELL CONSTRUCTION REPORTS

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-1R

Site Name: City Water, Light, & Power Borehole #: AP-1R

Coordinates: X 831.70 Y 5132.40 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: Terra Drill, Inc. Consulting Firm: Andrews Engineering, Inc.

Driller: J. Brown Geologist: M. Hewitt

Drilling Method: 4¼" HSA w/ 5' Continuous Barrel Logged by: M. Hewitt

Drilling Fluids (type): _____ Report Form Completed by: J. Rhoades

Date Well Started: 1/30/2012 Date Well Finished: 1/30/2012 Date Form Completed: 2/27/2012

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: 2 Hours

Type of bentonite seal: Bentonite Chips

Installation method: Free drop

Setting time: 2 Hours

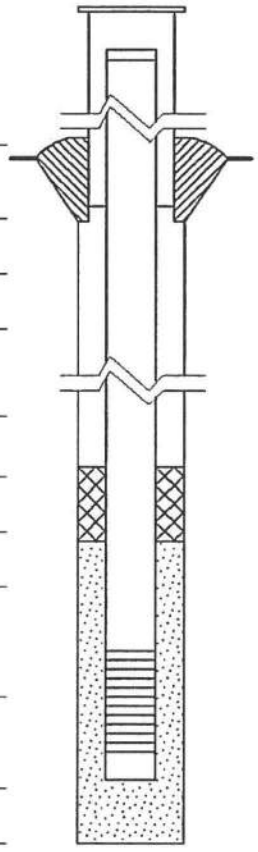
Type of sand pack: Unimin Sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: _____ (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 535.60 | -2.50 | Top of Protective Casing |
| .00 | 533.10 | Top of Riser Pipe |
| 533.10 | .00 | Ground Surface |
| 530.10 | 3.00 | Top of Annular Sealant |
| n/a | n/a | Static Water Level Measured on (after completion) |
| 517.00 | 16.10 | Top of Seal |
| 513.51 | 19.59 | Top of Sandpack |
| -21.59 | 554.69 | Top of Screen |
| -30.97 | 564.07 | Bottom of Screen |
| -31.50 | 564.60 | Bottom of Well |
| 500.60 | 32.50 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.0 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 21.59 |
| Bottom of Screen to End Cap (ft) | .53 |
| Screen Length [1st slot to last slot] (ft) | 9.38 |
| Total Length of Casing (ft) | 31.50 |
| Screen Slot Size‡ | 0.01" |

‡Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC or *Other:Steel* |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, *PVC*, or Other: |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, *PVC*, or Other: |
| Screen | SS304, SS316, PTFE, *PVC*, or Other: |

(AE950315)

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-2R

Site Name: City Water, Light, & Power Borehole #: AP-2R

Coordinates: X 725.50 Y 4184.70 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: Terra Drill, Inc. Consulting Firm: Andrews Engineering, Inc.

Driller: J. Brown Geologist: M. Hewitt

Drilling Method: 4¼" HSA w/ 5' Continuous Barrel Logged by: M. Hewitt

Drilling Fluids (type): _____ Report Form Completed by: J. Rhoades

Date Well Started: 1/31/2012 Date Well Finished: 1/31/2012 Date Form Completed: 2/27/2012

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: 2 Hours

Type of bentonite seal: Bentonite Chips

Installation method: Free drop

Setting time: 2 Hours

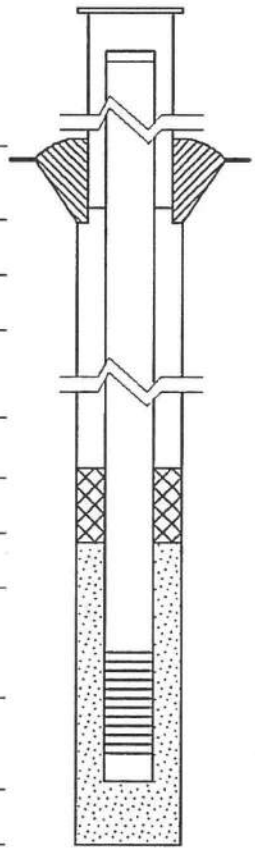
Type of sand pack: Unimin Sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: _____ (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 535.60 | -2.50 | Top of Protective Casing |
| 536.1 | 533.10 | Top of Riser Pipe |
| 533.6 | .00 | Ground Surface |
| 530.10 | 3.00 | Top of Annular Sealant |
| n/a | n/a | Static Water Level Measured on (after completion) |
| 528.96 | 4.14 | Top of Seal |
| 526.96 | 6.14 | Top of Sandpack |
| -8.14 | 541.24 | Top of Screen |
| -17.47 | 550.57 | Bottom of Screen |
| -18.00 | 551.10 | Bottom of Well |
| 514.60 | 18.50 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.0 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 8.14 |
| Bottom of Screen to End Cap (ft) | .53 |
| Screen Length [1st slot to last slot] (ft) | 9.33 |
| Total Length of Casing (ft) | 18.00 |
| Screen Slot Size[¥] | 0.01" |

[¥]Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC or *Other:Steel* |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, *PVC*, or Other: |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, *PVC*, or Other: |
| Screen | SS304, SS316, PTFE, *PVC*, or Other: |

(AE950315)

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-2A

Site Name: Springfield City Water, Light, and Power Borehole #: _____

Coordinates: X 735.9 Y 4185.2 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Springfield City Water, Light, and Power IL Registration #: _____

Drilling Contractor: Bulldog Drilling, Inc. Consulting Firm: Andrews Engineering, Inc.

Driller: J. Edwards Geologist: C. Myrvold

Drilling Method: AMS Powerprobe w/ 4.25" HSA and 5' MC Logged by: C. Myrvold

Drilling Fluids (type): na Report Form Completed by: C. Myrvold

Date Well Started: 2/16/2016 Date Well Finished: 2/16/2016 Date Form Completed: 3/06/2016

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: N/A

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite chips

Installation method: Free drop

Setting time: 24+ hours

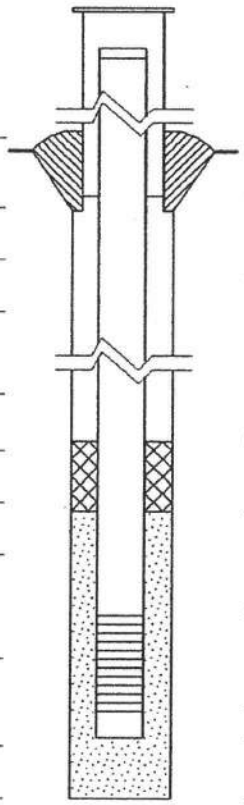
Type of sand pack: Silica sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 536.50 | -2.90 | Top of Protective Casing |
| 536.10 | -2.50 | Top of Riser Pipe |
| 533.60 | 0.00 | Ground Surface |
| _____ | N/A | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 530.60 | 3.00 | Top of Seal |
| 527.19 | 6.41 | Top of Sandpack |
| 525.19 | 8.41 | Top of Screen |
| 515.54 | 18.06 | Bottom of Screen |
| 515.10 | 18.50 | Bottom of Well |
| 514.60 | 19.00 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

Notes:

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 10.91 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length [1st slot to last slot] (ft) | 9.65 |
| Total Length of Casing (ft) | 21.00 |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-5

Site Name: City Water, Light, & Power Borehole #: AP-5

Coordinates: X 3203.10 Y 3164.10 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: Terra Drill, Inc. Consulting Firm: Andrews Engineering, Inc.

Driller: J. Brown Geologist: M. Hewitt

Drilling Method: 4¼" HSA w/ 5' CB & 2' SS Logged by: M. Hewitt

Drilling Fluids (type): _____ Report Form Completed by: J. Rhoades

Date Well Started: 2/1/2012 Date Well Finished: 2/1/2012 Date Form Completed: 2/27/2012

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: 2 Hours

Type of bentonite seal: Bentonite Chips

Installation method: Free drop

Setting time: 2 Hours

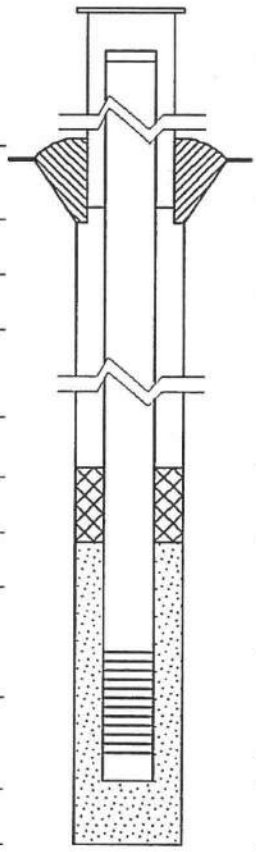
Type of sand pack: Unimin Sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: Bentonite Chips (if applicable)

Installation method: Free drop



| ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 584.30 | -2.70 | Top of Protective Casing |
| 583.90 | -2.30 | Top of Riser Pipe |
| 581.60 | .00 | Ground Surface |
| 578.60 | 3.00 | Top of Annular Sealant |
| n/a | n/a | Static Water Level Measured on (after completion) |
| 565.48 | 16.12 | Top of Seal |
| 563.48 | 18.12 | Top of Sandpack |
| 563.78 | 17.82 | Top of Screen |
| 554.44 | 27.16 | Bottom of Screen |
| 553.90 | 27.70 | Bottom of Well |
| 551.10 | 30.50 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

NOTES:

•Borehole AP-5 sampled to 49.0 feet below ground surface (BGS) and backfilled with bentonite chips to 30.5 feet BGS

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.0 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 20.12 |
| Bottom of Screen to End Cap (ft) | .54 |
| Screen Length [1st slot to last slot] (ft) | 9.34 |
| Total Length of Casing (ft) | 30.00 |
| Screen Slot Size* | 0.01" |

*Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC or *Other:Steel* |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, *PVC*, or Other: |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, *PVC*, or Other: |
| Screen | SS304, SS316, PTFE, *PVC*, or Other: |

(AE950315)

**Illinois Environmental Protection Agency** **Well Completion Report**

Site Number: _____ County: Sangamon

Site Name: City Water, Light & Power (CWLP) Ash Ponds Well #: TW3E

State Plane Coordinate: X _____ Y _____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: TW3E

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: Bulldog Drilling, Inc. Driller: J. Gates

Consulting Firm: Andrews Engineering, Inc. Geologist: D. Ghosh

Drilling Method: CME 55 w/ 4.25" HSA Drilling Fluid (Type): none

Logged By: D. Ghosh Date Started: 6/27/17 Date Finished: 6/27/17

Report Form Completed By: M. Hewitt Date: 9/18/17

## ANNULAR SPACE DETAILS

Type of Surface Seal: Bentonite Grout

Type of Annular Sealant: Bentonite Grout

Installation Method: Tremi

Setting Time: 24 hours

Type of Bentonite Seal - - Granular, Pellet, Slurry (Choose One)

Installation Method: Free drop

Setting Time: N/A

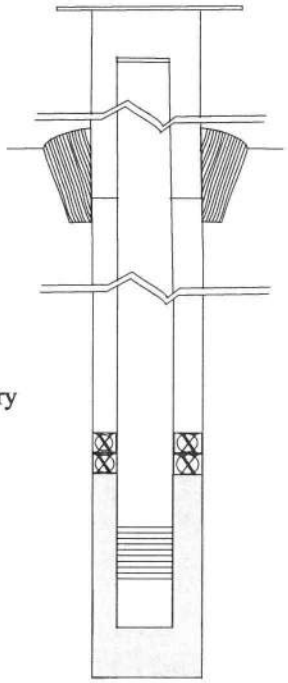
Type of Sand Pack: Silica Sand

Grain Size: 10/20 (Sieve Size)

Installation Method: Free Drop

Type of Backfill Material: None (if applicable)

Installation Method: N/A



| Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|
| _____ | _____ | Top of Protective Casing |
| _____ | -2.17 | Top of Riser Pipe |
| _____ | 0 | Ground Surface |
| _____ | 0 | Top of Annular Sealant |
| _____ | 9.14 | Static Water Level (After Completion) |
| _____ | 28.0 | Top of Seal |
| _____ | 28.2 | Top of Sand Pack |
| _____ | 30.22 | Top of Screen |
| _____ | 39.82 | Bottom of Screen |
| _____ | 40.5 | Bottom of Well |
| _____ | 40.5 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

WELL CONSTRUCTION MATERIAL
(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, PVC, or Other |
| Screen | SS304, SS316, PTFE, PVC, or Other |

CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8.25 |
| ID of Riser Pipe (inches) | 2.049 |
| Protective Casing Length (feet) | |
| Riser Pipe Length (feet) | 32.39 |
| Bottom of Screen to End Cap (feet) | 0.68 |
| Screen Length (1st slot to last slot) (feet) | 9.6 |
| Total Length of Casing (feet) | 42.67 |
| Screen Slot Size ** | 0.01 |

**Hand-Slotted Well Screens are Unacceptable

**Illinois Environmental Protection Agency** **Well Completion Report**

Site Number: _____ County: Sangamon

Site Name: City Water, Light & Power (CWLP) Ash Ponds Well #: TW3N / RW-3

State Plane Coordinate: X _____ Y _____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: TW3N

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: Bulldog Drilling, Inc. Driller: J. Gates

Consulting Firm: Andrews Engineering, Inc. Geologist: D. Ghosh

Drilling Method: CME 55 w/ 4.25" HSA Drilling Fluid (Type): none

Logged By: D. Ghosh Date Started: 6/26/17 Date Finished: 6/27/17

Report Form Completed By: M. Hewitt Date: 9/18/17

## ANNULAR SPACE DETAILS

Type of Surface Seal: Bentonite Grout

Type of Annular Sealant: Bentonite Grout

Installation Method: Tremi

Setting Time: 24 hours

Type of Bentonite Seal - - Granular, Pellet, Slurry (Choose One)

Installation Method: Free drop

Setting Time: N/A

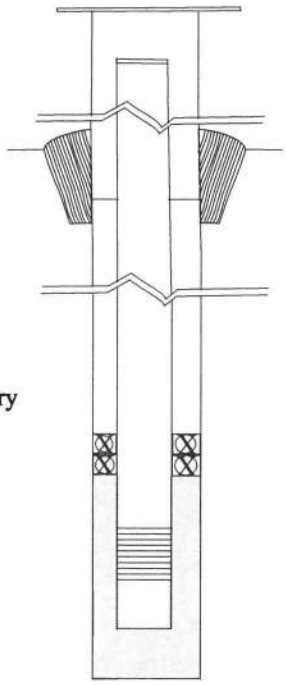
Type of Sand Pack: Silica Sand

Grain Size: 10/20 (Sieve Size)

Installation Method: Free Drop

Type of Backfill Material: None (if applicable)

Installation Method: N/A



| | Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|---|
| | _____ | _____ | Top of Protective Casing |
| | 539.5 | -2.5 | Top of Riser Pipe |
| | 536.8 | 0 | Ground Surface |
| | 533.8 | 3 | Top of Annular Sealant |
| | 528.09 | 8.71 | Static Water Level (After Completion) |
| | 509.8 | 27 | Top of Seal |
| | 507.2 | 29.6 | Top of Sand Pack |
| | 505.66 | 31.14 | Top of Screen |
| | 496.08 | 40.72 | Bottom of Screen |
| | 495.4 | 41.4 | Bottom of Well |
| | 495.2 | 41.6 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

### WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, PVC, or Other |
| Screen | SS304, SS316, PTFE, PVC, or Other |

### CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8.25 |
| ID of Riser Pipe (inches) | 2.049 |
| Protective Casing Length (feet) | |
| Riser Pipe Length (feet) | 33.84 |
| Bottom of Screen to End Cap (feet) | 0.68 |
| Screen Length (1st slot to last slot) (feet) | 9.58 |
| Total Length of Casing (feet) | 44.1 |
| Screen Slot Size ** | 0.01 |

**Hand-Slotted Well Screens are Unacceptable

**Illinois Environmental Protection Agency** **Well Completion Report**

Site Number: _____ County: Sangamon

Site Name: City Water, Light & Power (CWLP) Ash Ponds Well #: TW3W

State Plane Coordinate: X _____ Y _____ (or) Latitude: ____ ____ ____ Longitude: ____ ____ ____ Borehole #: TW3W

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: Bulldog Drilling, Inc. Driller: J. Gates

Consulting Firm: Andrews Engineering, Inc. Geologist: D. Ghosh

Drilling Method: CME 55 w/ 4.25" HSA Drilling Fluid (Type): none

Logged By: D. Ghosh Date Started: 6/26/17 Date Finished: 6/26/17

Report Form Completed By: M. Hewitt Date: 9/18/17

## ANNULAR SPACE DETAILS

Type of Surface Seal: Bentonite Grout

Type of Annular Sealant: Bentonite Grout

Installation Method: Tremi

Setting Time: 24 hours

Type of Bentonite Seal - - Granular, Pellet, Slurry (Choose One)

Installation Method: Free drop

Setting Time: N/A

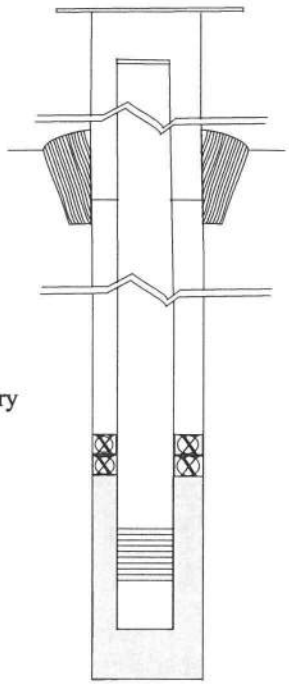
Type of Sand Pack: Silica Sand

Grain Size: 10/20 (Sieve Size)

Installation Method: Free Drop

Type of Backfill Material: None (if applicable)

Installation Method: N/A



| Elevations (MSL)* | Depths (BGS) | (.01ft.) |
|---|---|---|
| _____ | _____ | Top of Protective Casing |
| _____ | -2.58 | Top of Riser Pipe |
| 536.80 | 0 | Ground Surface |
| _____ | 0 | Top of Annular Sealant |
| _____ | 9.32 | Static Water Level (After Completion) |
| _____ | 9.6 | Top of Seal |
| _____ | 11.85 | Top of Sand Pack |
| _____ | 13.54 | Top of Screen |
| _____ | 23.12 | Bottom of Screen |
| _____ | 23.8 | Bottom of Well |
| _____ | 23.8 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

### WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

| | |
|---|---|
| Protective Casing | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Above W.T. | SS304, SS316, PTFE, PVC, or Other |
| Riser Pipe Below W.T. | SS304, SS316, PTFE, PVC, or Other |
| Screen | SS304, SS316, PTFE, PVC, or Other |

### CASING MEASURMENTS

| | |
|---|---|
| Diameter of Borehole (inches) | 8.25 |
| ID of Riser Pipe (inches) | 2.049 |
| Protective Casing Length (feet) | |
| Riser Pipe Length (feet) | 16.12 |
| Bottom of Screen to End Cap (feet) | 0.68 |
| Screen Length (1st slot to last slot) (feet) | 9.58 |
| Total Length of Casing (feet) | 26.38 |
| Screen Slot Size ** | 0.01 |

**Hand-Slotted Well Screens are Unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP1

Site Name: Springfield CWLP Ash Pond Borehole #: GP1

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: C. Clines Geologist: B. Kenning

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC and 2' SS Logged by: B. Kenning

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 6/14/19 Date Well Finished: 6/14/19 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

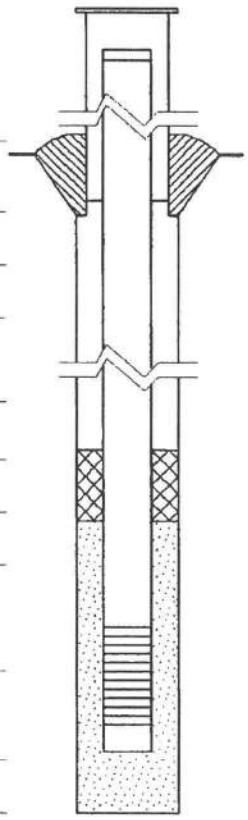
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | | | |
| Top of Riser Pipe | 539.44 | - 2.82' | |
| Ground Surface | 537.06 | 0.00' | |
| Top of Annular Sealant | 534.06 | 3.00' | |
| Static Water Level Measured on (after completion) | | | |
| Top of Seal | 511.72 | 25.34' | |
| Top of Sandpack | 509.72 | 27.34' | |
| Top of Screen | 507.97 | 29.34' | |
| Bottom of Screen | 498.27 | 39.04' | |
| Bottom of Well | ~~497.81~~ | 39.50' | |
| Bottom of Borehole | 497.06 | 40.00' | |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negative (-) values above GS

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 31.91 |
| Bottom of Screen to End Cap (ft) | 0.46 |
| Screen Length (1st slot to last slot) (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP2 /AP-7

Site Name: Springfield CWLP Ash Pond Borehole #: GP2

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: C. Clines Geologist: B. Kenning

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC Logged by: B. Kenning

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 6/14/19 Date Well Finished: 6/14/19 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

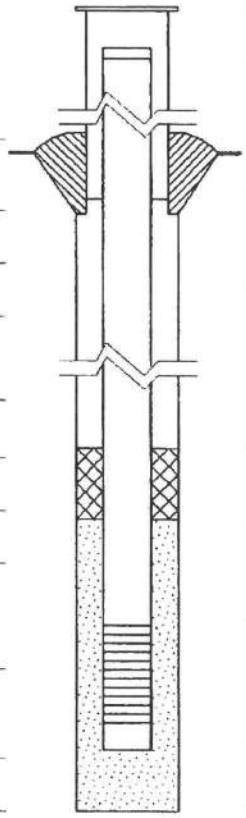
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | _____ | _____ | |
| Top of Riser Pipe | 539.02 | -2.66 | |
| Ground Surface | 536.36 | 0.00' | |
| Top of Annular Sealant | 533.36 | 3.00' | |
| Static Water Level Measured on (after completion) | _____ | _____ | |
| Top of Seal | 511.02 | 24.9' | |
| Top of Sandpack | 509.02 | 24.9' | |
| Top of Screen | 507.46 | 28.9' | |
| Bottom of Screen | 497.76 | 38.6' | |
| Bottom of Well | 497.3 | 39.06' | |
| Bottom of Borehole | 496.36 | 40.00' | |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 31.56 |
| Bottom of Screen to End Cap (ft) | 0.46 |
| Screen Length [1st slot to last slot] (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP3

Site Name: Springfield CWLP Ash Pond Borehole #: GP3

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: C. Clines Geologist: B. Kenning

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC Logged by: B. Kenning

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 6/13/19 Date Well Finished: 6/13/19 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

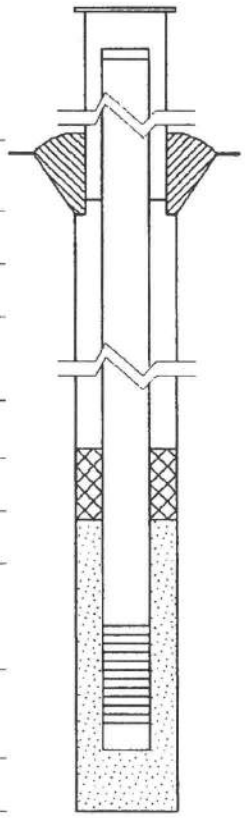
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | _____ | _____ | |
| Top of Riser Pipe | 551.82 | -2.7 | |
| Ground Surface | 549.12 | 0.00' | |
| Top of Annular Sealant | 546.12 | 3.00' | |
| Static Water Level Measured on (after completion) | _____ | _____ | |
| Top of Seal | 549.12 | 3.00' | |
| Top of Sandpack | 532.05 | 17.07' | |
| Top of Screen | 531.49 | 17.63 | |
| Bottom of Screen | 526.81 | 22.31 | |
| Bottom of Well | 526.26 | 22.86 | |
| Bottom of Borehole | 524.32 | 24.80' | |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 20.33 |
| Bottom of Screen to End Cap (ft) | 0.55 |
| Screen Length (1st slot to last slot) (ft) | 4.68 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP4

Site Name: Springfield CWLP Ash Pond Borehole #: GP4

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: J. Edwards Geologist: C. Myrvold

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC Logged by: C.Myrvold

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 5/17/19 Date Well Finished: 5/17/19 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

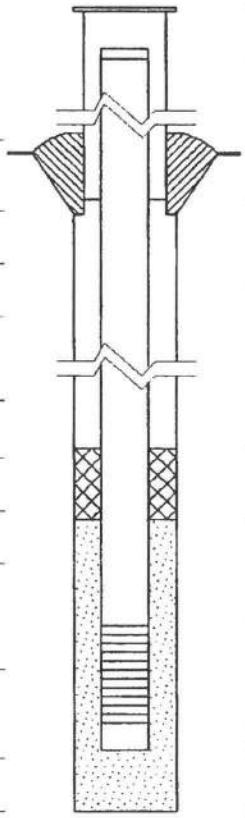
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | | | |
| Top of Riser Pipe | | - 3.00' | |
| Ground Surface | | 0.00' | |
| Top of Annular Sealant | | 3.00' | |
| Static Water Level Measured on (after completion) | | | |
| Top of Seal | | 23.43' | |
| Top of Sandpack | | 25.43' | |
| Top of Screen | | 27.43' | |
| Bottom of Screen | | 37.20' | |
| Bottom of Well | | 37.50' | |
| Bottom of Borehole | | 38.00' | |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 30.18 |
| Bottom of Screen to End Cap (ft) | 0.30 |
| Screen Length [1st slot to last slot] (ft) | 9.77 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP6 /AP-6

Site Name: Springfield CWLP Ash Pond Borehole #: GP6

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: J. Edwards Geologist: C. Myrvold

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC Logged by: C.Myrvold

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 5/17/19 Date Well Finished: 5/17/19 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

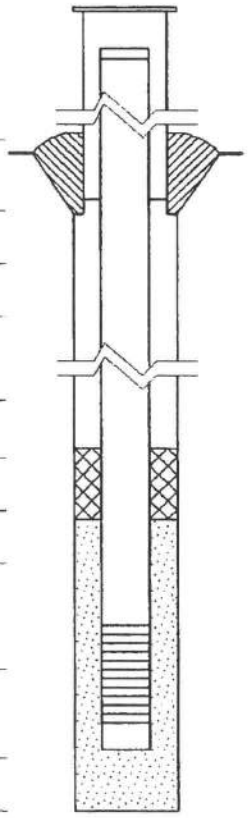
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | _____ | _____ | |
| Top of Riser Pipe | 537.82 | -2.42 | |
| Ground Surface | 535.4 | 0.00' | |
| Top of Annular Sealant | 532.4 | 3.00' | |
| Static Water Level Measured on (after completion) | _____ | _____ | |
| Top of Seal | 512.97 | 22.43' | |
| Top of Sandpack | 510.97 | 24.43' | |
| Top of Screen | 508.64 | 26.76' | |
| Bottom of Screen | 498.87 | 36.53' | |
| Bottom of Well | 498.57 | 36.83' | |
| Bottom of Borehole | 498.4 | 37.00' | |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 29.18 |
| Bottom of Screen to End Cap (ft) | 0.30 |
| Screen Length (1st slot to last slot) (ft) | 9.77 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP7

Site Name: Springfield CWLP Ash Pond Borehole #: GP7

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: J. Edwards Geologist: C. Myrvold

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC Logged by: C.Myrvold

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 5/16/2019 Date Well Finished: 5/16/2019 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

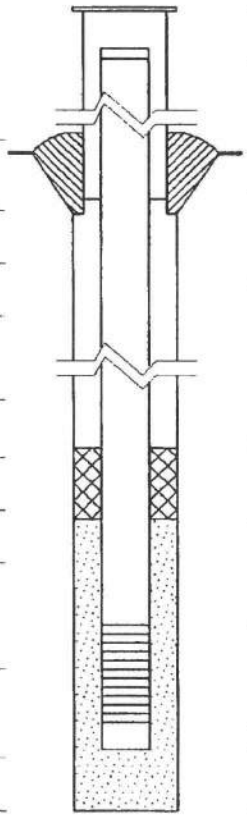
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | | | |
| Top of Riser Pipe | | -3.08' | |
| Ground Surface | | 0.00' | |
| Top of Annular Sealant | | 3.00' | |
| Static Water Level Measured on (after completion) | | | |
| Top of Seal | | 21.93' | |
| Top of Sandpack | | 23.93' | |
| Top of Screen | | 25.93' | |
| Bottom of Screen | | 35.70' | |
| Bottom of Well | | 36.00' | |
| Bottom of Borehole | | 36.50' | |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 28.76 |
| Bottom of Screen to End Cap (ft) | 0.30 |
| Screen Length (1st slot to last slot) (ft) | 9.77 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: GP8

Site Name: Springfield CWLP Ash Pond Borehole #: GP8

Coordinates: X _____ Y _____ (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Bulldog drilling Consulting Firm: Andrews Engineering, Inc.

Driller: J. Edwards Geologist: C. Myrvold

Drilling Method: CME 55cc 4.25 in HSA w/ 5'MC Logged by: C.Myrvold

Drilling Fluids (type): N/A Report Form Completed by: B. Kenning

Date Well Started: 5/15/19 Date Well Finished: 5/16/19 Date Form Completed: 7/19/2019

## ANNULAR SPACE DETAILS

Type of surface seal: _____

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: > 24 hours

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

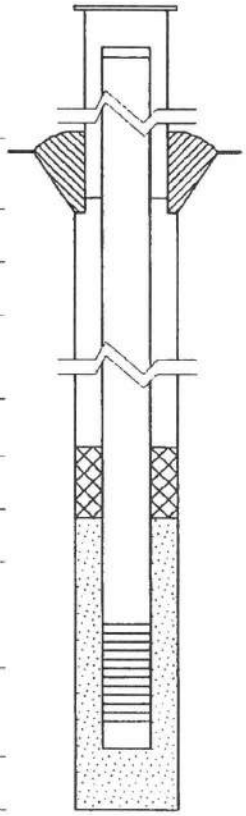
Type of sand pack: Silica Sand Pre-Pack

Grain size: 10/20 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 533.12 | 3.00' |
| Ground Surface | 530.08 | 0.00' |
| Top of Annular Sealant | | 3.00' |
| Static Water Level Measured on (after completion) | | |
| Top of Seal | | 27.43' |
| Top of Sandpack | | 29.43' |
| Top of Screen | | 31.43' |
| Bottom of Screen | | 41.20' |
| Bottom of Well | | 41.50' |
| Bottom of Borehole | | 42.00' |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negative (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.50 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 34.18 |
| Bottom of Screen to End Cap (ft) | 0.30 |
| Screen Length [1st slot to last slot] (ft) | 9.77 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size‡ | #10 (0.01) |

‡Hand-slotted well screens are unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-8

Site Name: Springfield CWLP Ash Pond Borehole #: W-9

Coordinates: X 1265.0 Y 3401.7 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD. Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: C. M. Latham

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: C.M.Latham

Drilling Fluids (type): N/A Report Form Completed by: C.M. Latham

Date Well Started: 2/25/2021 Date Well Finished: 2/25/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

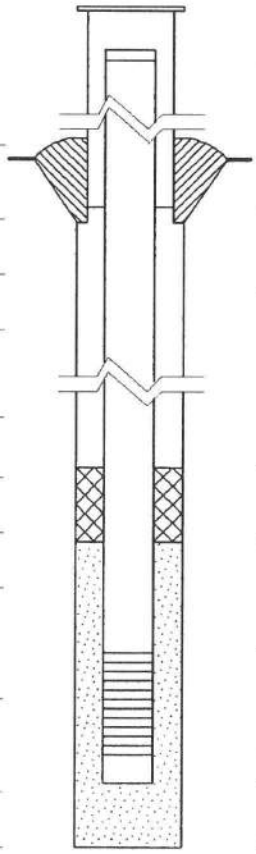
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 540.30 | -3.10 | Top of Protective Casing |
| 540.30 | -3.10 | Top of Riser Pipe |
| 537.20 | 0.00 | Ground Surface |
| 534.20 | 3.00 | Top of Annular Sealant |
| 530.20 | 7.00 | Static Water Level Measured on (after completion) |
| _____ | 3.00 | Top of Seal |
| 510.60 | 26.60 | Top of Sandpack |
| 508.60 | 28.60 | Top of Screen |
| 498.02 | 39.18 | Bottom of Screen |
| 497.60 | 39.60 | Bottom of Well |
| 497.60 | 39.60 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 29.48' |
| Bottom of Screen to End Cap (ft) | 0.42 |
| Screen Length [1st slot to last slot] (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-9

Site Name: Springfield CWLP Ash Pond Borehole #: W-8

Coordinates: X 703.0 Y 5216.8 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD. Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: C. M. Latham

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: C.M. Latham

Drilling Fluids (type): N/A Report Form Completed by: C.M. Latham

Date Well Started: 2/26/2021 Date Well Finished: 2/26/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

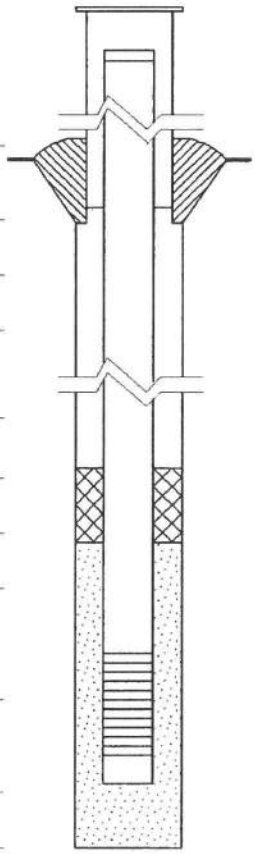
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 537.20 | -2.90 | Top of Protective Casing |
| 537.20 | -2.90 | Top of Riser Pipe |
| 534.30 | 0.00 | Ground Surface |
| 531.30 | 3.00 | Top of Annular Sealant |
| 525.00 | 9.30 | Static Water Level Measured on (after completion) |
| _____ | 3.00 | Top of Seal |
| 514.00 | 20.30 | Top of Sandpack |
| 512.00 | 22.30 | Top of Screen |
| 502.24 | 32.06 | Bottom of Screen |
| 501.80 | 32.50 | Bottom of Well |
| 501.80 | 32.50 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 24.91 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length [1st slot to last slot] (ft) | 9.76 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size¥ | #10 (0.01) |

¥Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-10

Site Name: Springfield CWLP Ash Pond Borehole #: W-5

Coordinates: X 695.6 Y 4684.0 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD. Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: C. M. Latham

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: C.M. Latham

Drilling Fluids (type): N/A Report Form Completed by: C.M. Latham

Date Well Started: 2/24/2021 Date Well Finished: 2/24/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

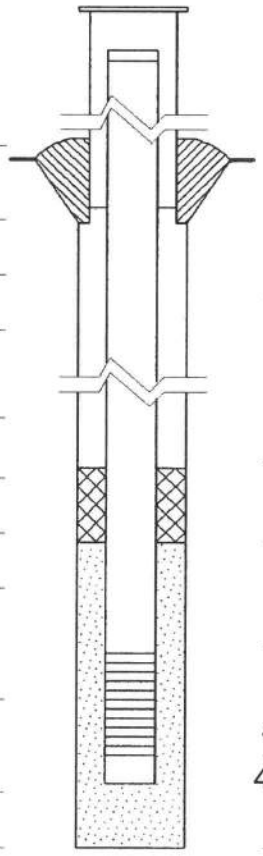
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 537.50 | -3.10 | Top of Protective Casing |
| 537.50 | -3.10 | Top of Riser Pipe |
| 534.40 | 0.00 | Ground Surface |
| 531.40 | 3.00 | Top of Annular Sealant |
| 528.38 | 6.02 | Static Water Level Measured on (after completion) |
| 531.4 | 3.00 | Top of Seal |
| 511.80 | 22.60 | Top of Sandpack |
| 509.70 | 24.70 | Top of Screen |
| 499.9 | 34.41 | Bottom of Screen |
| 499.53 | 34.87 | Bottom of Well |
| 499.43 | 34.97 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 27.8 |
| Bottom of Screen to End Cap (ft) | 0.46 |
| Screen Length [1st slot to last slot] (ft) | 9.71 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-11

Site Name: Springfield CWLP Ash Pond Borehole #: W-4

Coordinates: X 524.5 Y 4150.6 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: S Kangas

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: S Kangas

Drilling Fluids (type): N/A Report Form Completed by: S Kangas

Date Well Started: 2/23/2021 Date Well Finished: 2/23/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: >24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

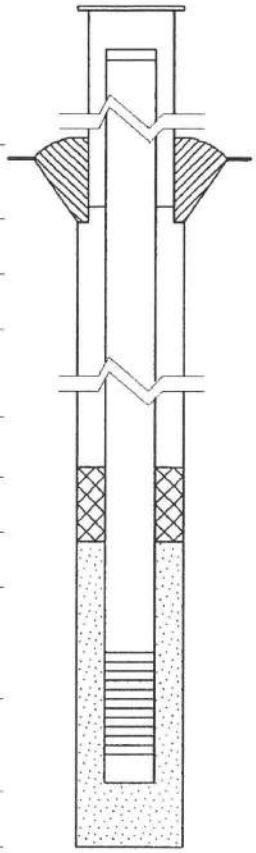
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 538.10 | -2.80 | Top of Protective Casing |
| 538.10 | -2.80 | Top of Riser Pipe |
| 535.30 | 0.00 | Ground Surface |
| 531.80 | 3.50 | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 531.80 | 3.50 | Top of Seal |
| 527.60 | 7.70 | Top of Sandpack |
| 525.28 | 10.02 | Top of Screen |
| 515.58 | 19.72 | Bottom of Screen |
| 515.15 | 20.15 | Bottom of Well |
| 515.15 | 20.15 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | #2 |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 12.82 |
| Bottom of Screen to End Cap (ft) | 0.43 |
| Screen Length [1st slot to last slot] (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-12

Site Name: Springfield CWLP Ash Pond Borehole #: W-3

Coordinates: X 667.6 Y 3797.7 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD. Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: C. M. Latham

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: Scott Krangus

Drilling Fluids (type): N/A Report Form Completed by: C.M. Latham

Date Well Started: 2/23/2021 Date Well Finished: 2/24/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

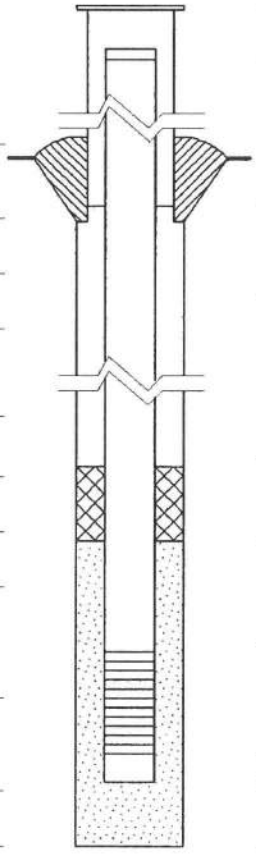
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 540.70 | -2.90 | Top of Protective Casing |
| 540.60 | -2.80 | Top of Riser Pipe |
| 537.80 | 0.00 | Ground Surface |
| 534.80 | 3.00 | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| _____ | 3.00 | Top of Seal |
| 522.80 | 15.00 | Top of Sandpack |
| 520.80 | 17.00 | Top of Screen |
| 510.88 | 26.92 | Bottom of Screen |
| 510.30 | 27.50 | Bottom of Well |
| 510.50 | 27.30 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 24.94 |
| Bottom of Screen to End Cap (ft) | 0.38 |
| Screen Length [1st slot to last slot] (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-13

Site Name: Springfield CWLP Ash Pond Borehole #: W-2

Coordinates: X 852.1 Y 3451.2 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD. Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: C. M. Latham

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: C.M. Latham

Drilling Fluids (type): N/A Report Form Completed by: C.M. Latham

Date Well Started: 2/24/2021 Date Well Finished: 2/24/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

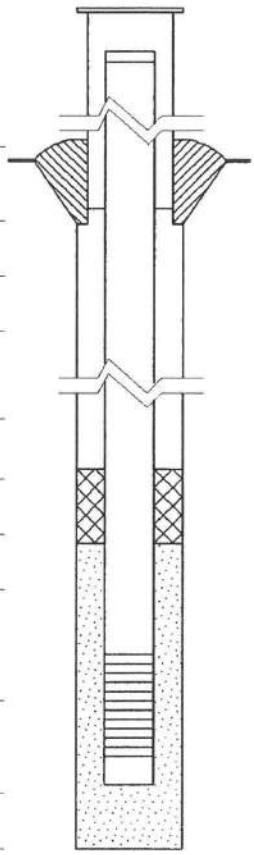
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 542.00 | -3.40 | Top of Protective Casing |
| 542.00 | -3.40 | Top of Riser Pipe |
| 538.60 | 0.00 | Ground Surface |
| 355.60 | 3.00 | Top of Annular Sealant |
| 532.35 | 6.25 | Static Water Level Measured on (after completion) |
| _____ | 3.00 | Top of Seal |
| 524.08 | 14.52 | Top of Sandpack |
| 522.08 | 16.52 | Top of Screen |
| 511.47 | 27.13 | Bottom of Screen |
| 511.00 | 27.60 | Bottom of Well |
| 511.00 | 27.60 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 19.94' |
| Bottom of Screen to End Cap (ft) | 0.47' |
| Screen Length [1st slot to last slot] (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: AP-14

Site Name: Springfield CWLP Ash Pond Borehole #: W-1

Coordinates: X 1275.2 Y 3171.5 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Total Drilling Services/Skinner LTD. Consulting Firm: Andrews Engineering, Inc.

Driller: Todd Skinner Geologist: C. M. Latham

Drilling Method: CME 850 4.25 in HSA w/ 5'MC and 2' SS Logged by: C.M. Latham

Drilling Fluids (type): N/A Report Form Completed by: C.M. Latham

Date Well Started: 2/25/2021 Date Well Finished: 2/26/2021 Date Form Completed: 3/2/2021

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Chips

Installation method: Free Drop

Setting time: > 24

Type of bentonite seal: Bentonite Chips

Installation method: Free Drop

Setting time: > 24 hours

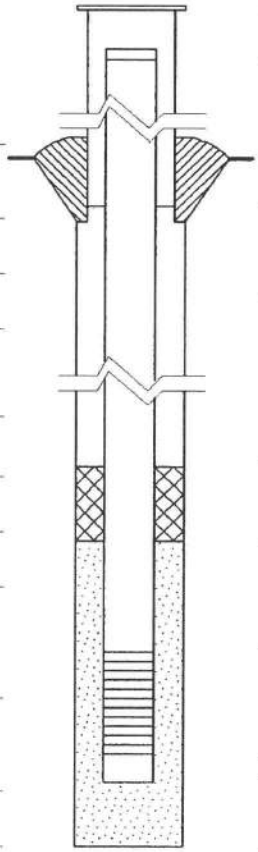
Type of sand pack: Silica Sand Pre-Pack

Grain size: 20/40 (sieve size)

Installation method: Free Drop

Type of backfill material: N/A (if applicable)

Installation method: _____



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 539.60 | -2.80 | Top of Protective Casing |
| 539.60 | -2.80 | Top of Riser Pipe |
| 536.80 | 0.00 | Ground Surface |
| 533.80 | 3.00 | Top of Annular Sealant |
| 534.80 | 2.00 | Static Water Level Measured on (after completion) |
| _____ | 3.00 | Top of Seal |
| 521.45 | 15.35 | Top of Sandpack |
| 519.45 | 17.35 | Top of Screen |
| 509.75 | 27.05 | Bottom of Screen |
| 509.30 | 27.50 | Bottom of Well |
| 509.30 | 27.50 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | N/A |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | |
| Protective Casing Length (ft) | N/A |
| Riser Pipe Length (ft) | 20.15 |
| Bottom of Screen to End Cap (ft) | 0.45 |
| Screen Length [1st slot to last slot] (ft) | 9.70 |
| Total Length of Casing (ft) | N/A |
| Screen Slot Size¥ | #10 (0.01) |

¥Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T1

Site Name: CWLP Borehole #: B1

Coordinates: X 1128150.33 Y 2455538.81 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 05/01/2024 Date Well Finished: 05/01/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite chips

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

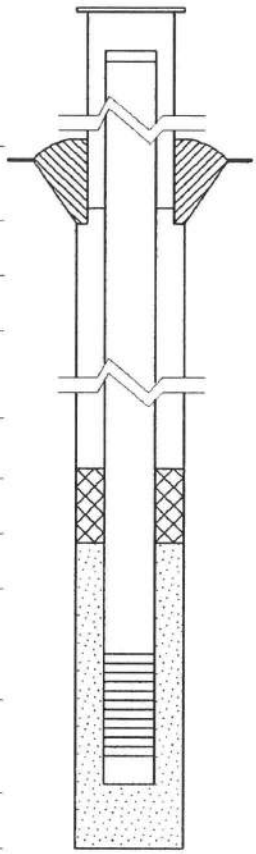
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 536.10 | -2.45 | Top of Protective Casing |
| 535.65 | -2.00 | Top of Riser Pipe |
| 533.65 | 0 | Ground Surface |
| 531.83 | 3.50 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 529.83 | 5.50 | Top of Seal |
| 527.29 | 8.04 | Top of Sandpack |
| 525.77 | 9.56 | Top of Screen |
| 516.27 | 19.06 | Bottom of Screen |
| 515.83 | 19.50 | Bottom of Well |
| 515.83 | 19.50 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 9.88 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length [1st slot to last slot] (ft) | 9.50 |
| Total Length of Casing (ft) | 19.82 |
| Screen Slot Size* | #10 (0.01') |

* Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T2

Site Name: CWLP Borehole #: B2

Coordinates: X 1128803.76 Y 2455006.85 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 05/01/2024 Date Well Finished: 05/01/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

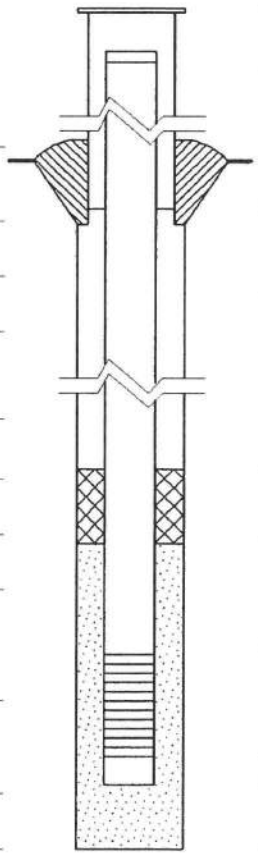
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 549.86 | -2.64 | Top of Protective Casing |
| 549.62 | -2.4 | Top of Riser Pipe |
| 547.22 | 0 | Ground Surface |
| 544.22 | 3.00 | Top of Annular Sealant |
| _____ | NA | Static Water Level Measured on (after completion) |
| 526.12 | 21.10 | Top of Seal |
| 524.02 | 23.20 | Top of Sandpack |
| 522.46 | 24.76 | Top of Screen |
| 512.96 | 34.26 | Bottom of Screen |
| 512.22 | 35.00 | Bottom of Well |
| 512.22 | 35.00 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 27.16 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length [1st slot to last slot] (ft) | 9.50 |
| Total Length of Casing (ft) | 37.40 |
| Screen Slot Size¥ | #10 (0.01') |

¥Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T4

Site Name: CWLP Borehole #: B4

Coordinates: X 1130726.70 Y 2455622.14 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 04/26/2024 Date Well Finished: 04/26/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

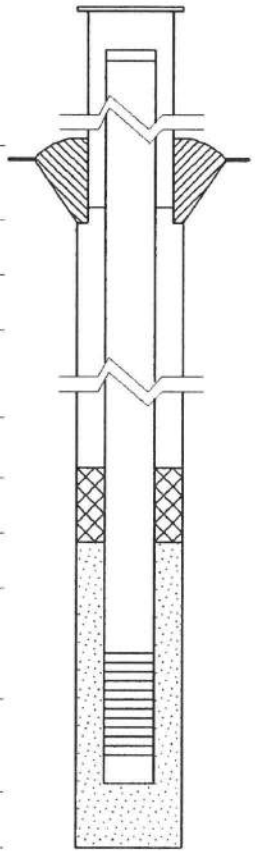
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 549.43 | -2.87 | Top of Protective Casing |
| 548.94 | -2.38 | Top of Riser Pipe |
| 546.56 | 0 | Ground Surface |
| 543.56 | 3.00 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 534.76 | 11.80 | Top of Seal |
| 532.66 | 13.90 | Top of Sandpack |
| 531.43 | 15.13 | Top of Screen |
| 521.94 | 24.62 | Bottom of Screen |
| 521.56 | 25.00 | Bottom of Well |
| 521.56 | 25.00 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 17.51 |
| Bottom of Screen to End Cap (ft) | 0.44 |
| Screen Length [1st slot to last slot] (ft) | 9.49 |
| Total Length of Casing (ft) | 27.38 |
| Screen Slot Size¥ | #10 (0.01') |

¥Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T5

Site Name: CWLP Borehole #: B5

Coordinates: X 1130996.32 Y 2455852.04 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 04/25/2024 Date Well Finished: 04/25/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

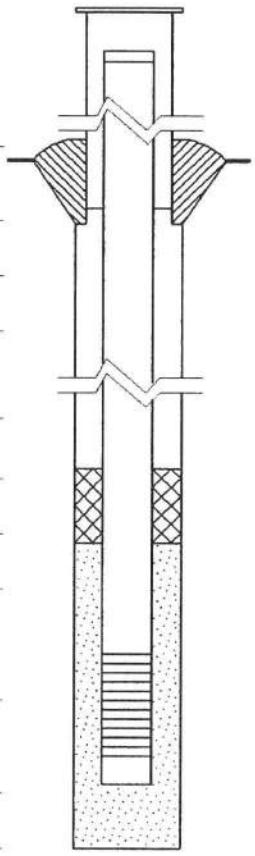
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)* | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 541.00 | -2.85 | Top of Protective Casing |
| 540.66 | -2.51 | Top of Riser Pipe |
| 538.15 | 0 | Ground Surface |
| 535.15 | 3.00 | Top of Annular Sealant |
| _____ | NA | Static Water Level Measured on (after completion) |
| 531.55 | 6.60 | Top of Seal |
| 529.35 | 8.80 | Top of Sandpack |
| 528.22 | 9.93 | Top of Screen |
| 518.72 | 19.43 | Bottom of Screen |
| 518.29 | 19.86 | Bottom of Well |
| 518.29 | 19.86 | Bottom of Borehole |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 12.44 |
| Bottom of Screen to End Cap (ft) | 0.43 |
| Screen Length [1st slot to last slot] (ft) | 9.50 |
| Total Length of Casing (ft) | 22.37 |
| Screen Slot Size¥ | #10 (0.01') |

¥Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: T6

Site Name: CWLP Borehole #: B6

Coordinates: X 1131175.15 Y 2456259.47 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: Lisa Mauntel

Date Well Started: 04/25/2024 Date Well Finished: 04/25/2024 Date Form Completed: 06/06/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

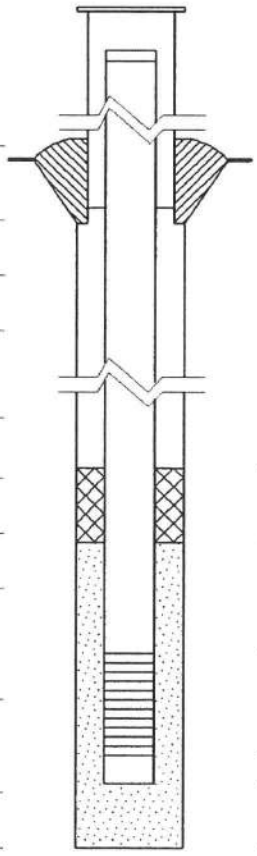
Type of sand pack: Quartz sand

Grain size: 20/40 (sieve size)

Installation method: Free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | _____ | _____ |
| Top of Riser Pipe | 538.32 | -2.36 |
| Ground Surface | 535.96 | 0 |
| Top of Annular Sealant | 532.96 | 3.00 |
| Static Water Level Measured on (after completion) | _____ | NA |
| Top of Seal | 507.96 | 28.00 |
| Top of Sandpack | 505.76 | 30.20 |
| Top of Screen | 503.92 | 32.04 |
| Bottom of Screen | 494.20 | 41.76 |
| Bottom of Well | 493.85 | 42.11 |
| Bottom of Borehole | 493.85 | 42.11 |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | 5.00 |
| Riser Pipe Length (ft) | 32.85 |
| Bottom of Screen to End Cap (ft) | 0.35 |
| Screen Length [1st slot to last slot] (ft) | 9.72 |
| Total Length of Casing (ft) | 42.92 |
| Screen Slot Size‡ | #10 (0.01") |

‡Hand-slotted well screens are unacceptable.

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Anodized Aluminum |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

# APPENDIX B4:
## CCR IMPOUNDMENT WELL CONSTRUCTION REPORTS

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: D1

Site Name: CWLP Borehole #: D1

Coordinates: X 1129774.64 Y 2455460.38 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 04/29/2024 Date Well Finished: 04/29/2024 Date Form Completed: 04/29/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

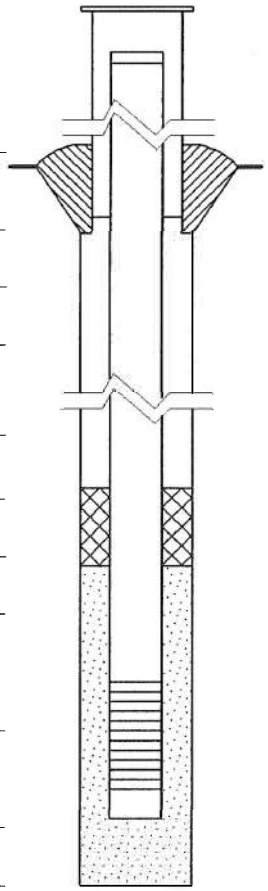
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| | | Top of Protective Casing |
| 566.20 | -2.18 | Top of Riser Pipe |
| 564.02 | 0 | Ground Surface |
| 561.02 | 3.00 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 533.72 | 30.3 | Top of Seal |
| 532.72 | 31.3 | Top of Sandpack |
| 530.75 | 33.27 | Top of Screen |
| 526.00 | 38.02 | Bottom of Screen |
| 525.52 | 38.5 | Bottom of Well |
| 523.52 | 40.5 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 35.44 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 40.67 |
| Screen Slot Size‡ | #10 (0.01') |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: D2

Site Name: CWLP Borehole #: D2

Coordinates: X 1130279.34 Y 2456218.06 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 04/29/2024 Date Well Finished: 04/29/2024 Date Form Completed: 04/29/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

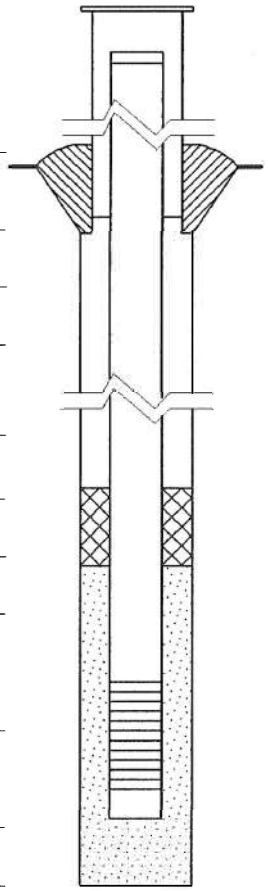
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 560.93 | -2.93 |
| Ground Surface | 558.00 | 0 |
| Top of Annular Sealant | 555.00 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 531.20 | 26.8 |
| Top of Sandpack | 528.73 | 27.77 |
| Top of Screen | 523.98 | 29.27 |
| Bottom of Screen | 523.98 | 34.02 |
| Bottom of Well | 523.50 | 34.5 |
| Bottom of Borehole | 520.50 | 37.5 |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 32.19 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 37.42 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: D3

Site Name: CWLP Borehole #: D3

Coordinates: X 1129517.94 Y 2455925.82 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 04/30/2024 Date Well Finished: 04/30/2024 Date Form Completed: 04/30/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

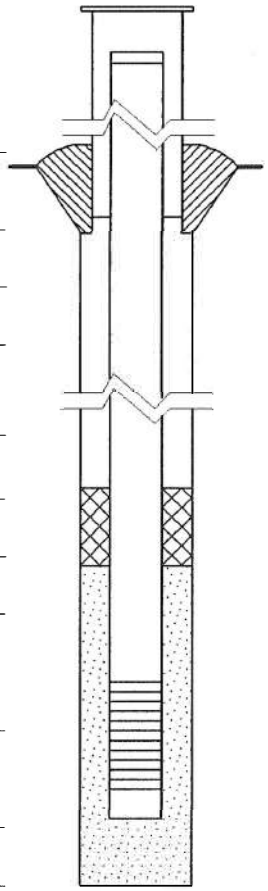
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 557.90 | -2.87 |
| Ground Surface | 555.03 | 0 |
| Top of Annular Sealant | 552.03 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 535.14 | 19.9 |
| Top of Sandpack | 533.18 | 21.85 |
| Top of Screen | 531.76 | 23.27 |
| Bottom of Screen | 527.01 | 28.02 |
| Bottom of Well | 526.53 | 28.5 |
| Bottom of Borehole | 523.53 | 31.5 |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 26.13 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 31.36 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: D4

Site Name: CWLP Borehole #: D4

Coordinates: X 1129061.39 Y 2455862.82 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 04/30/2024 Date Well Finished: 04/30/2024 Date Form Completed: 04/30/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

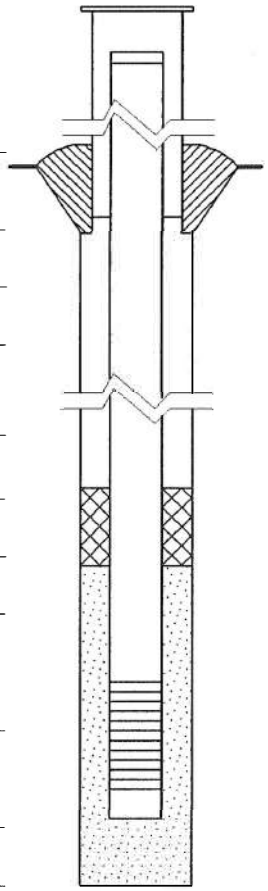
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| | ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 565.61 | -3.81 |
| Ground Surface | 561.80 | 0 |
| Top of Annular Sealant | 558.80 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 537.70 | 24.1 |
| Top of Sandpack | 536.55 | 25.25 |
| Top of Screen | 535.53 | 26.27 |
| Bottom of Screen | 530.78 | 31.02 |
| Bottom of Well | 530.30 | 31.5 |
| Bottom of Borehole | 525.00 | 36.8 |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 30.08 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 35.31 |
| Screen Slot Size‡ | #10 (0.01') |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: L1

Site Name: CWLP Borehole #: L1

Coordinates: X 1127471.56 Y 2456542.96 (or) Latitude: ___ ° ___ ' ___ " Longitude: ___ ° ___ ' ___ "

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 05/02/2024 Date Well Finished: 05/02/2024 Date Form Completed: 05/02/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

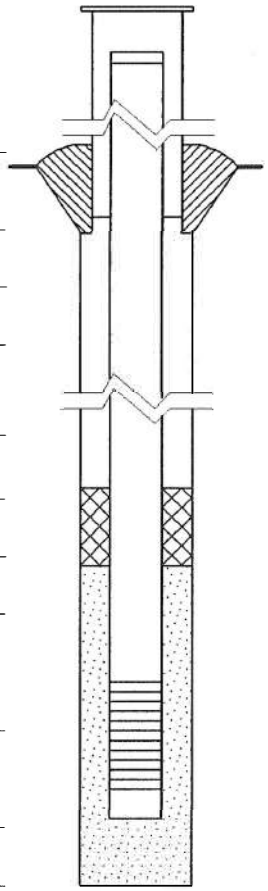
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: free drop



| | ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 572.31 | -3.35 |
| Ground Surface | 568.96 | 0 |
| Top of Annular Sealant | 565.96 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 543.86 | 25.1 |
| Top of Sandpack | 541.21 | 27.75 |
| Top of Screen | 539.69 | 29.27 |
| Bottom of Screen | 534.94 | 34.02 |
| Bottom of Well | 534.46 | 34.5 |
| Bottom of Borehole | 530.96 | 38 |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 32.62 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 37.85 |
| Screen Slot Size¥ | #10 (0.01') |

¥Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: D3

Site Name: CWLP Borehole #: D3

Coordinates: X 1129517.94 Y 2455925.82 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 04/30/2024 Date Well Finished: 04/30/2024 Date Form Completed: 04/30/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

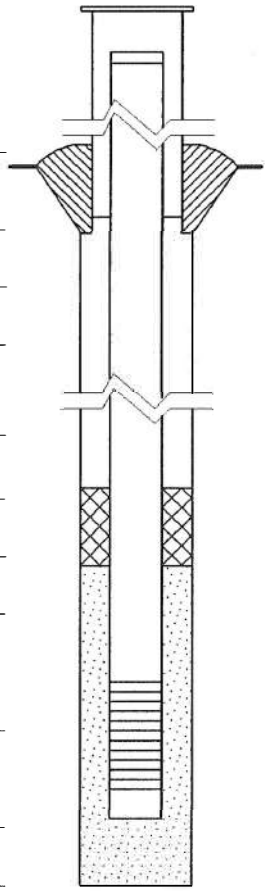
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| | ELEVATION (MSL)* | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 557.90 | -2.87 |
| Ground Surface | 555.03 | 0 |
| Top of Annular Sealant | 552.03 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 535.14 | 19.9 |
| Top of Sandpack | 533.18 | 21.85 |
| Top of Screen | 531.76 | 23.27 |
| Bottom of Screen | 527.01 | 28.02 |
| Bottom of Well | 526.53 | 28.5 |
| Bottom of Borehole | 523.53 | 31.5 |

* Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 26.13 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 31.36 |
| Screen Slot Size* | #10 (0.01') |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: D4

Site Name: CWLP Borehole #: D4

Coordinates: X 1129061.39 Y 2455862.82 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 04/30/2024 Date Well Finished: 04/30/2024 Date Form Completed: 04/30/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

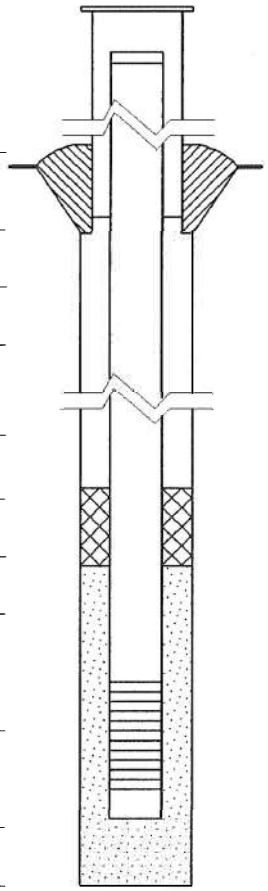
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| | ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) |
|---|---|---|
| Top of Protective Casing | | |
| Top of Riser Pipe | 565.61 | -3.81 |
| Ground Surface | 561.80 | 0 |
| Top of Annular Sealant | 558.80 | 3.00 |
| Static Water Level Measured on (after completion) | | NA |
| Top of Seal | 537.70 | 24.1 |
| Top of Sandpack | 536.55 | 25.25 |
| Top of Screen | 535.53 | 26.27 |
| Bottom of Screen | 530.78 | 31.02 |
| Bottom of Well | 530.30 | 31.5 |
| Bottom of Borehole | 525.00 | 36.8 |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 30.08 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 35.31 |
| Screen Slot Size‡ | #10 (0.01') |

‡Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Springfield Well #: L5

Site Name: CWLP Borehole #: L5

Coordinates: X 1128308.68 Y 2456118.11 (or) Latitude: ___° ___' ___" Longitude: ___° ___' ___"

Surveyed by: Andrews Engineering, Inc. IL Registration #: _____

Drilling Contractor: Skinner Limited Consulting Firm: Andrews Engineering, Inc.

Driller: T. Skinner Geologist: S. Van Hook

Drilling Method: 4 1/4" HSA 5' CSD 3" Logged by: S. Van Hook

Drilling Fluids (type): NA Report Form Completed by: S. Van Hook

Date Well Started: 05/03/2024 Date Well Finished: 05/03/2024 Date Form Completed: 05/03/2024

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: Free drop

Setting time: 24+ hours

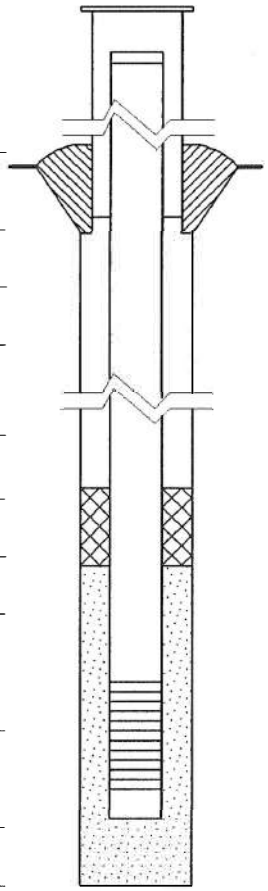
Type of sand pack: Quartz sand

Grain size: 10/20 (sieve size)

Installation method: Free drop

Type of backfill material: bentonite chips/pellets (if applicable)

Installation method: Free drop



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| | | Top of Protective Casing |
| 568.01 | -2.82 | Top of Riser Pipe |
| 565.19 | 0 | Ground Surface |
| 562.19 | 3.00 | Top of Annular Sealant |
| | NA | Static Water Level Measured on (after completion) |
| 541.49 | 23.7 | Top of Seal |
| 539.39 | 25.8 | Top of Sandpack |
| 535.09 | 30.1 | Top of Screen |
| 530.39 | 34.8 | Bottom of Screen |
| 529.89 | 35.3 | Bottom of Well |
| 525.69 | 39.5 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | NA |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | PVC |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.5 |
| ID of Riser Pipe (in) | 2.00 |
| Protective Casing Length (ft) | NA |
| Riser Pipe Length (ft) | 32.92 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length (1st slot to last slot) (ft) | 4.75 |
| Total Length of Casing (ft) | 38.12 |
| Screen Slot Size¥ | #10 (0.01') |

¥ Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: DO06

Site Name: CWLP Ash Pond Dewatering Borehole #: DO06

State Plane Coordinate: X 2,456,191.3 Y 1,129,174.1 (or) Latitude: _____ Longitude: _____

Surveyed By: Romanotto IL Registration #: _____

Drilling Contractor: Skinner Limited Driller: T. Skinner

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

Drilling Method: Bucket Auger Drilling Fluid (Type): none

Logged By: Rhonald W. Hasenyager Date Started: 6/19/2025 Date Finished: 6/20/2025

Report Form Completed By: Rhonald W. Hasenyager Date: 7/2/2025

## ANNULAR SPACE DETAILS

Type of Surface Seal: none

Type of Annular Sealant: none

Installation Method: _____

Setting Time: _____

Type of Bentonite Seal -- Granular Pellet Slurry (choose one)

Installation Method: _____

Setting Time: _____

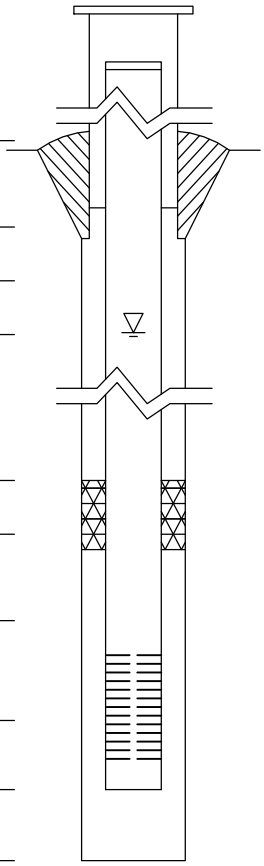
Type of Sand Pack: Sand/Gravel

Grain Size: FA4 & CA1 (sieve size)

Installation Method: Gravity

Type of Backfill Material: n/a (if applicable)

Installation Method: _____



| | Elevations (MSL)* | Depths (BGS) (0.01 ft.) |
|---|---|---|
| Top of Protective Casing | _____ | _____ |
| Top of Riser Pipe | 553.69 | -0.93 |
| Ground Surface | 552.77 | 0.00 |
| Top of Annular Sealant | 552.77 | 0.00 |
| Static Water Level (After Completion) 6/23/2025 | 548.00 | 4.77 |
| Top of Seal | n/a | n/a |
| Top of Sand Pack | 549.77 | 3.00 |
| Top of Screen | 532.48 | 20.29 |
| Bottom of Screen | 522.84 | 29.93 |
| Bottom of Well | 522.47 | 30.30 |
| Bottom of Borehole | 522.47 | 30.30 |

* Referenced to a National Geodetic Datum

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

| | | | | | |
|---|---|---|---|---|---|
| Protective Casing | SS304 | SS316 | PTFE | PVC | OTHER: None |
| Riser Pipe Above W.T. | SS304 | SS316 | PTFE | PVC | OTHER: |
| Riser Pipe Below W.T. | SS304 | SS316 | PTFE | PVC | OTHER: |
| Screen | SS304 | SS316 | PTFE | PVC | OTHER: |

## CASING MEASUREMENTS

| | | |
|---|---|---|
| Diameter of Borehole | (inches) | 8.0 |
| ID of Riser Pipe | (inches) | 2.0 |
| Protective Casing Length | (feet) | 0.0 |
| Riser Pipe Length | (feet) | 21.13 |
| Bottom of Screen to End Cap | (feet) | 0.45 |
| Screen Length (1st slot to last slot) | (feet) | 9.64 |
| Total Length of Casing | (feet) | 31.22 |
| Screen Slot Size ** | (inches) | 0.010 |



**Hand-Slotted Well Screens Are Unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: DO07

Site Name: CWLP Ash Pond Dewatering Borehole #: DO07

State Plane Coordinate: X 2,456,095.0 Y 1,129,197.2 (or) Latitude: _____ Longitude: _____

Surveyed By: Romanotto IL Registration #: _____

Drilling Contractor: Skinner Limited Driller: T. Skinner

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

Drilling Method: Hollow Stem Auger Drilling Fluid (Type): none

Logged By: Rhonald W. Hasenyager Date Started: 6/19/2025 Date Finished: 6/19/2025

Report Form Completed By: Rhonald W. Hasenyager Date: 7/2/2025

## ANNULAR SPACE DETAILS

Type of Surface Seal: Bentonite chips

Type of Annular Sealant: Bentonite chips

Installation Method: Gravity

Setting Time: _____

Type of Bentonite Seal -- (Granular) Pellet Slurry (choose one)

Installation Method: Gravity

Setting Time: _____

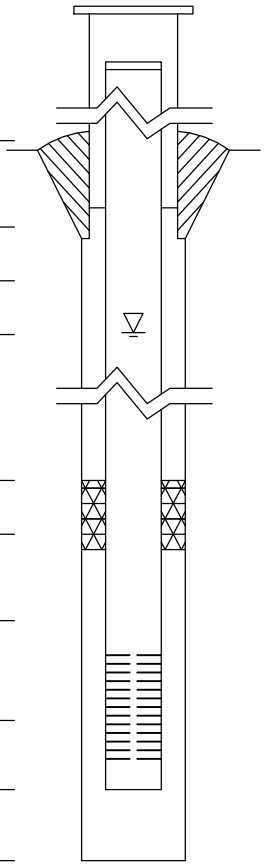
Type of Sand Pack: Silica

Grain Size: #12 (sieve size)

Installation Method: Gravity

Type of Backfill Material: n/a (if applicable)

Installation Method: _____



| Elevations (MSL)* | Depths (BGS) (0.01 ft.) | |
|---|---|---|
| _____ | _____ | Top of Protective Casing |
| 555.80 | -3.04 | Top of Riser Pipe |
| 552.75 | 0.00 | Ground Surface |
| 552.75 | 0.00 | Top of Annular Sealant |
| 548.07 | 4.68 | Static Water Level (After Completion) 6/23/2025 |
| n/a | n/a | Top of Seal |
| 540.05 | 12.70 | Top of Sand Pack |
| 538.37 | 14.38 | Top of Screen |
| 528.13 | 24.62 | Bottom of Screen |
| 527.75 | 25.00 | Bottom of Well |
| 525.75 | 27.00 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

| | | | | | |
|---|---|---|---|---|---|
| Protective Casing | SS304 | SS316 | PTFE | PVC | OTHER: (None) |
| Riser Pipe Above W.T. | SS304 | SS316 | PTFE | (PVC) | OTHER: |
| Riser Pipe Below W.T. | SS304 | SS316 | PTFE | (PVC) | OTHER: |
| Screen | SS304 | SS316 | PTFE | (PVC) | OTHER: |

## CASING MEASUREMENTS

| | | |
|---|---|---|
| Diameter of Borehole | (inches) | 8.0 |
| ID of Riser Pipe | (inches) | 2.0 |
| Protective Casing Length | (feet) | 0.0 |
| Riser Pipe Length | (feet) | 19.93 |
| Bottom of Screen to End Cap | (feet) | 0.53 |
| Screen Length (1st slot to last slot) | (feet) | 9.59 |
| Total Length of Casing | (feet) | 30.05 |
| Screen Slot Size ** | (inches) | 0.010 |



**Hand-Slotted Well Screens Are Unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: DO08

Site Name: CWLP Ash Pond Dewatering Borehole #: DO08

State Plane Coordinate: X 2,456,257.4 Y 1,129,401.4 (or) Latitude: _____ Longitude: _____

Surveyed By: Romanotto IL Registration #: _____

Drilling Contractor: Skinner Limited Driller: T. Skinner

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

Drilling Method: Hollow Stem Auger Drilling Fluid (Type): none

Logged By: Rhonald W. Hasenyager Date Started: 6/19/2025 Date Finished: 6/19/2025

Report Form Completed By: Rhonald W. Hasenyager Date: 7/2/2025

## ANNULAR SPACE DETAILS

Type of Surface Seal: Bentonite chips

Type of Annular Sealant: Bentonite chips

Installation Method: Gravity

Setting Time: _____

Type of Bentonite Seal -- (Granular) Pellet Slurry (choose one)

Installation Method: Gravity

Setting Time: _____

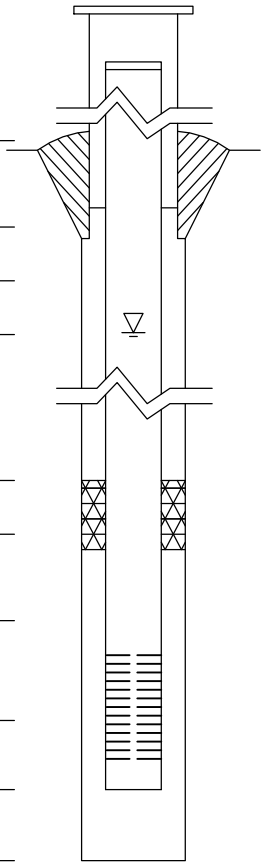
Type of Sand Pack: Silica

Grain Size: #12 (sieve size)

Installation Method: Gravity

Type of Backfill Material: n/a (if applicable)

Installation Method: _____



| Elevations (MSL)* | Depths (BGS) (0.01 ft.) | |
|---|---|---|
| _____ | _____ | Top of Protective Casing |
| 554.33 | -2.53 | Top of Riser Pipe |
| 551.80 | 0.00 | Ground Surface |
| 551.80 | 0.00 | Top of Annular Sealant |
| 545.72 | 6.08 | Static Water Level (After Completion) 6/23/2025 |
| n/a | n/a | Top of Seal |
| 535.90 | 15.90 | Top of Sand Pack |
| 534.13 | 17.67 | Top of Screen |
| 524.13 | 27.67 | Bottom of Screen |
| 523.53 | 28.27 | Bottom of Well |
| 523.53 | 28.27 | Bottom of Borehole |

* Referenced to a National Geodetic Datum

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

| | | | | | |
|---|---|---|---|---|---|
| Protective Casing | SS304 | SS316 | PTFE | PVC | OTHER: (None) |
| Riser Pipe Above W.T. | SS304 | SS316 | PTFE | (PVC) | OTHER: |
| Riser Pipe Below W.T. | SS304 | SS316 | PTFE | (PVC) | OTHER: |
| Screen | SS304 | SS316 | PTFE | (PVC) | OTHER: |

## CASING MEASUREMENTS

| | | |
|---|---|---|
| Diameter of Borehole | (inches) | 8.0 |
| ID of Riser Pipe | (inches) | 2.0 |
| Protective Casing Length | (feet) | 0.0 |
| Riser Pipe Length | (feet) | 21.23 |
| Bottom of Screen to End Cap | (feet) | 0.55 |
| Screen Length (1st slot to last slot) | (feet) | 9.75 |
| Total Length of Casing | (feet) | 31.53 |
| Screen Slot Size ** | (inches) | 0.010 |



**Hand-Slotted Well Screens Are Unacceptable

# Illinois Environmental Protection Agency — Well Completion Report

Site #: _____ County: Sangamon Well #: DW01

Site Name: CWLP Ash Pond Dewatering Borehole #: DW01

State Plane Coordinate: X 2,456,191.3 Y 1,129,174.1 (or) Latitude: _____ Longitude: _____

Surveyed By: Romanotto IL Registration #: _____

Drilling Contractor: Skinner Limited Driller: T. Skinner

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

Drilling Method: Bucket Auger Drilling Fluid (Type): none

Logged By: Rhonald W. Hasenyager Date Started: 6/19/2025 Date Finished: 6/20/2025

Report Form Completed By: Rhonald W. Hasenyager Date: 7/2/2025

## ANNULAR SPACE DETAILS

Type of Surface Seal: none

Type of Annular Sealant: none

Installation Method: _____

Setting Time: _____

Type of Bentonite Seal -- Granular Pellet Slurry (choose one)

Installation Method: _____

Setting Time: _____

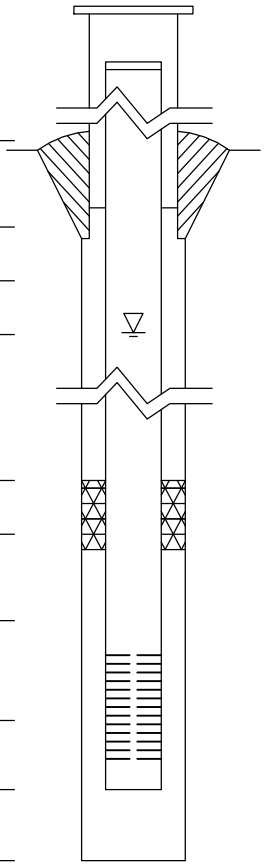
Type of Sand Pack: Sand/Gravel

Grain Size: FA4 & CA1 (sieve size)

Installation Method: Gravity

Type of Backfill Material: n/a (if applicable)

Installation Method: _____



| | Elevations (MSL)* | Depths (BGS) (0.01 ft.) |
|---|---|---|
| Top of Protective Casing | _____ | _____ |
| Top of Riser Pipe | 554.16 | -1.16 |
| Ground Surface | 553.01 | 0.00 |
| Top of Annular Sealant | _____ | _____ |
| Static Water Level (After Completion) 6/23/2025 | 547.58 | 5.43 |
| Top of Seal | n/a | n/a |
| Top of Sand Pack | 550.01 | 3.00 |
| Top of Screen | 547.01 | 6.00 |
| Bottom of Screen | 523.31 | 29.70 |
| Bottom of Well | 522.71 | 30.30 |
| Bottom of Borehole | 522.71 | 30.30 |

* Referenced to a National Geodetic Datum

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

| | | | | | |
|---|---|---|---|---|---|
| Protective Casing | SS304 | SS316 | PTFE | PVC | OTHER: None |
| Riser Pipe Above W.T. | SS304 | SS316 | PTFE | PVC | OTHER: |
| Riser Pipe Below W.T. | SS304 | SS316 | PTFE | PVC | OTHER: |
| Screen | SS304 | SS316 | PTFE | PVC | OTHER: |

## CASING MEASUREMENTS

| | | |
|---|---|---|
| Diameter of Borehole | (inches) | 36.0 |
| ID of Riser Pipe | (inches) | 16.5 |
| Protective Casing Length | (feet) | 0.0 |
| Riser Pipe Length | (feet) | 6.45 |
| Bottom of Screen to End Cap | (feet) | 0.00 |
| Screen Length (1st slot to last slot) | (feet) | 25.00 |
| Total Length of Casing | (feet) | 31.45 |
| Screen Slot Size ** | (inches) | |



**Hand-Slotted Well Screens Are Unacceptable

# APPENDIX B5:

## FLOW PATH INVESTIGATION WELL CONSTRUCTION REPORTS

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: AP6S

Site Name: FGDS Development Borehole #: AP 6SA

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 35 ' 57 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/13/2025 Date Well Finished: 5/13/2025 Date Form Completed: 6/10/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

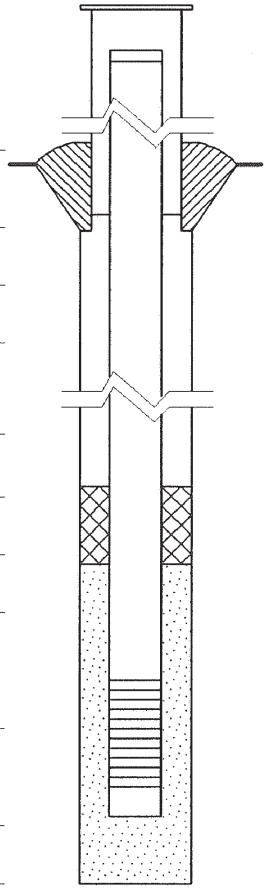
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 536.80 | -2.64 | Top of Protective Casing |
| 536.47 | -2.31 | Top of Riser Pipe |
| 534.16 | 0.0 | Ground Surface |
| _____ | _____ | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 532.16 | 2.0 | Top of Seal |
| 527.36 | 6.8 | Top of Sandpack |
| 525.26 | 8.9 | Top of Screen |
| 520.56 | 13.6 | Bottom of Screen |
| 520.16 | 14.0 | Bottom of Well |
| 520.16 | 14.0 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 11.21 |
| Bottom of Screen to End Cap (ft) | 0.4 |
| Screen Length [1st slot to last slot] (ft) | 4.7 |
| Total Length of Casing (ft) | 16.31 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: AP-8S

Site Name: FGDS Development Borehole #: AP-8SA

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 10 " Longitude: 89 ° 36 ' 2 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/14/2025 Date Well Finished: 5/14/2025 Date Form Completed: 6/9/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

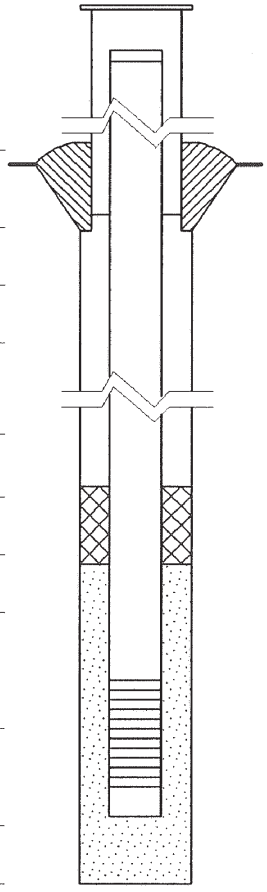
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: Sandpack (if applicable)

Installation method: free Drop



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 538.59 | -2.62 | Top of Protective Casing |
| 538.53 | -2.56 | Top of Riser Pipe |
| 535.97 | 0.0 | Ground Surface |
| _____ | _____ | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 533.97 | 2.0 | Top of Seal |
| 528.87 | 7.1 | Top of Sandpack |
| 526.96 | 9.01 | Top of Screen |
| 522.26 | 13.71 | Bottom of Screen |
| 521.86 | 14.11 | Bottom of Well |
| 520.97 | 15.0 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 11.57 |
| Bottom of Screen to End Cap (ft) | 0.4 |
| Screen Length [1st slot to last slot] (ft) | 4.7 |
| Total Length of Casing (ft) | 16.67 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: AP-15D

Site Name: FGDS Development Borehole #: AP-15D

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 45 ' 46 " Longitude: -89 ° 35 ' 59 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA, 2' split spoon, and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/12/2025 Date Well Finished: 5/12/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Tremie

Setting time: 24+ Hours

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 30+ minutes

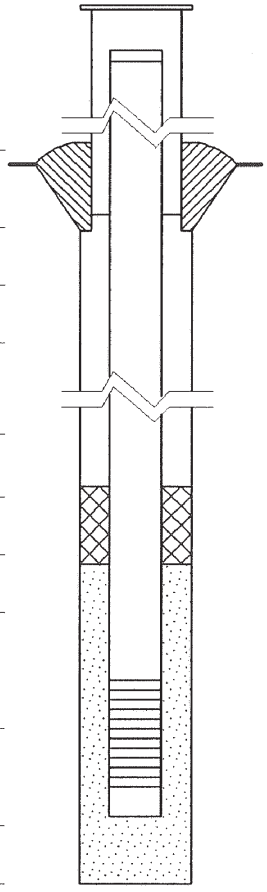
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 538.79 | -2.49 | Top of Protective Casing |
| 538.61 | -2.31 | Top of Riser Pipe |
| 536.30 | 0.0 | Ground Surface |
| 534.3 | 2.0 | Top of Annular Sealant |
| | | Static Water Level Measured on (after completion) |
| 512.7 | 23.6 | Top of Seal |
| 510.7 | 25.6 | Top of Sandpack |
| 508.63 | 27.67 | Top of Screen |
| 506.23 | 30.07 | Bottom of Screen |
| 505.8 | 30.5 | Bottom of Well |
| 504.3 | 30.5 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 29.98 |
| Bottom of Screen to End Cap (ft) | 0.43 |
| Screen Length [1st slot to last slot] (ft) | 2.4 |
| Total Length of Casing (ft) | 32.81 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: AP15S

Site Name: FGDS Development Borehole #: AP15S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 45 ' 46 " Longitude: -89 ° 35 ' 59 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/12/2025 Date Well Finished: 5/13/2025 Date Form Completed: 6/5/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite chips

Installation method: tremie

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

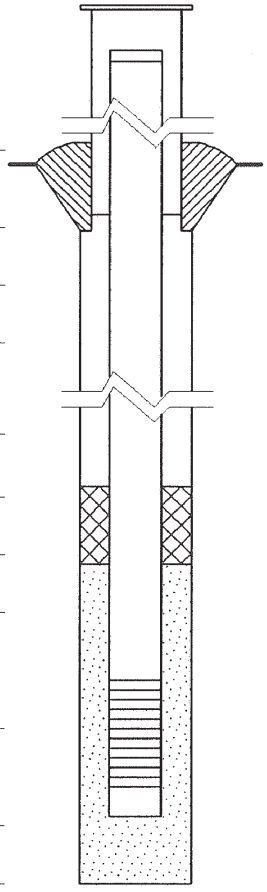
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: Quartz sand (if applicable)

Installation method: free drop



| | ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | 538.79 | -2.37 | |
| Top of Riser Pipe | 538.53 | -2.11 | |
| Ground Surface | 536.42 | 0.0 | |
| Top of Annular Sealant | 534.42 | 2.0 | |
| Static Water Level Measured on (after completion) | | | |
| Top of Seal | 523.62 | 12.8 | |
| Top of Sandpack | 521.62 | 14.8 | |
| Top of Screen | 519.61 | 16.81 | |
| Bottom of Screen | 514.88 | 21.54 | |
| Bottom of Well | 514.44 | 22.0 | |
| Bottom of Borehole | 511.92 | 24.5 | |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 18.92 |
| Bottom of Screen to End Cap (ft) | 0.46 |
| Screen Length [1st slot to last slot] (ft) | 4.73 |
| Total Length of Casing (ft) | 24.11 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: AP-16

Site Name: FGDS Development Borehole #: AP-16

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 18 " Longitude: -89 ° 36 ' 0 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/20/2025 Date Well Finished: 5/20/2025 Date Form Completed: 6/6/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Hole plug

Installation method: Free drop

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 30+ minutes

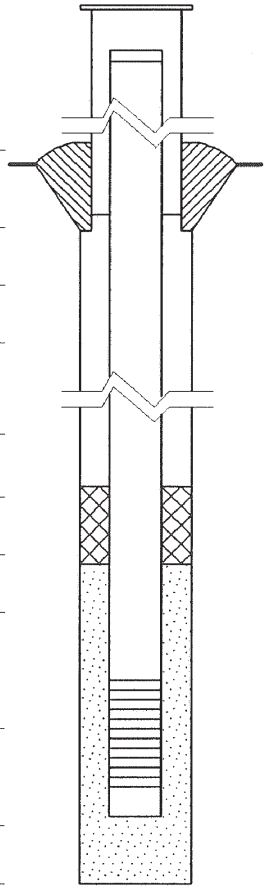
Type of sand pack: quartz sand

Grain size: 20/40 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 539.45 | -2.51 | Top of Protective Casing |
| 539.28 | -2.34 | Top of Riser Pipe |
| 536.94 | 0.0 | Ground Surface |
| 534.94 | 2.0 | Top of Annular Sealant |
| | | Static Water Level Measured on (after completion) |
| 525.64 | 11.3 | Top of Seal |
| 523.14 | 13.8 | Top of Sandpack |
| 519.1 | 17.84 | Top of Screen |
| 514.42 | 22.52 | Bottom of Screen |
| 513.94 | 23.0 | Bottom of Well |
| 513.94 | 23.0 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 20.18 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length [1st slot to last slot] (ft) | 4.68 |
| Total Length of Casing (ft) | 25.34 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: P03D

Site Name: FGDS Development Borehole #: P03D

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 14 " Longitude: -89 ° 35 ' 45 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/14/2025 Date Well Finished: 5/14/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite Grout

Installation method: Tremie

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+

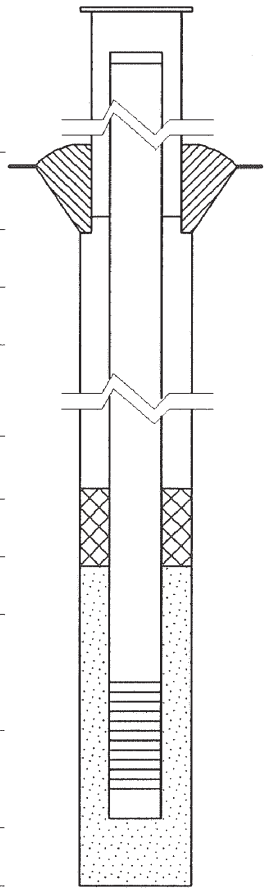
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* (0.01 ft) | |
|---|---|---|
| 533.20 | -3.18 | Top of Protective Casing |
| 533.04 | -3.02 | Top of Riser Pipe |
| 530.02 | 0.0 | Ground Surface |
| 528.02 | 2.0 | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 504.22 | 25.8 | Top of Seal |
| 502.22 | 27.8 | Top of Sandpack |
| 500.19 | 29.83 | Top of Screen |
| 495.49 | 34.53 | Bottom of Screen |
| 495.02 | 35.0 | Bottom of Well |
| 495.02 | 35.0 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 32.85 |
| Bottom of Screen to End Cap (ft) | 0.47 |
| Screen Length [1st slot to last slot] (ft) | 4.7 |
| Total Length of Casing (ft) | 38.02 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: P03S

Site Name: FGDS Development Borehole #: P03S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 14 " Longitude: -89 ° 35 ' 45 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/14/2025 Date Well Finished: 5/14/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

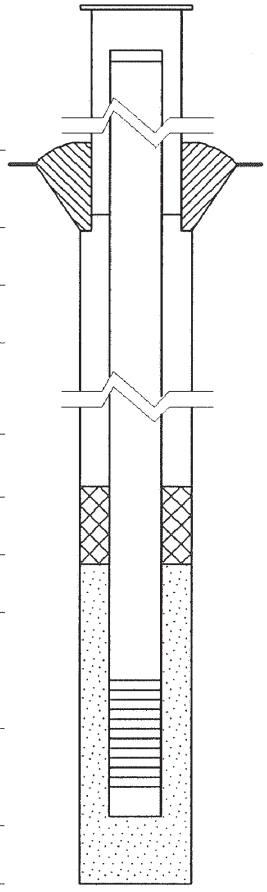
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| | ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | 533.10 | -3.11 | |
| Top of Riser Pipe | 532.75 | -2.76 | |
| Ground Surface | 529.99 | 0.0 | |
| Top of Annular Sealant | | | |
| Static Water Level Measured on (after completion) | | | |
| Top of Seal | 527.99 | 2.0 | |
| Top of Sandpack | 523.09 | 6.9 | |
| Top of Screen | 521.01 | 8.98 | |
| Bottom of Screen | 516.34 | 13.65 | |
| Bottom of Well | 515.99 | 14.0 | |
| Bottom of Borehole | 515.99 | 14.0 | |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 11.74 |
| Bottom of Screen to End Cap (ft) | 0.35 |
| Screen Length [1st slot to last slot] (ft) | 4.67 |
| Total Length of Casing (ft) | 16.76 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: P104S

Site Name: FGDS Development Borehole #: P104S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 35 ' 49 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/15/2025 Date Well Finished: 5/15/2025 Date Form Completed: 6/6/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Tremie

Setting time: 24+ Hours

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 30+ minutes

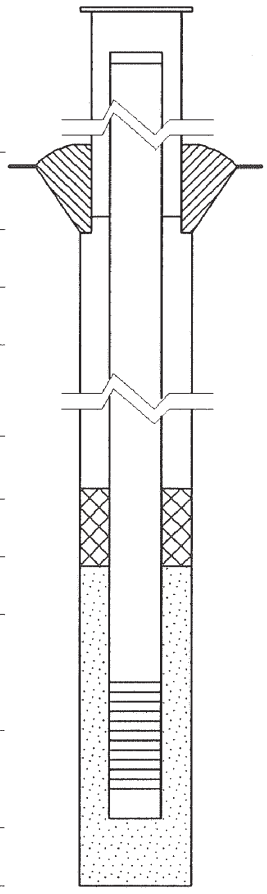
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 532.66 | -2.93 | Top of Protective Casing |
| 532.27 | -2.53 | Top of Riser Pipe |
| 529.74 | 0.0 | Ground Surface |
| 527.74 | 2.0 | Top of Annular Sealant |
| | | Static Water Level Measured on (after completion) |
| 515.04 | 14.7 | Top of Seal |
| 512.84 | 16.9 | Top of Sandpack |
| 510.42 | 19.32 | Top of Screen |
| 505.72 | 24.02 | Bottom of Screen |
| 505.24 | 24.5 | Bottom of Well |
| 504.74 | 25 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 21.85 |
| Bottom of Screen to End Cap (ft) | 0.48 |
| Screen Length [1st slot to last slot] (ft) | 4.7 |
| Total Length of Casing (ft) | 27.03 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: R103S

Site Name: FGDS Development Borehole #: R103S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 35 ' 42 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/19/2025 Date Well Finished: 5/19/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: Bentonite grout

Installation method: Tremie

Setting time: 24+ hours

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 30+ minutes

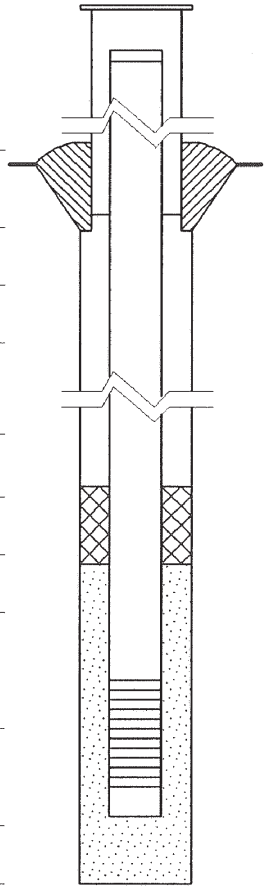
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: bentonite pellets (if applicable)

Installation method: free drop



| | ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|---|
| Top of Protective Casing | 537.78 | -2.68 | |
| Top of Riser Pipe | 537.64 | -2.54 | |
| Ground Surface | 535.10 | 0.0 | |
| Top of Annular Sealant | 533.10 | 2.0 | |
| Static Water Level Measured on (after completion) | | | |
| Top of Seal | 519.60 | 15.5 | |
| Top of Sandpack | 517.00 | 18.1 | |
| Top of Screen | 514.73 | 20.37 | |
| Bottom of Screen | 510.06 | 25.04 | |
| Bottom of Well | 509.60 | 25.5 | |
| Bottom of Borehole | 505.10 | 30.0 | |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 22.91 |
| Bottom of Screen to End Cap (ft) | 0.46 |
| Screen Length [1st slot to last slot] (ft) | 4.67 |
| Total Length of Casing (ft) | 28.04 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: RW-3S

Site Name: FGDS Development Borehole #: RW-3S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 35 ' 56 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/15/2025 Date Well Finished: 5/15/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 30+ minutes

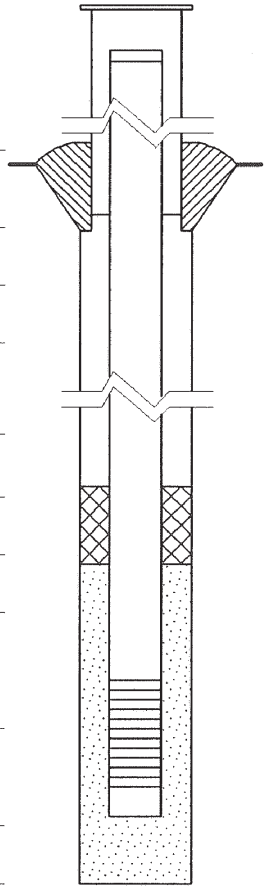
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 538.65 | -2.78 | Top of Protective Casing |
| 538.39 | -2.52 | Top of Riser Pipe |
| 535.87 | 0.0 | Ground Surface |
| _____ | _____ | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 533.87 | 2.0 | Top of Seal |
| 527.97 | 7.9 | Top of Sandpack |
| 525.94 | 9.93 | Top of Screen |
| 521.24 | 14.63 | Bottom of Screen |
| 520.87 | 15.0 | Bottom of Well |
| 520.87 | 15.0 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 12.45 |
| Bottom of Screen to End Cap (ft) | 0.37 |
| Screen Length [1st slot to last slot] (ft) | 4.7 |
| Total Length of Casing (ft) | 17.52 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# Illinois Environmental Protection Agency — Well Completion Report

Site #: 16782500020 County: Sangamon Well #: T4S

Site Name: FGDS Development Borehole #: T4S

Coordinates: X _____ Y _____ (or) Latitude: 39 ° 46 ' 13 " Longitude: -89 ° 36 ' 3 "

Surveyed by: Andrews Engineering IL Registration #: _____

Drilling Contractor: Skinner LTD Consulting Firm: Andrews Engineering

Driller: Todd Skinner Geologist: Nathan Beck

Drilling Method: 4.25 HSA and 5' CB, 2 ' split spoon Logged by: Nathan Beck

Drilling Fluids (type): n/a Report Form Completed by: Nathan Beck

Date Well Started: 5/20/2025 Date Well Finished: 5/20/2025 Date Form Completed: 6/3/2025

## ANNULAR SPACE DETAILS

Type of surface seal: Concrete

Type of annular sealant: n/a

Installation method: _____

Setting time: _____

Type of bentonite seal: Bentonite pellets

Installation method: free drop

Setting time: 24+ hours

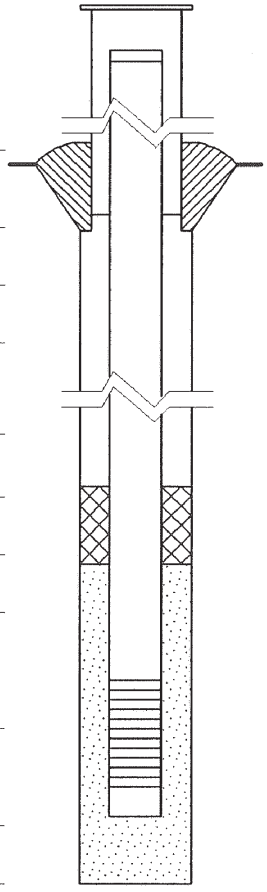
Type of sand pack: quartz sand

Grain size: 10/20 (sieve size)

Installation method: free drop

Type of backfill material: n/a (if applicable)

Installation method: n/a



| ELEVATION (MSL)® | DEPTH (BGS)* | (0.01 ft) |
|---|---|---|
| 549.25 | -2.5 | Top of Protective Casing |
| 549.04 | -2.29 | Top of Riser Pipe |
| 546.75 | 0.0 | Ground Surface |
| _____ | _____ | Top of Annular Sealant |
| _____ | _____ | Static Water Level Measured on (after completion) |
| 544.75 | 2.0 | Top of Seal |
| 538.85 | 7.9 | Top of Sandpack |
| 536.83 | 9.93 | Top of Screen |
| 532.15 | 14.6 | Bottom of Screen |
| 531.75 | 15.0 | Bottom of Well |
| 531.75 | 15.0 | Bottom of Borehole |

® Referenced to a National Geodetic Vertical Datum
* positive (+) values below GS, negitive (-) values above GS

## WELL CONSTRUCTION MATERIALS

| | |
|---|---|
| Protective Casing | Steel |
| Riser Pipe Above W.T. | PVC |
| Riser Pipe Below W.T. | PVC |
| Screen | Pre-packed screen |

## CASING MEASUREMENTS

| | |
|---|---|
| Diameter of Borehole (in) | 8.25 |
| ID of Riser Pipe (in) | 2.0 |
| Protective Casing Length (ft) | 5.0 |
| Riser Pipe Length (ft) | 12.21 |
| Bottom of Screen to End Cap (ft) | 0.4 |
| Screen Length [1st slot to last slot] (ft) | 4.68 |
| Total Length of Casing (ft) | 17.29 |
| Screen Slot Size* | #10 (0.01) |

*Hand-slotted well screens are unacceptable.

# APPENDIX C:
## GEOLOGIC CROSS SECTIONS

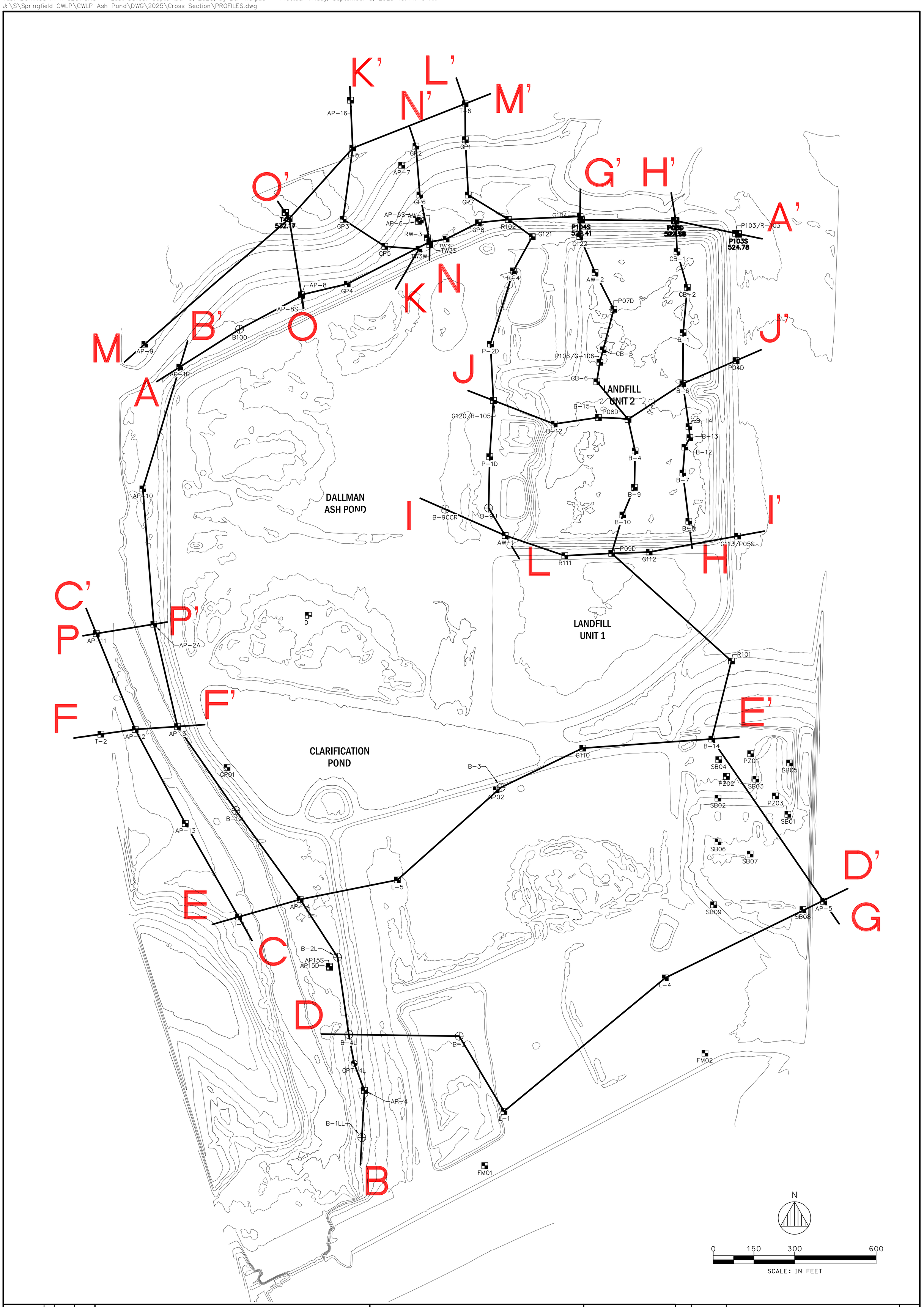



FIG. 1

GEOLOGIC CROSS-SECTION LOCATIONS MAP

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: AUGUST 2024

PROJECT ID: 240227/0010

SHEET NUMBER:

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PH (217) 787-2334  WWW.ANDREWS-ENG.COM
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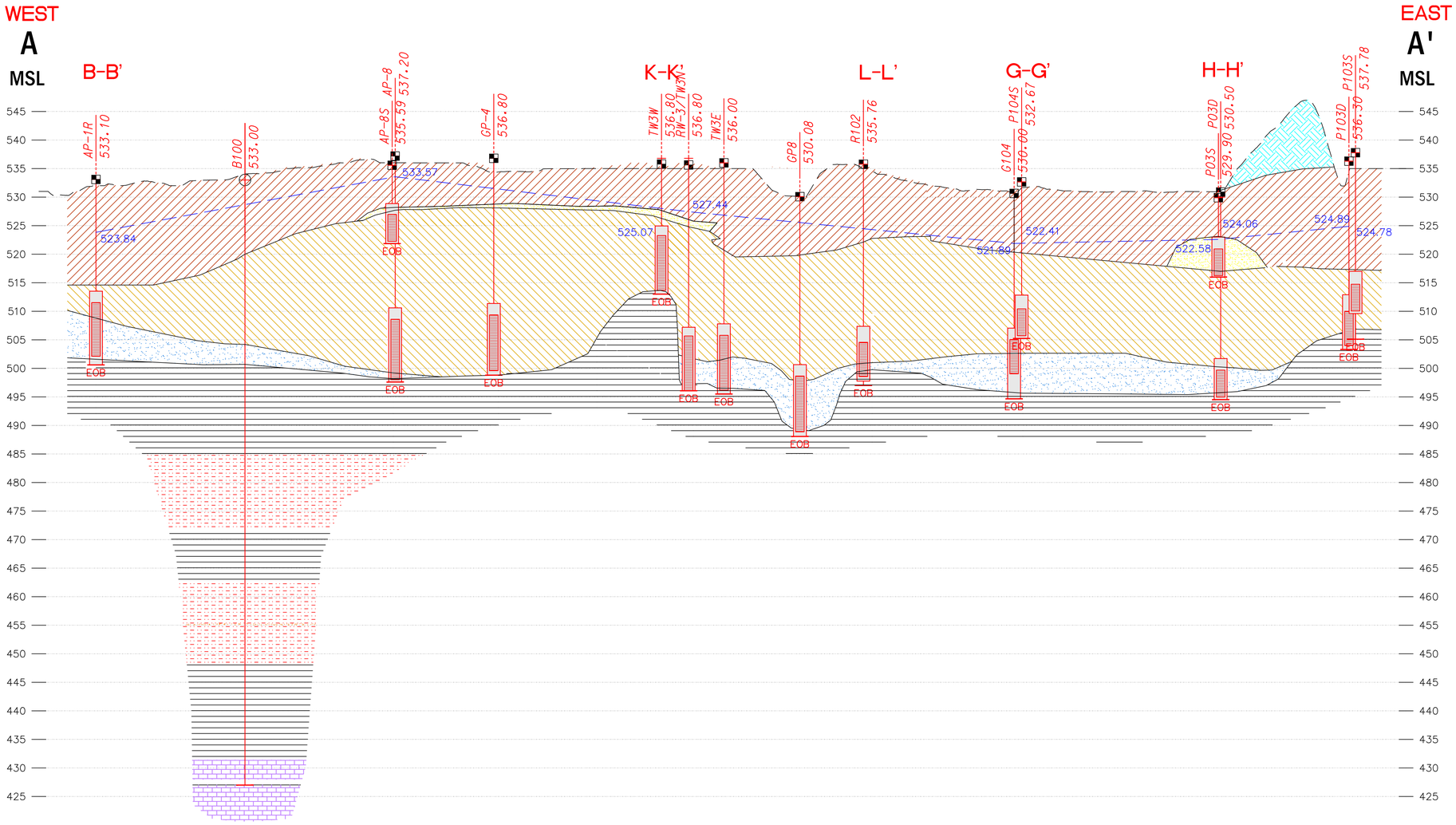
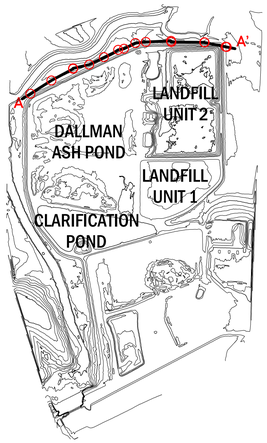


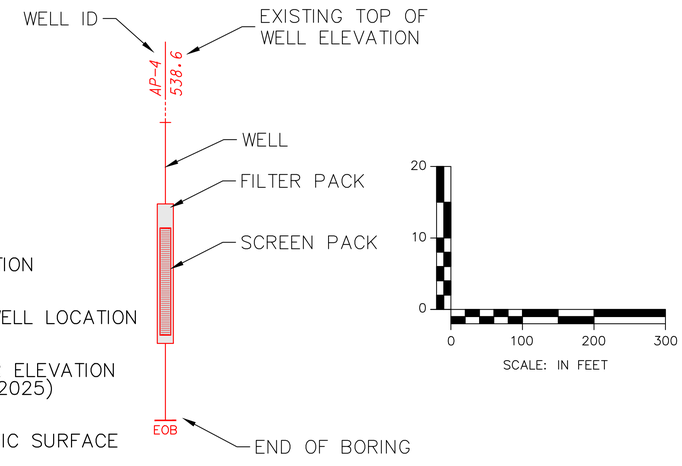




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- CLAYSTONE
- SANDSTONE
- LIMESTONE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION A-A'

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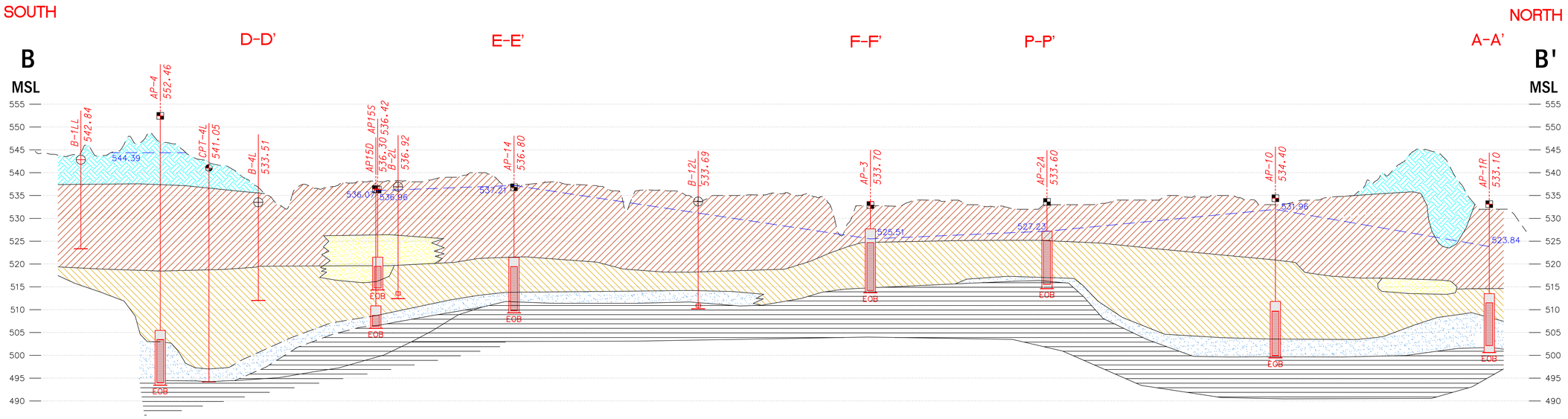


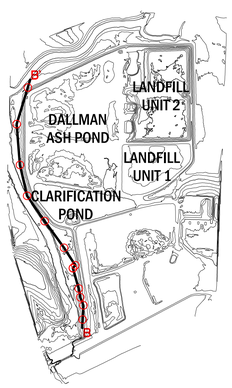


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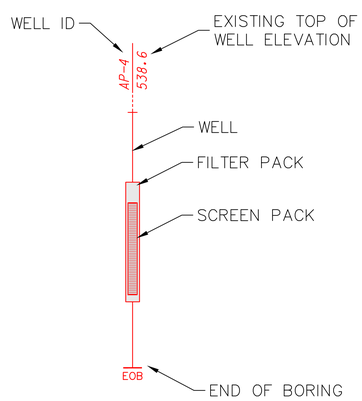
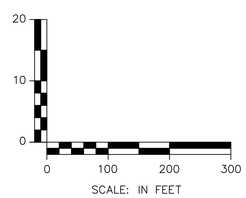
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- SHALLOW SAND
- BORING LOCATION
- MONITORING WELL LOCATION
- CPT BORING LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION B-B'

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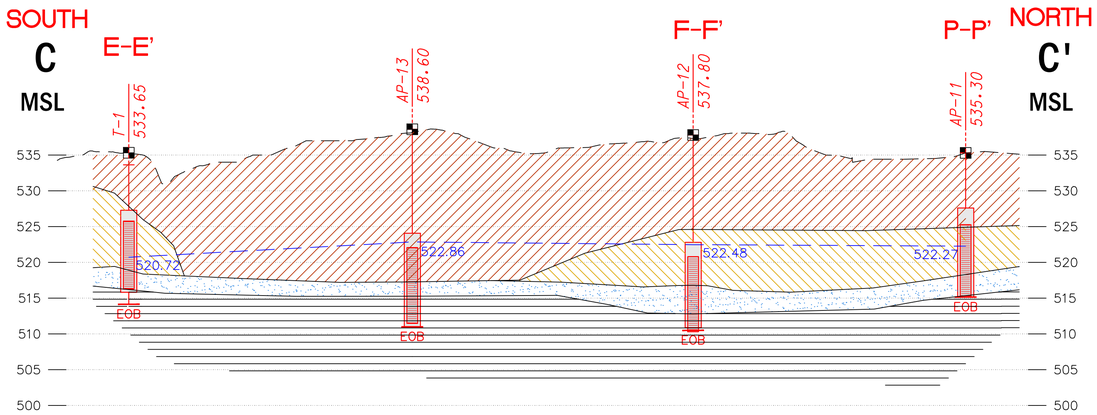


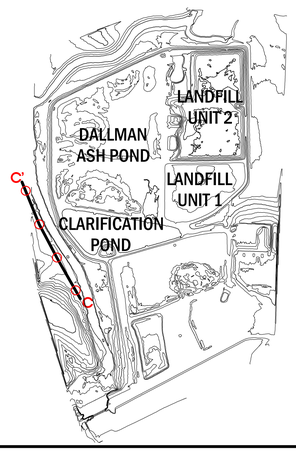


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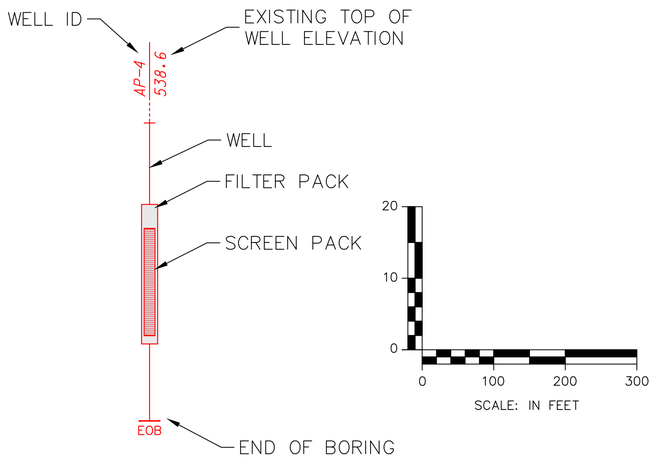
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION C-C'

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PROJECT ID: 240338/0014
SHEET NUMBER:
C-C'

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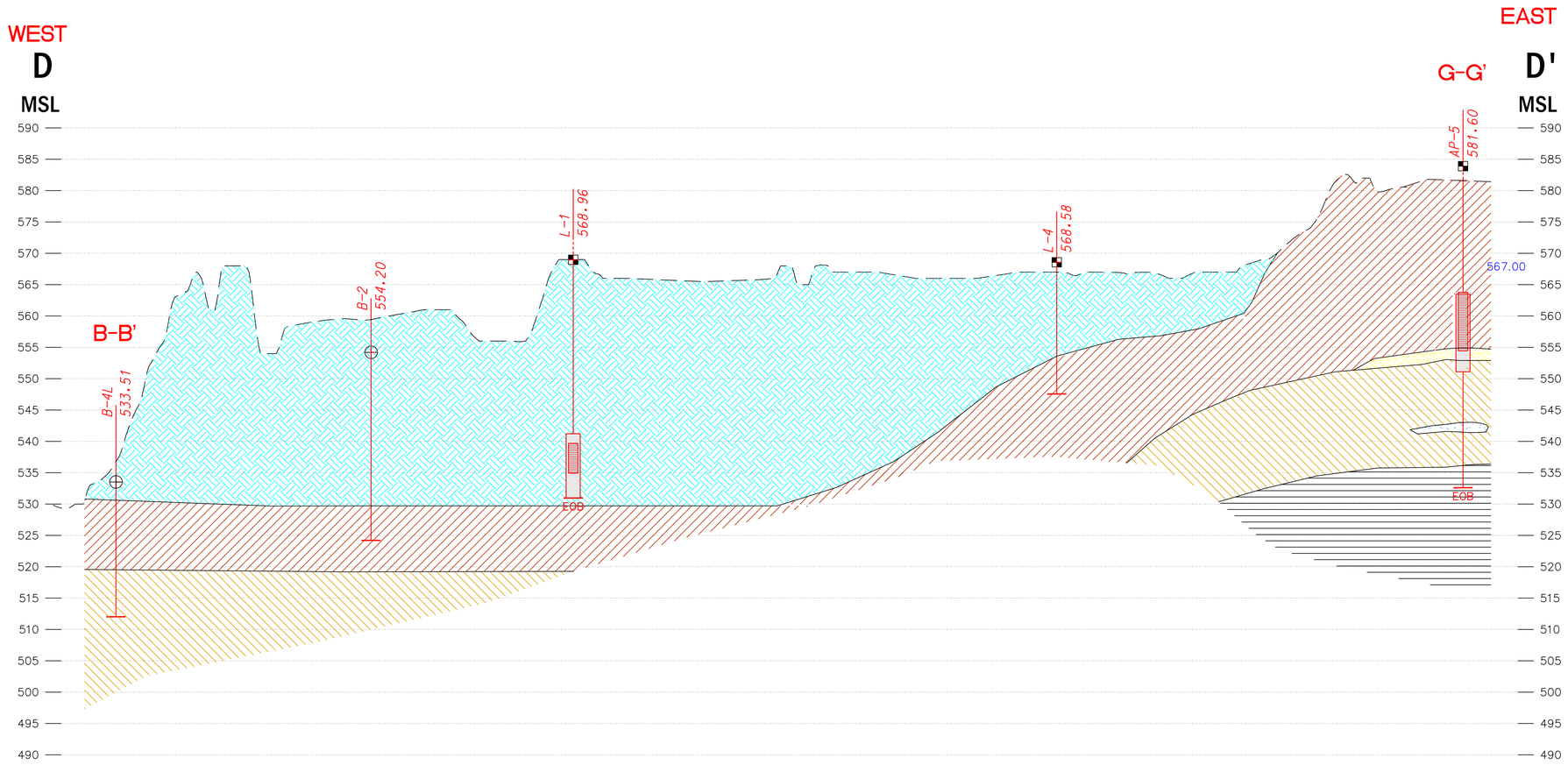


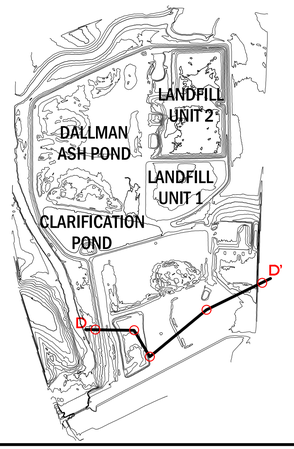


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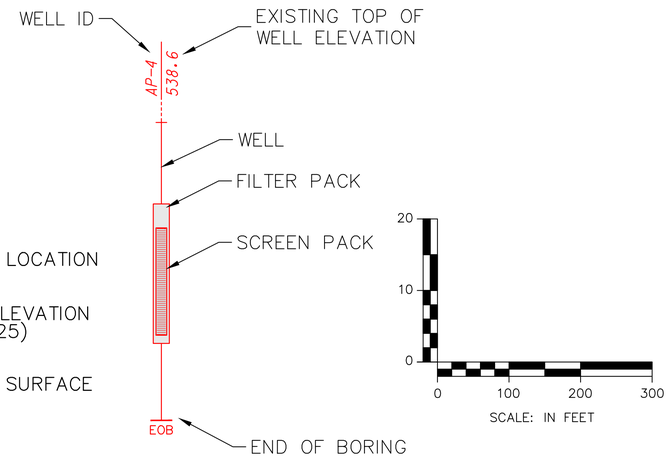
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION D-D'

PREPARED FOR
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DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

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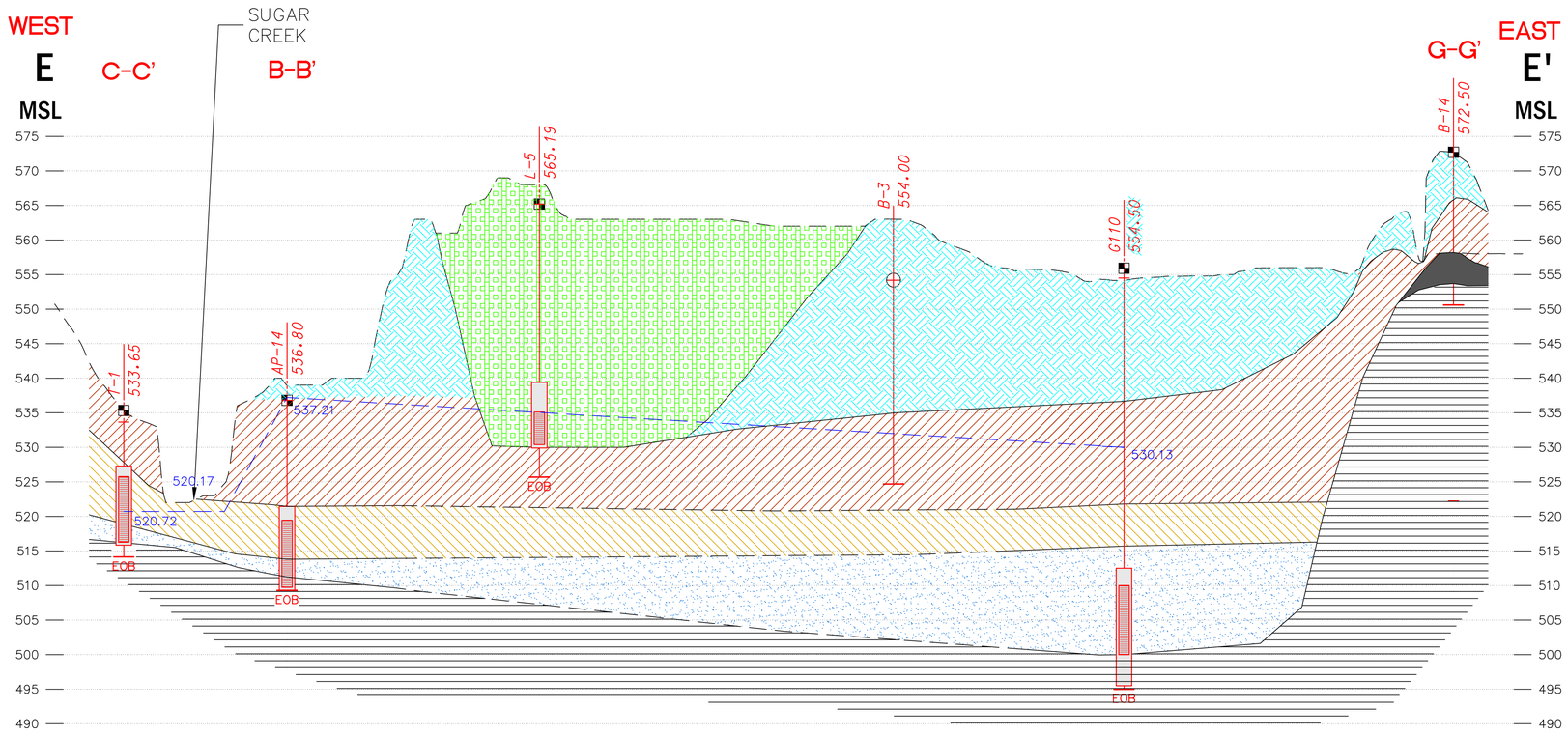


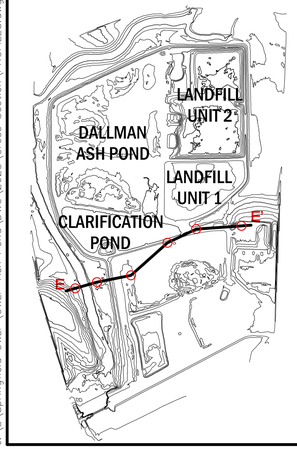


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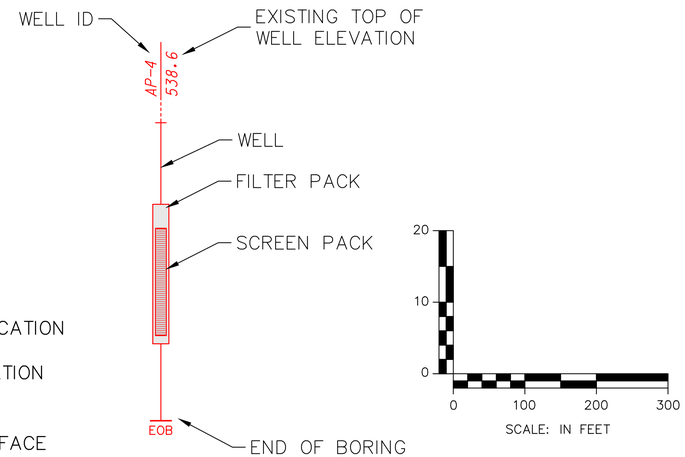
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- CCR ASH
- COAL
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION E-E'

PREPARED FOR
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DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

E-E'

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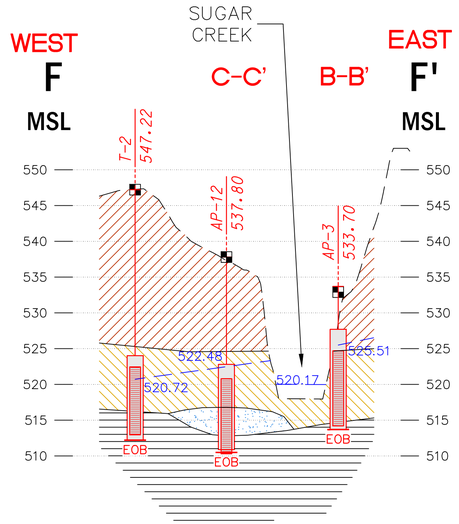


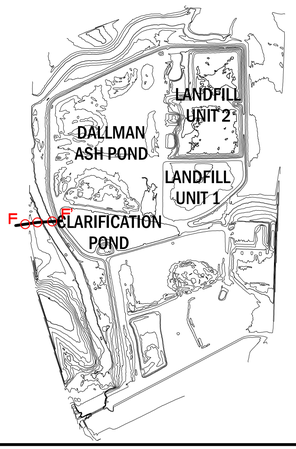


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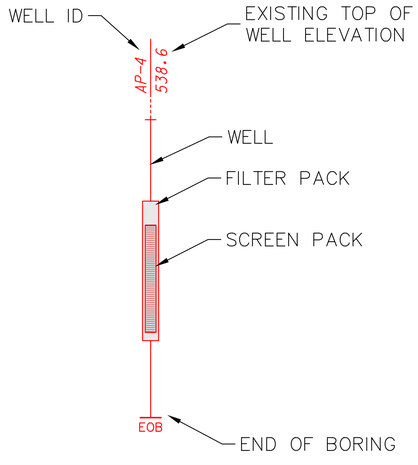
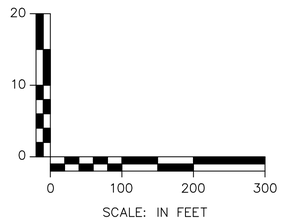
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION F-F'

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DATE: SEPTEMBER 2025
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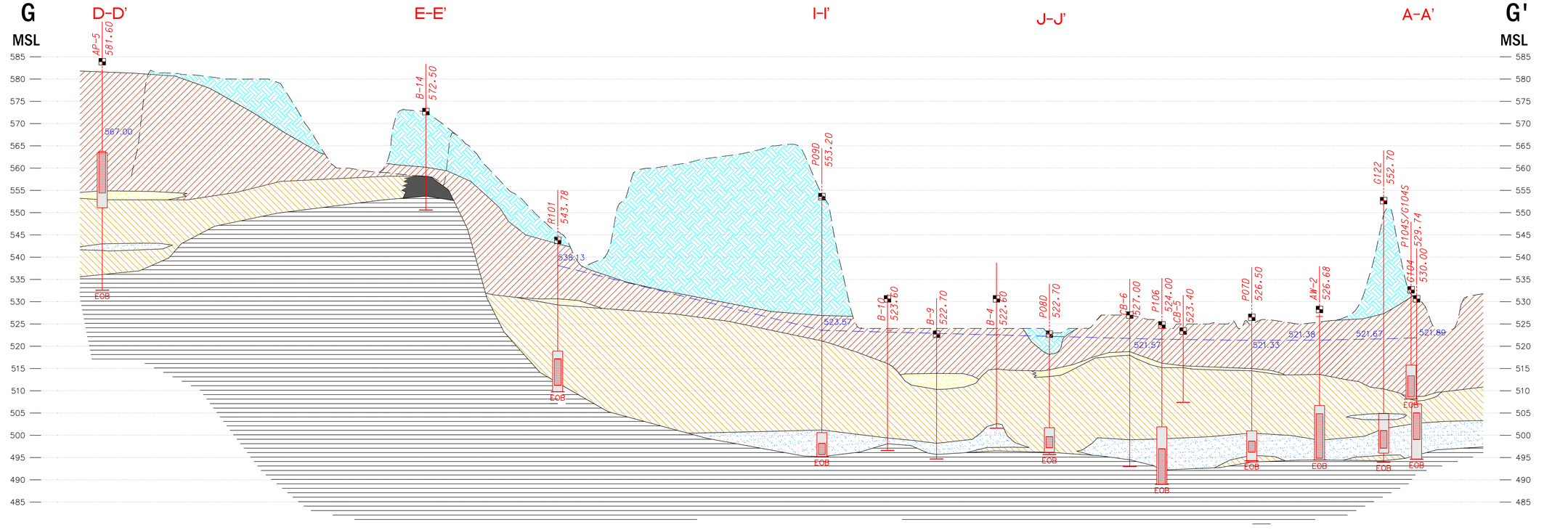


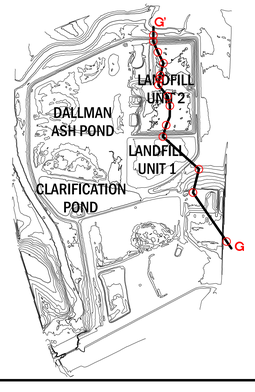


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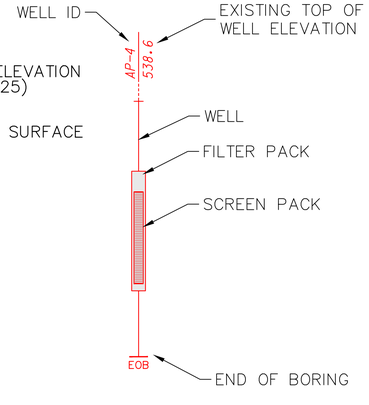
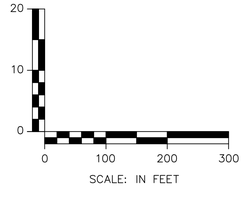
## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- COAL
- MONITORING WELL LOCATION

525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)

BASAL SAND POTENTIOMETRIC SURFACE

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APPROVED BY: MTH DESIGNED BY: MTH DRAWN BY: BCK

GEOLOGIC CROSS-SECTION G-G'

PLANS PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER: G-G'

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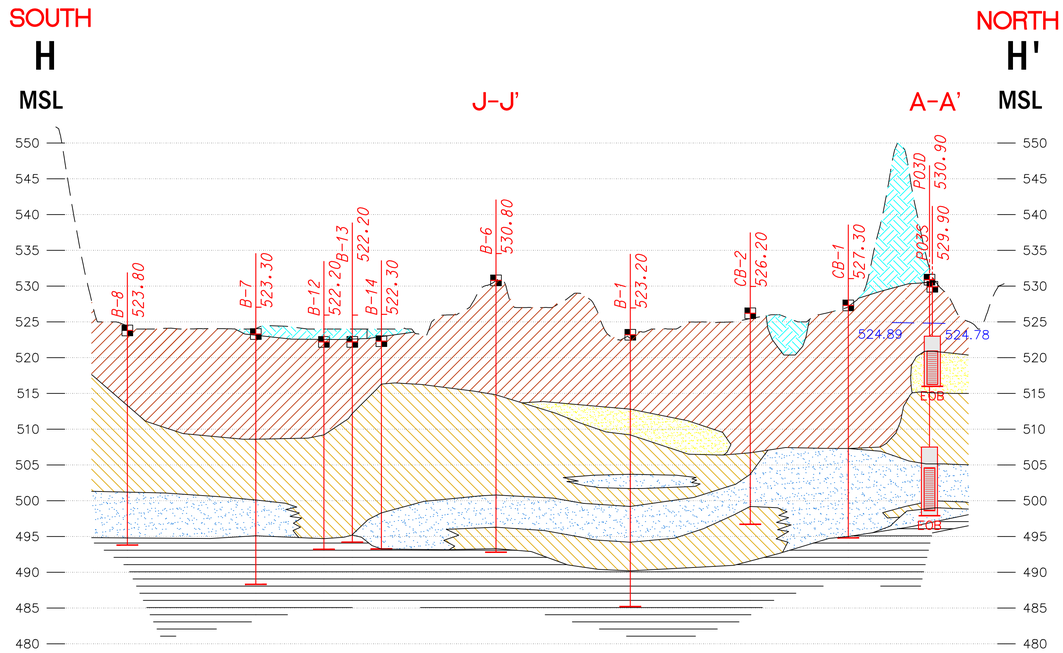


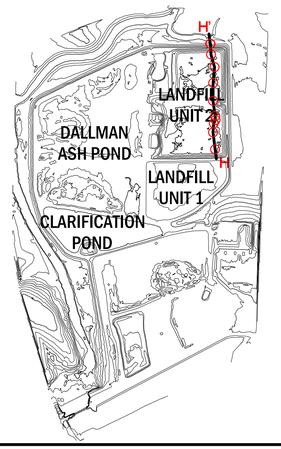


## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
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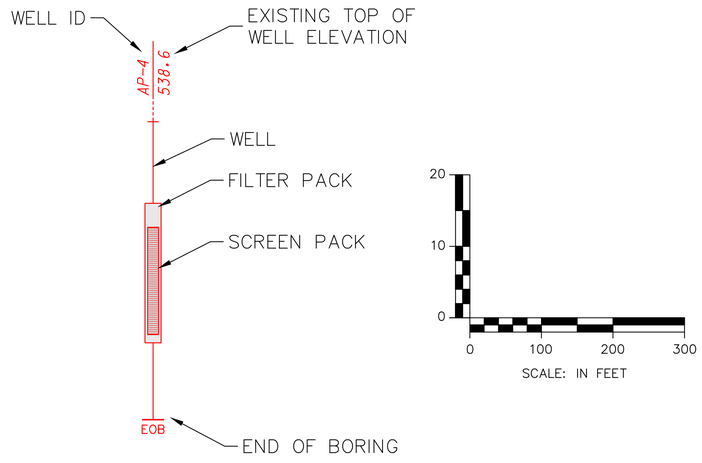
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION H-H'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER: H-H'

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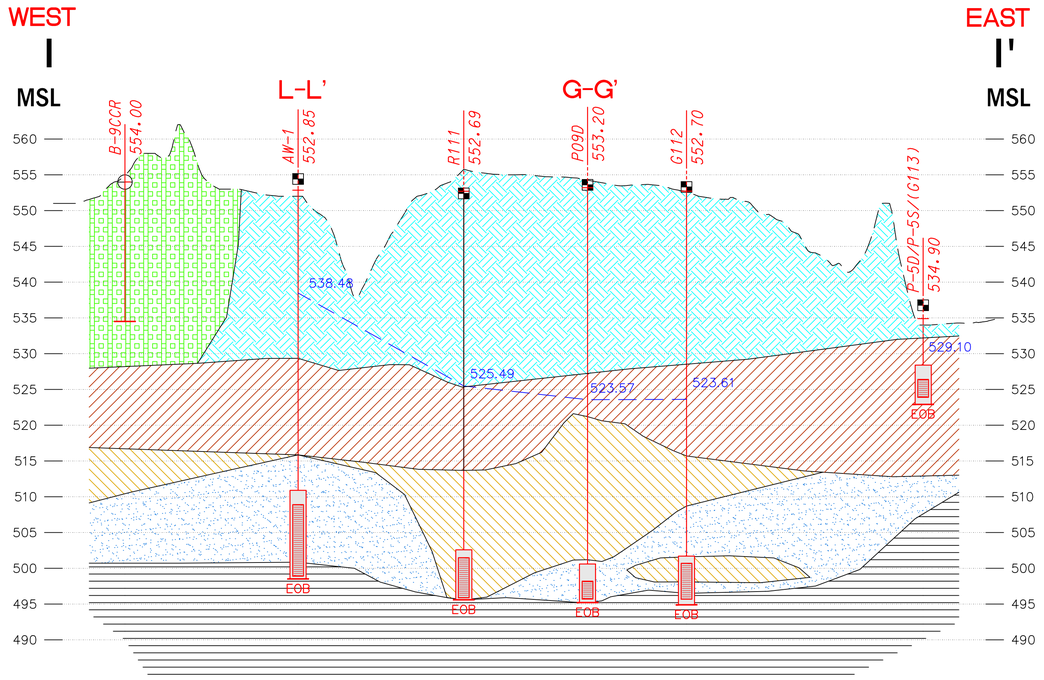


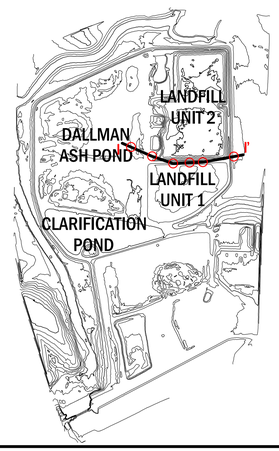


## NOTES

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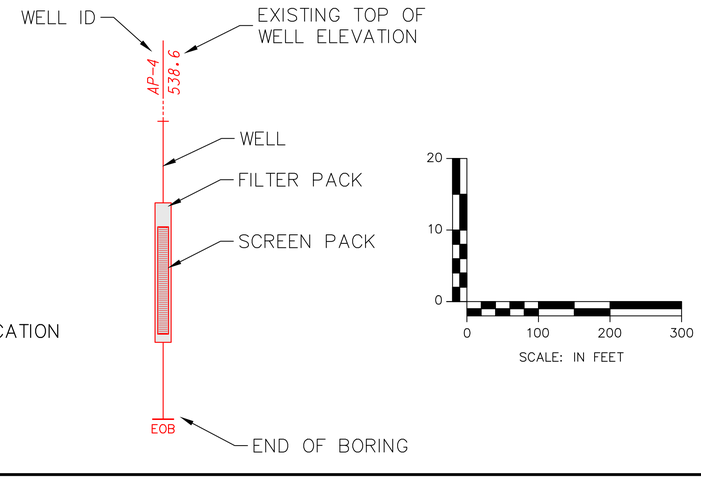
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE
- BASAL SAND
- SHALE
- CCR ASH
- BORING LOCATION
- MONITORING WELL LOCATION

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION I-I'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER: I-I'

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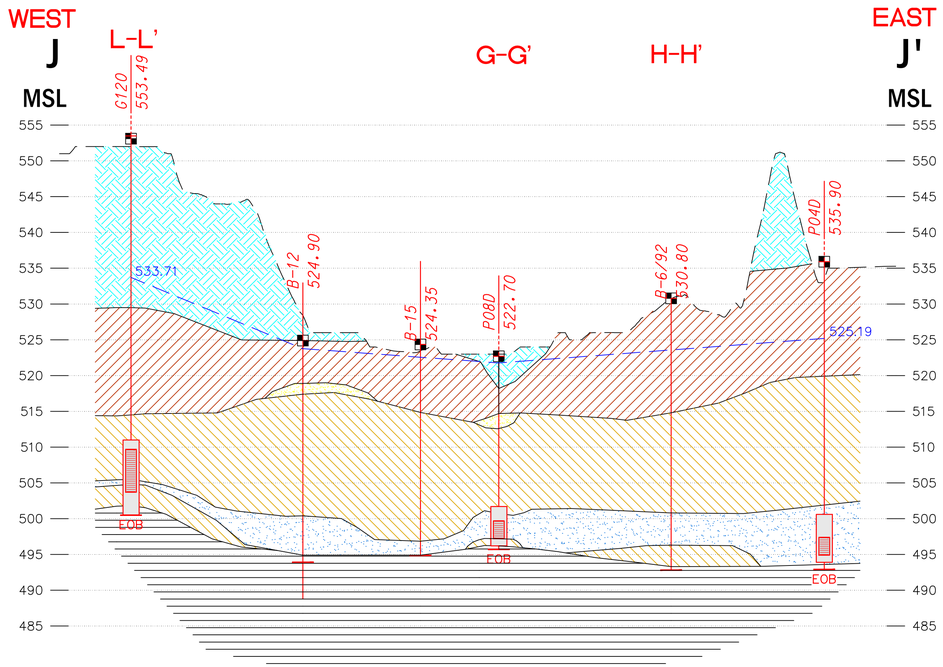


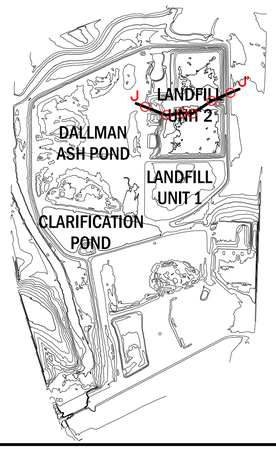


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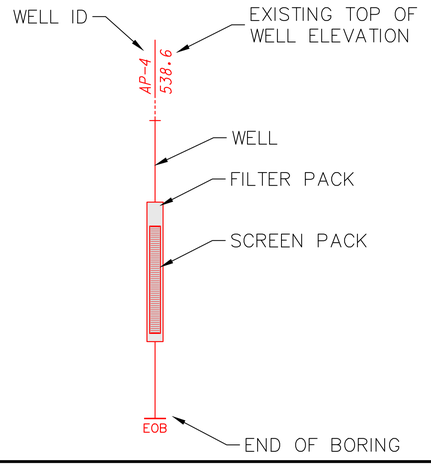
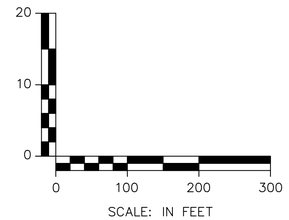
## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION J-J'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

J-J'

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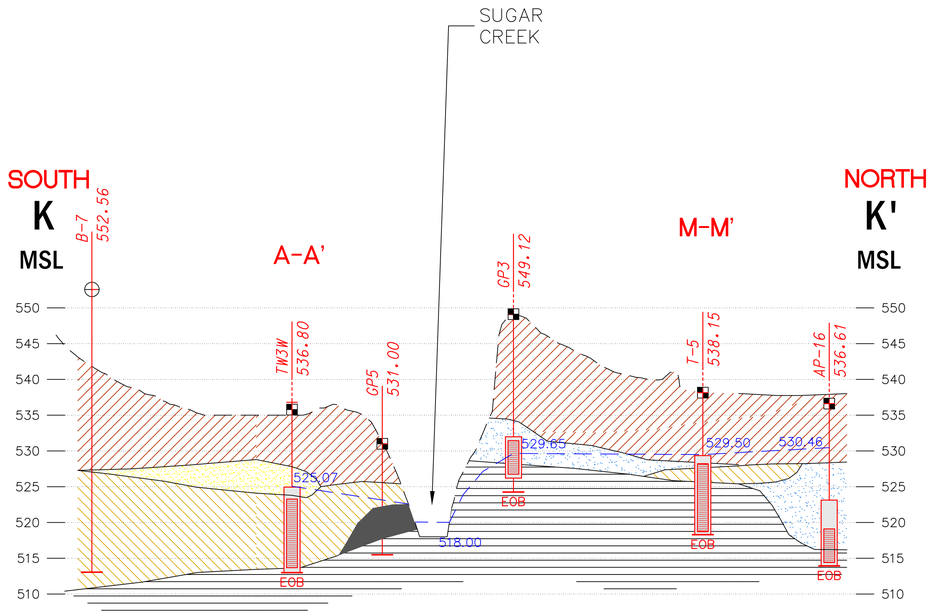


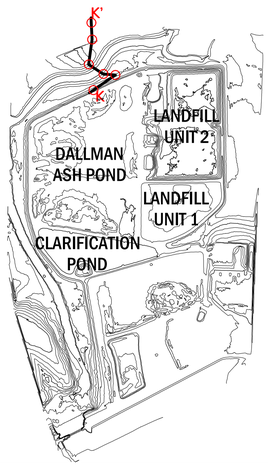


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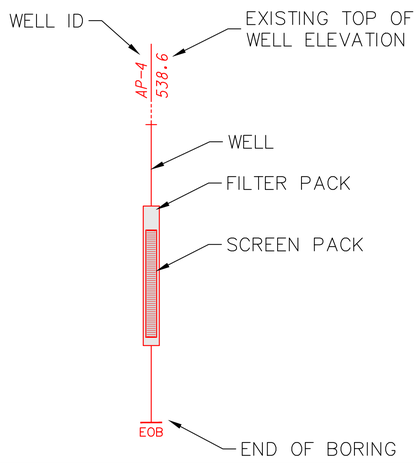
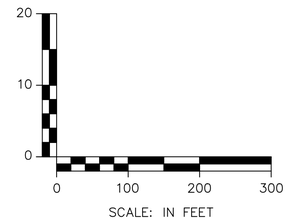
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- COAL
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION K-K'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025
PROJECT ID: 240338/0014
SHEET NUMBER:

K-K'

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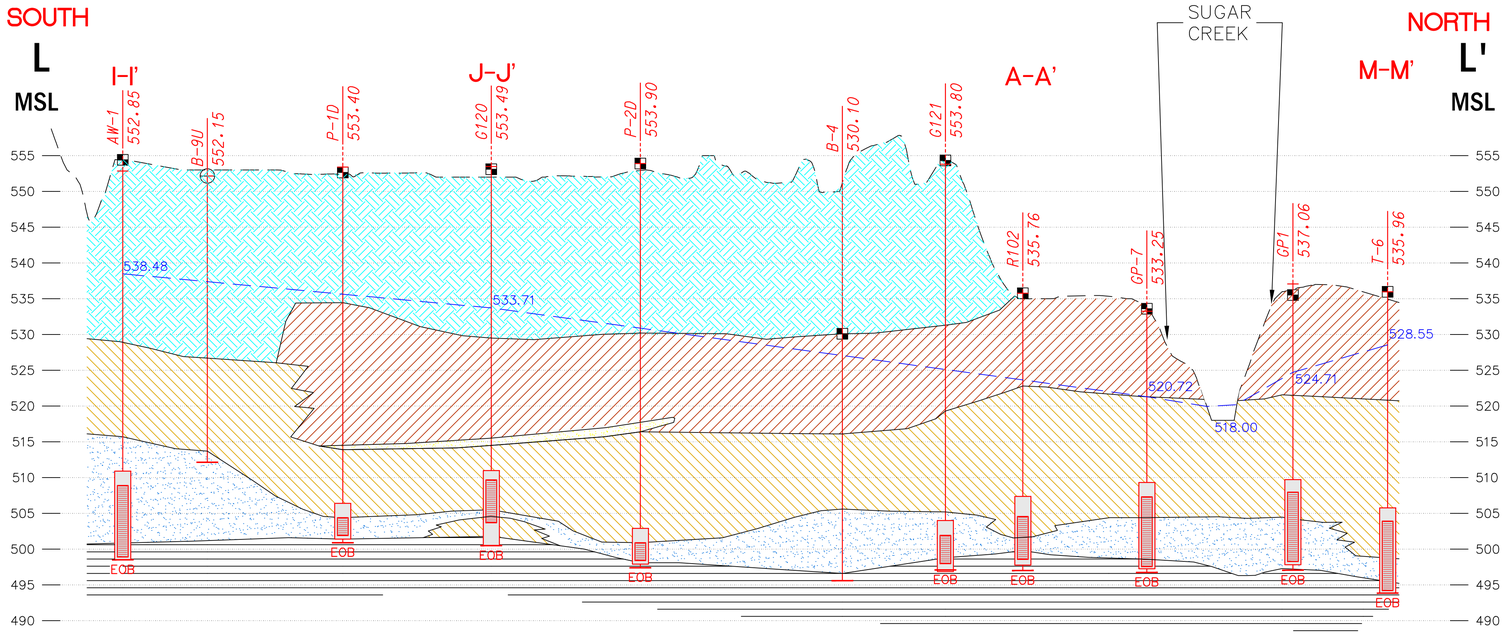
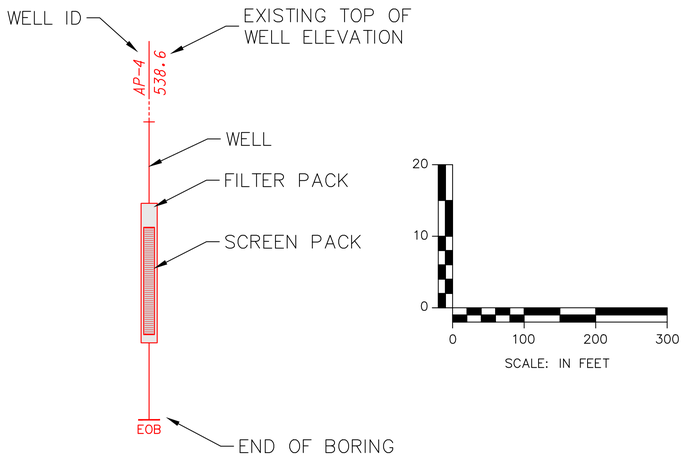
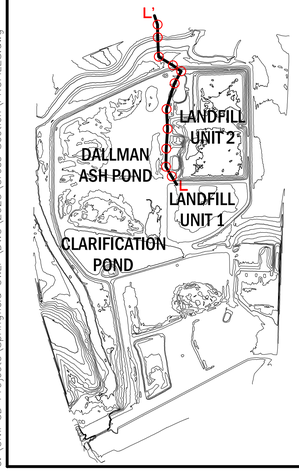



## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALLOW SAND
- SHALE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
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3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION L-L'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

L-L'

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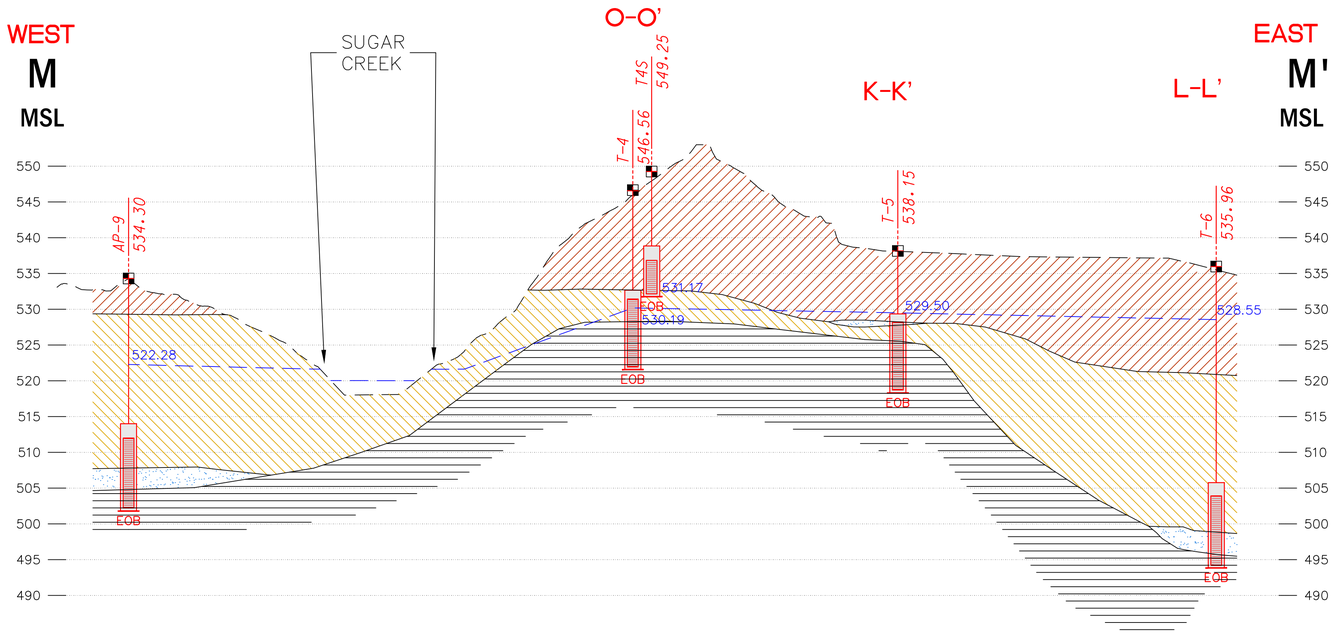


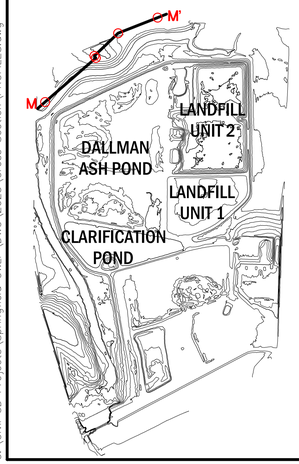


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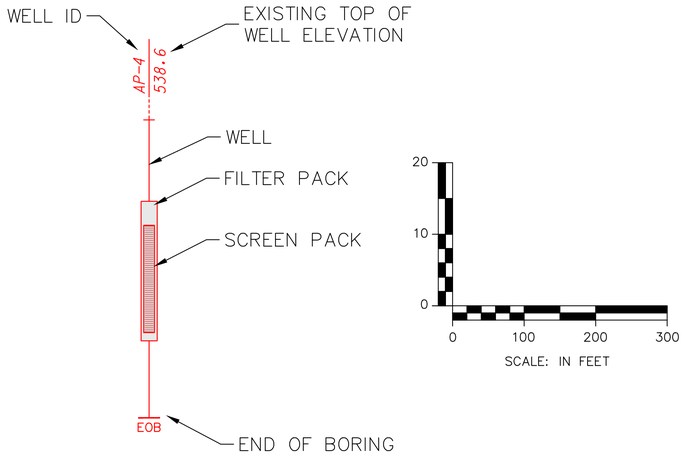
## LEGEND

- UPPER COHESIVE DEPOSIT
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION M-M'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

M-M'

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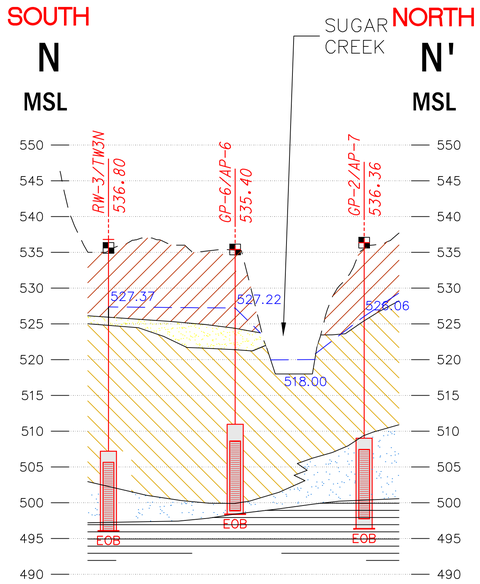


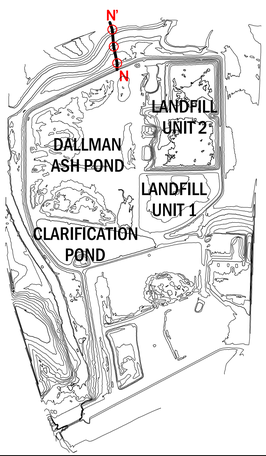


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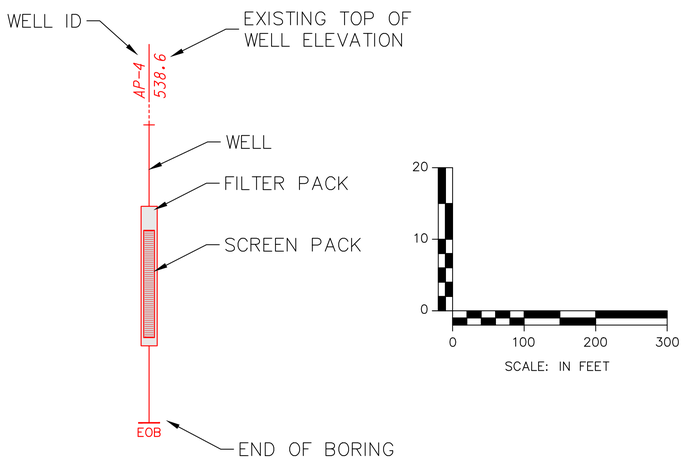
## LEGEND

- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE

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GEOLOGIC CROSS-SECTION N-N'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

N-N'

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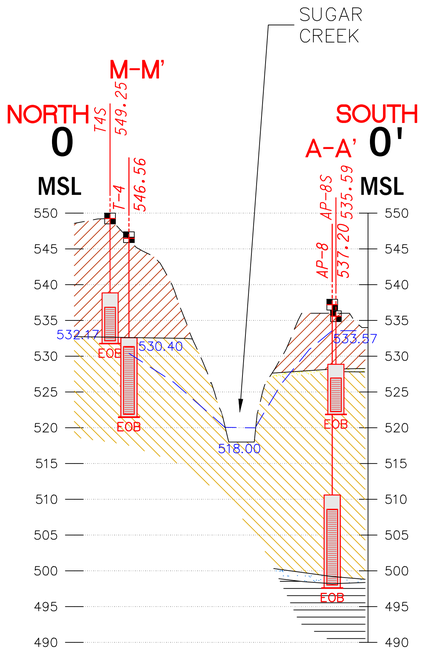


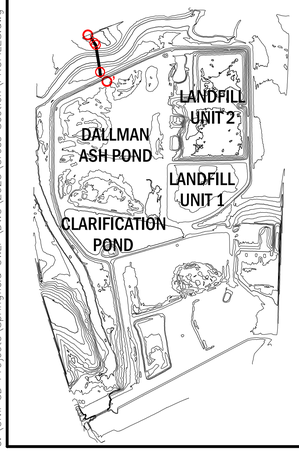


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## LEGEND

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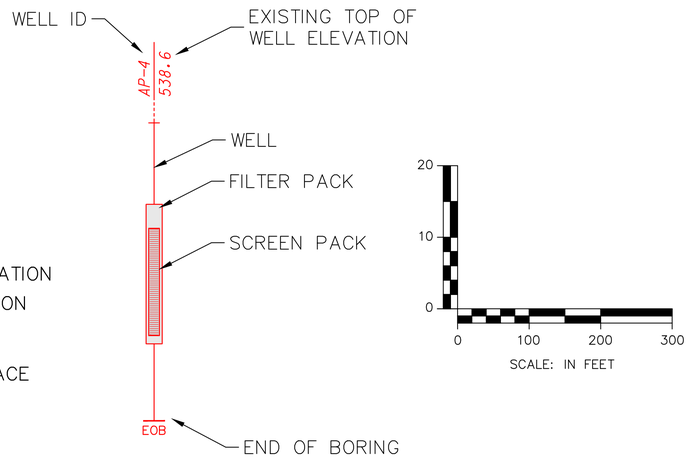
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- BORING LOCATION
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE




| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| | | | |

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION O-O'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

O-O'

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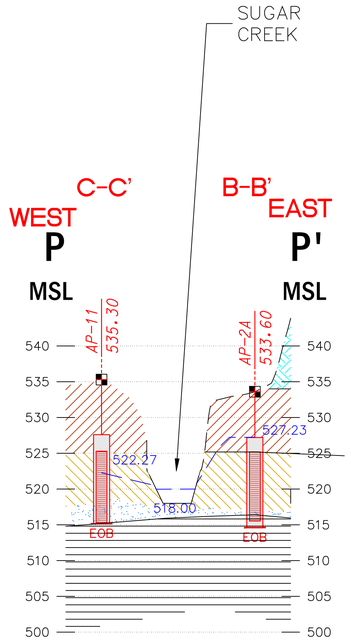
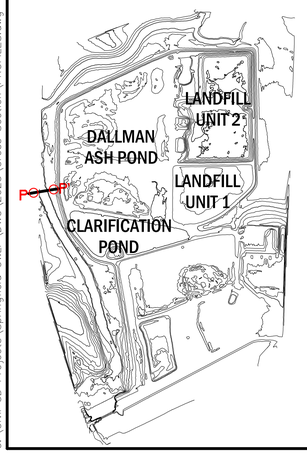
Tab: OO Last Saved: September 23, 2025, by Mike Nguyen Plotted: Tuesday, September 23, 2025 9:57:14 AM
C:\Civil 3D Projects\Springfield CWLP\DWG\2025\Cross Section\PROFILES.dwg



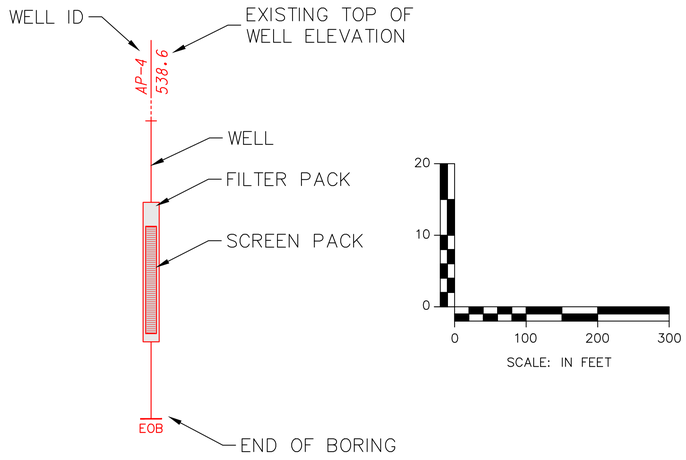




## NOTES

1. DEPTH AND THICKNESS OF SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN BORINGS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE BORING. SEE BORING LOGS FOR DETAILED DESCRIPTION.
2. SURFACE GENERATED FROM LIDAR DATA DERIVED FROM USGS WEBSITE (FLIGHT DATE: MAY 16, 2023).
3. WELL/BORING SYMBOL PLACED AT SURFACE ELEVATION AT THE TIME THE BORING WAS COMPLETED.

## LEGEND

- FILL
- UPPER COHESIVE DEPOSIT
- SHALLOW SAND
- LOWER COHESIVE DEPOSIT
- BASAL SAND
- SHALE
- MONITORING WELL LOCATION
- 525.00 GROUNDWATER ELEVATION (AUGUST 21, 2025)
- BASAL SAND POTENTIOMETRIC SURFACE




| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|
| | | | |

ANDREWS ENGINEERING
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DESIGNED BY: MTH | DRAWN BY: BCK | APPROVED BY: MTH

GEOLOGIC CROSS-SECTION P-P'

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: SEPTEMBER 2025

PROJECT ID: 240338/0014

SHEET NUMBER:

P-P'

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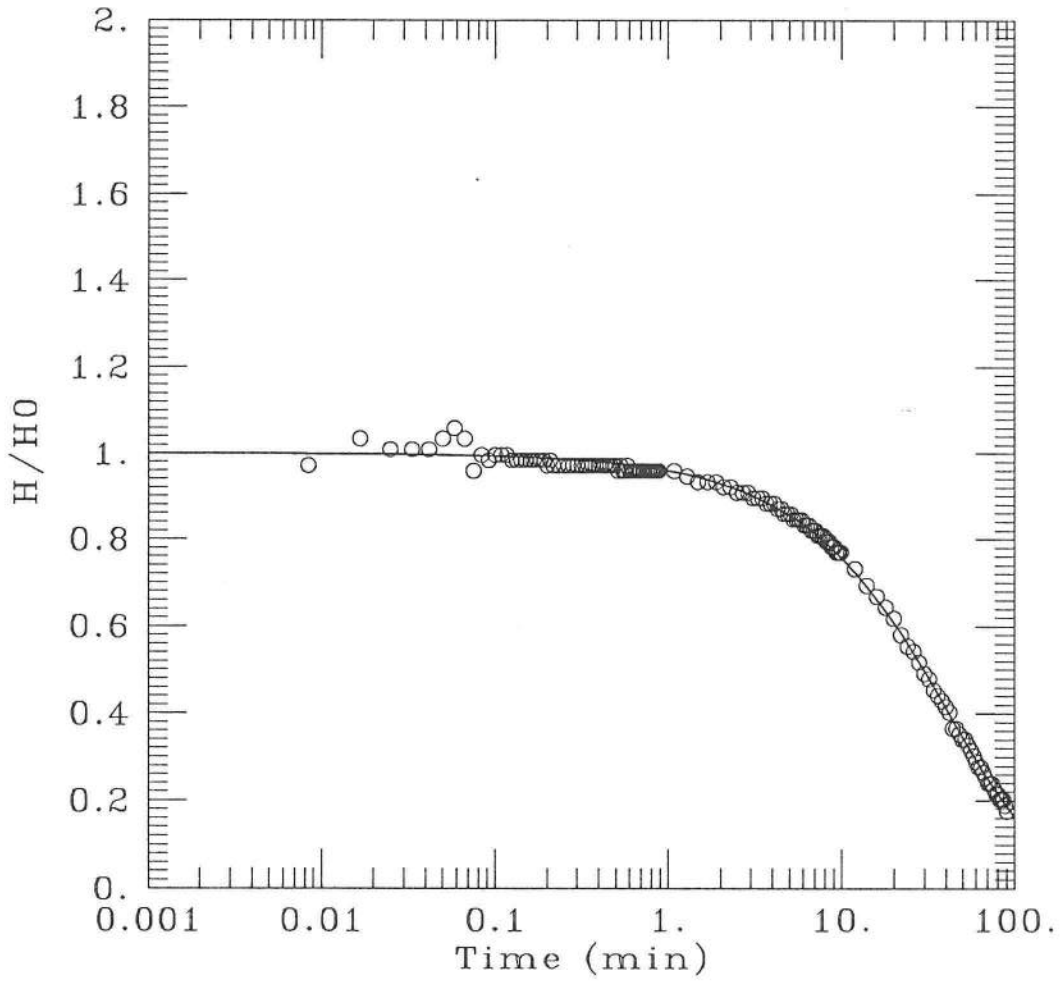
Tab: PP Last Saved: September 23, 2025, by Mike Nguyen Plotted: Tuesday, September 23, 2025 9:52:32 AM
C:\Civil 3D Projects\Springfield CWLP\DWG\2025\Cross Section\PROFILES.dwg

# APPENDIX D:
## SLUG TEST/PACKER TEST DATA

# SLUG TEST DATA

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-1S RECOVERY




DATA SET:
p-1s-r.aqt
03/13/93

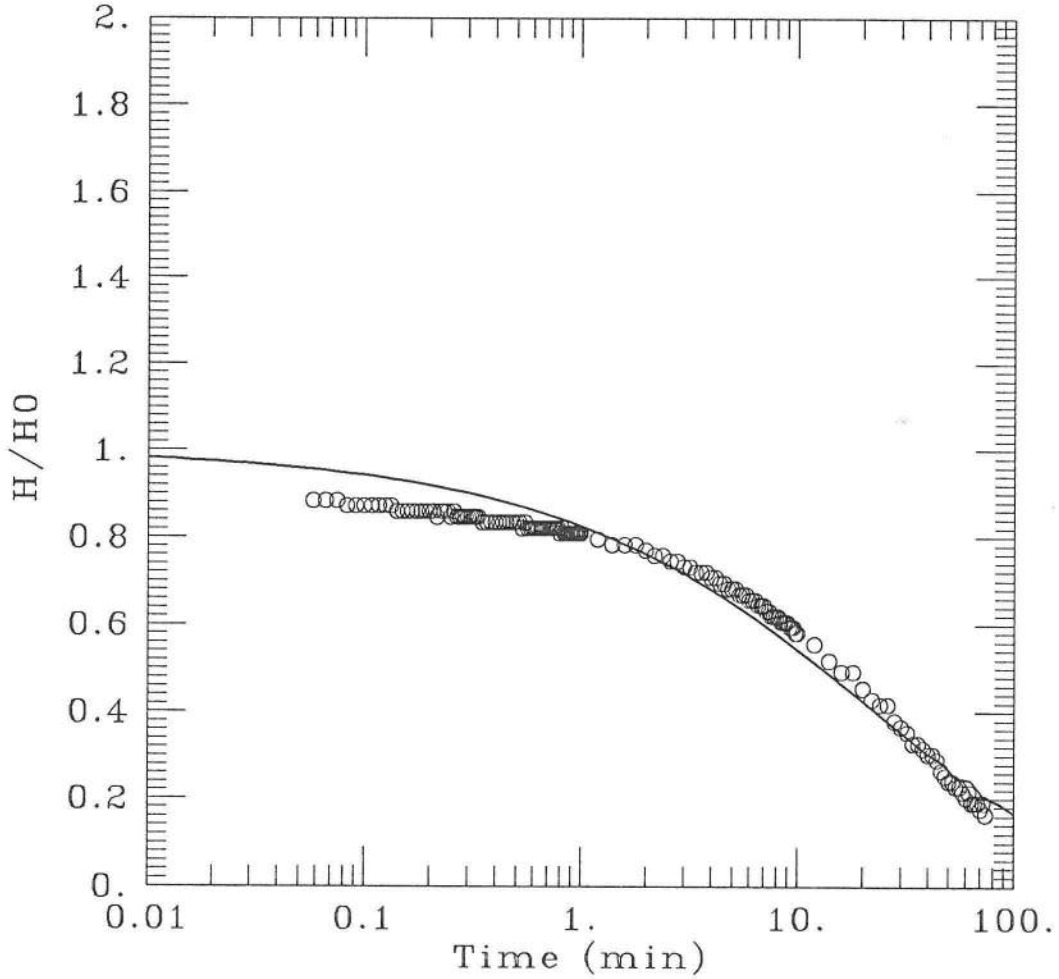
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
8/27/92

ESTIMATED PARAMETERS:
T = 0.0003291 $ft^2$/min
S = 3.3269E-05

TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-1S DRAWDOWN




DATA SET:
p-1s-d.aqt
03/13/93

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Cooper et al.

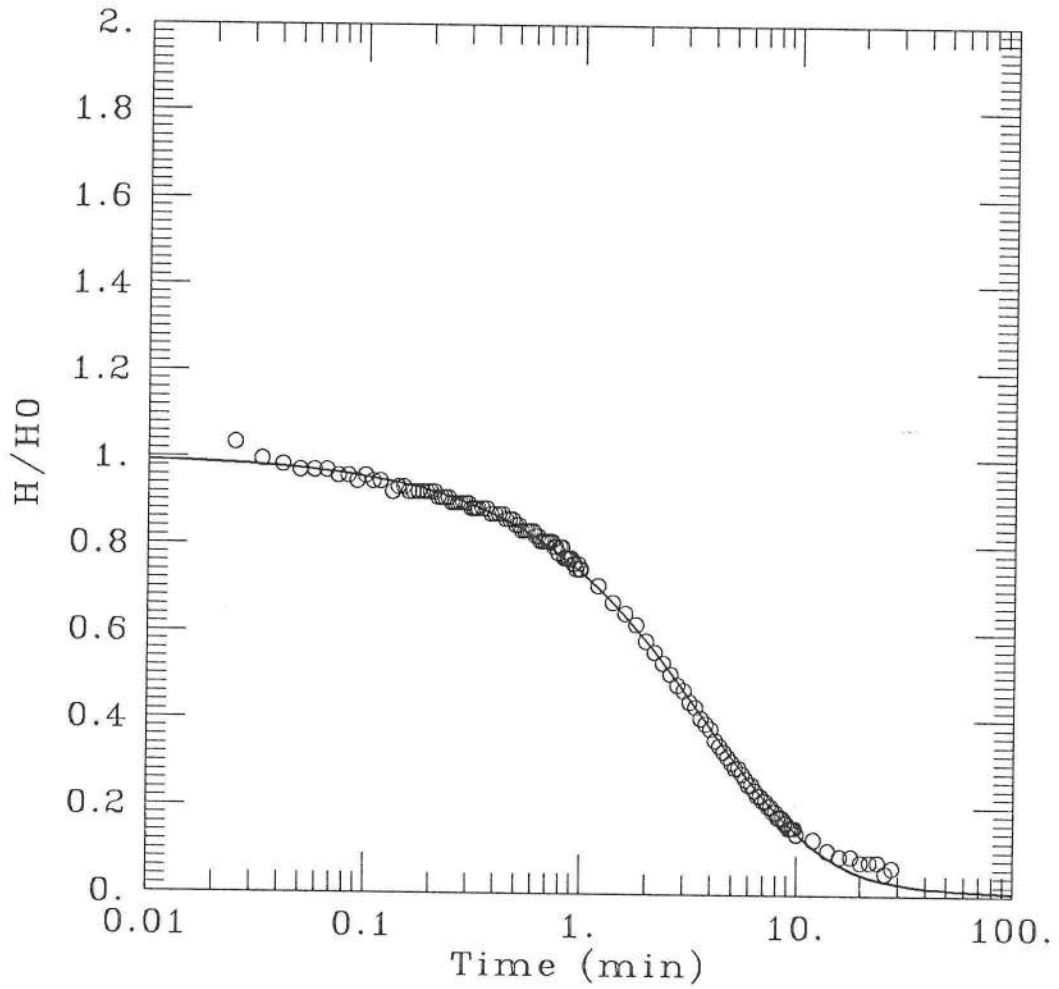
TEST DATE:
8/27/92

ESTIMATED PARAMETERS:
T = 8.6963E-05 $ft^2/min$
S = 0.03305

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-1D RECOVERY




DATA SET:
P-1D-R.AQT
03/13/93

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Cooper et al.

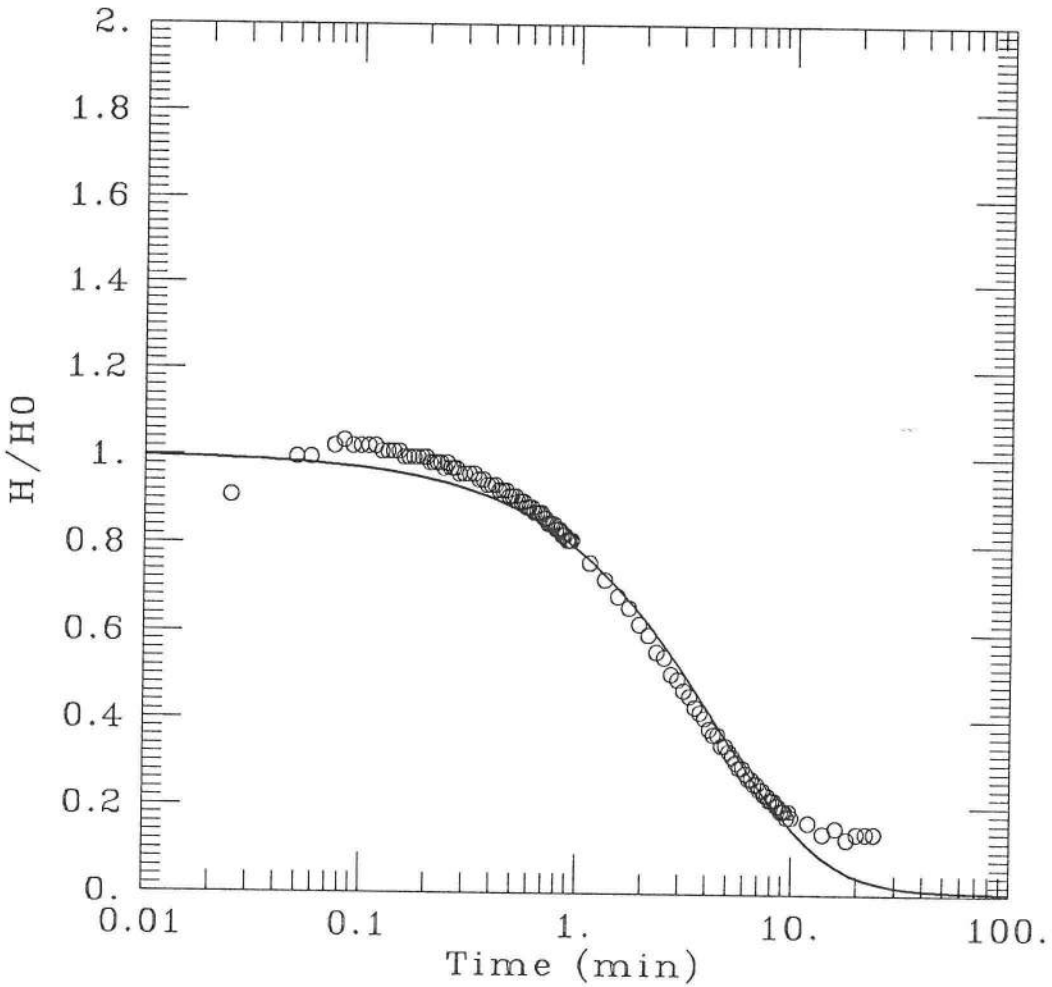
TEST DATE:
8/27/92

ESTIMATED PARAMETERS:
T = 0.003692 $ft^2$/min
S = 3.0237E-05

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-1D DRAWDOWN




DATA SET:
p-1d-d.aqt
03/13/93

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Cooper et al.

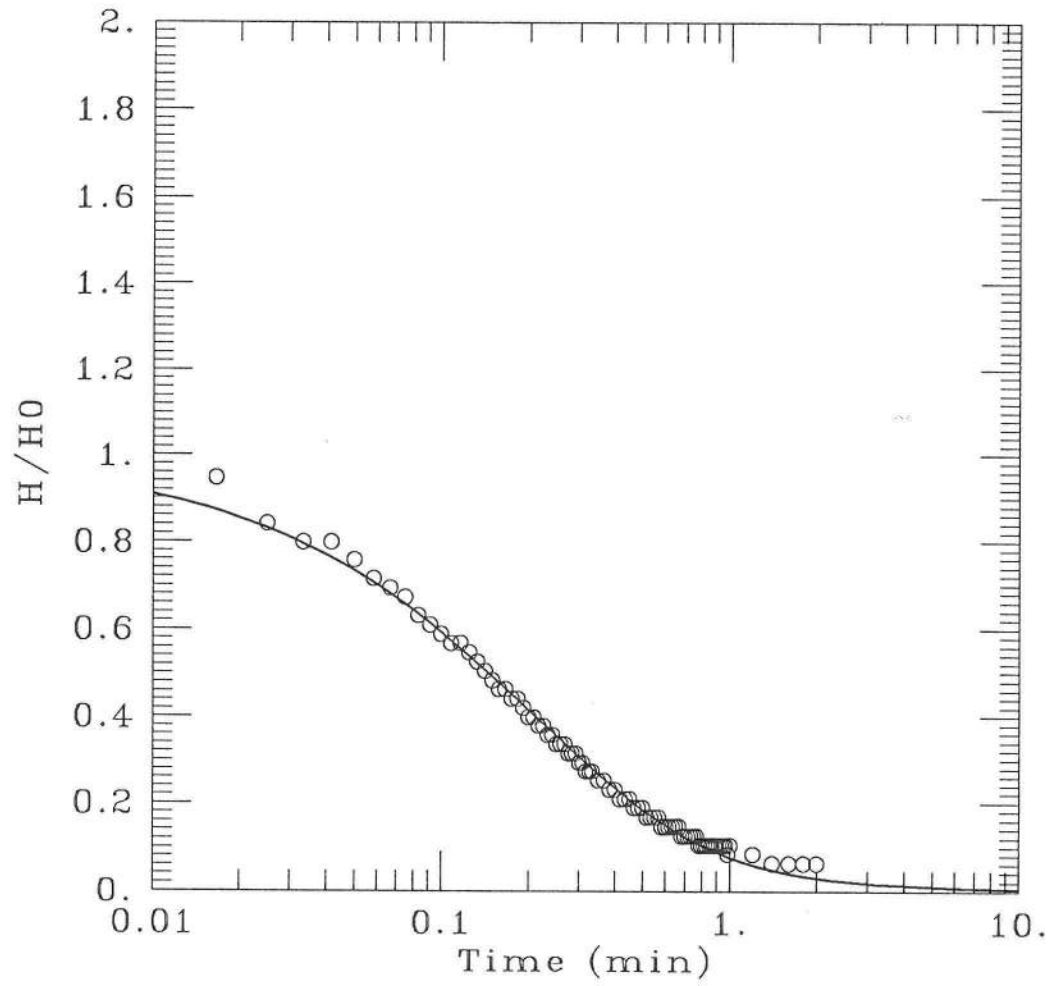
TEST DATE:
8/27/92

ESTIMATED PARAMETERS:
T = 0.006303 $ft^2$/min
S = 1.E-08

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-3S RECOVERY




DATA SET:
p-3s-r.aqt
03/13/93

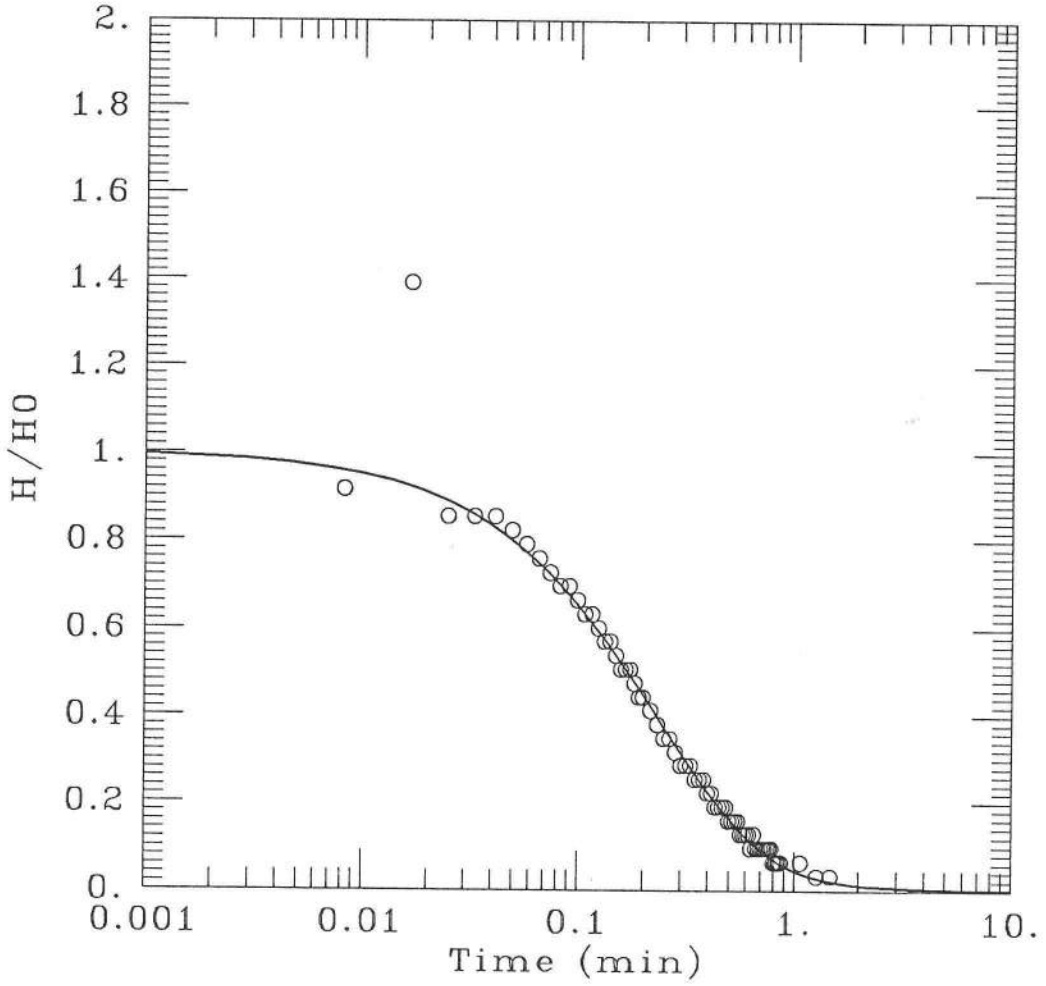
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.04309 $ft^2/min$
S = 0.0004477

TEST DATA:
H0 = 0.75 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-3S DRAWDOWN




DATA SET:
p-3s-d.aqt
03/13/93

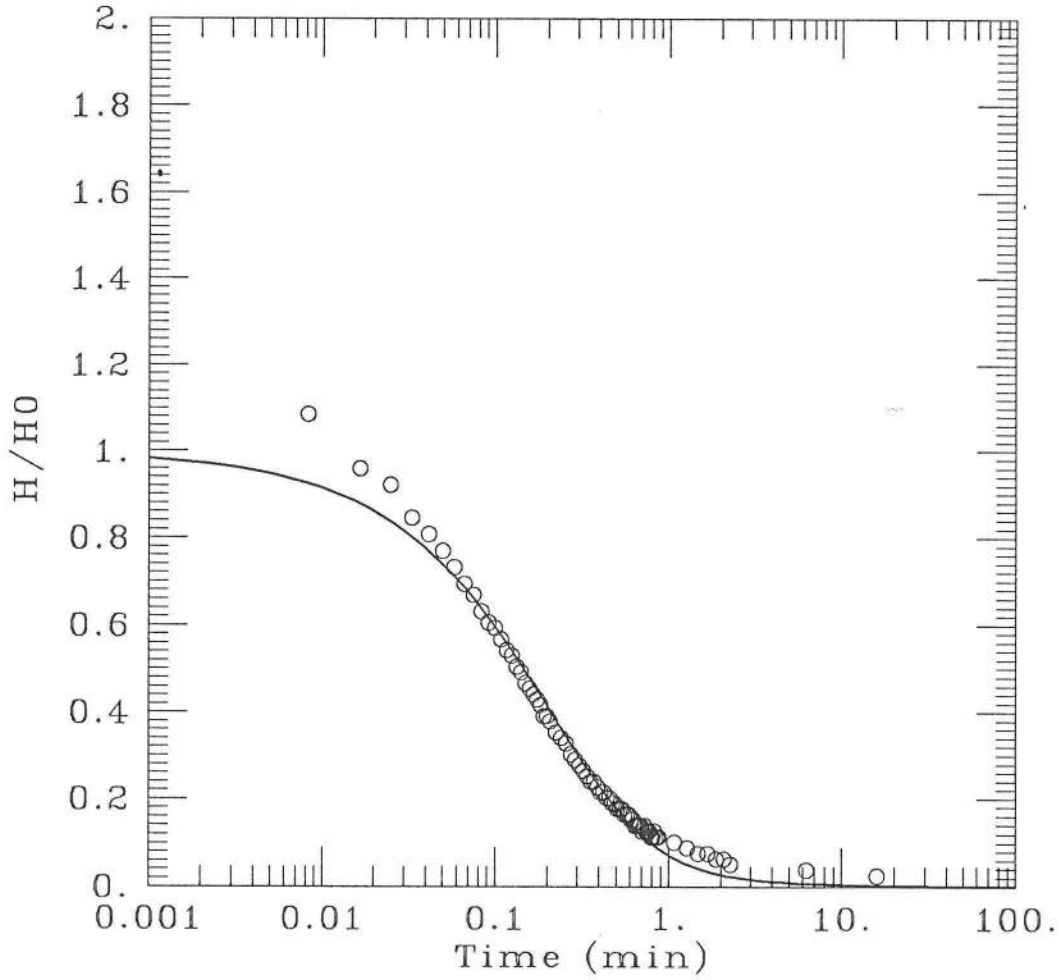
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.119 $ft^2/min$
S = 1.E-08

TEST DATA:
HO = 0.5 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-3D RECOVERY




DATA SET:
P-3D-R.AQT
03/13/93

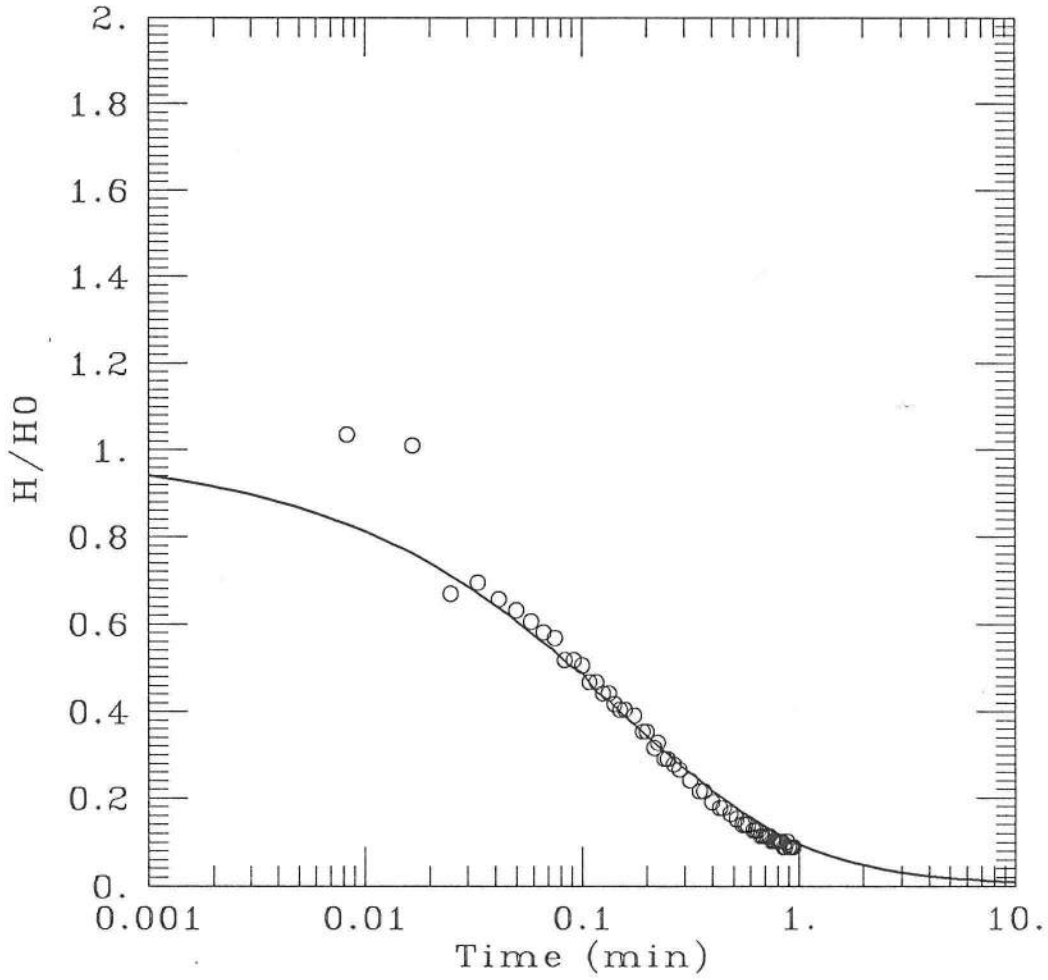
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.04784 $ft^2/min$
S = 0.0002658

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-3D DRAWDOWN




DATA SET:
P-3D-D.AQT
03/13/93

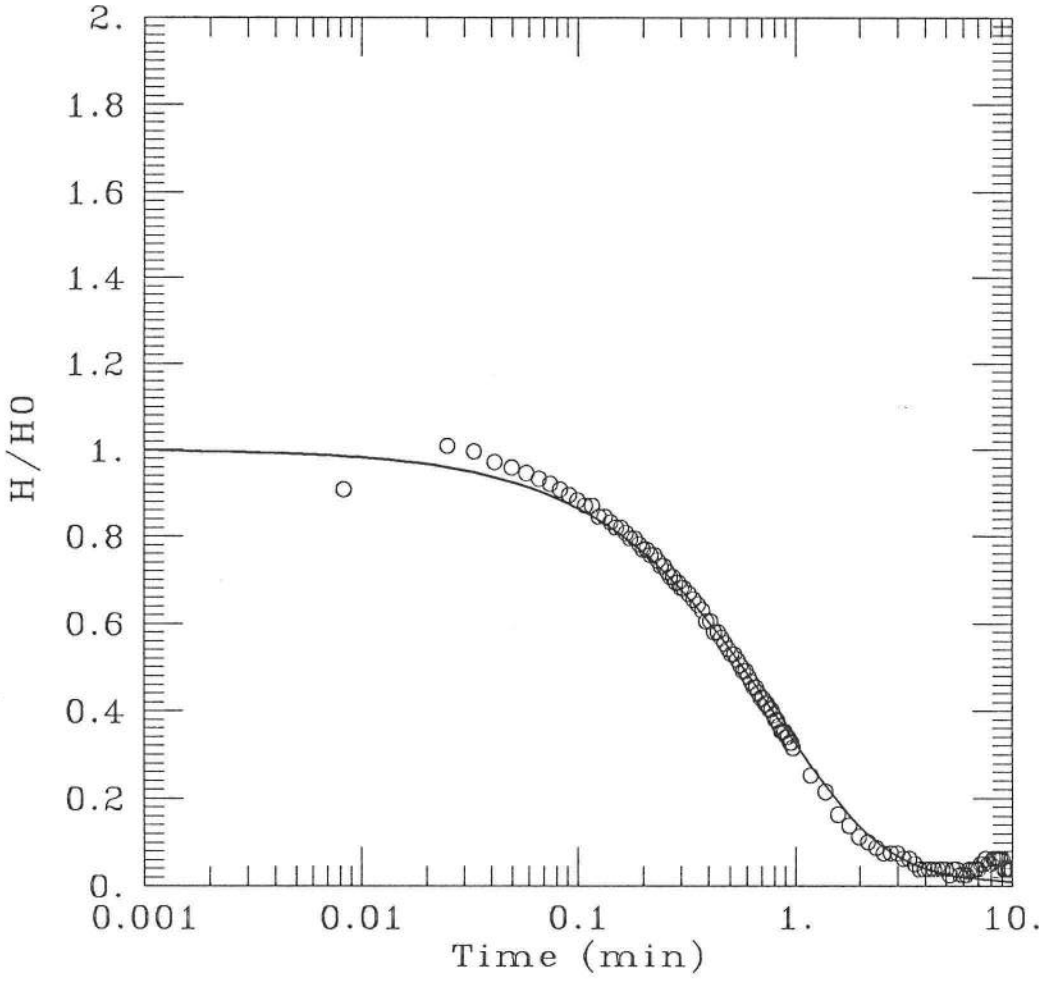
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.02173 $ft^2$/min
S = 0.01321

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-4 RECOVERY




DATA SET:
P-4-R.AQT
03/13/93

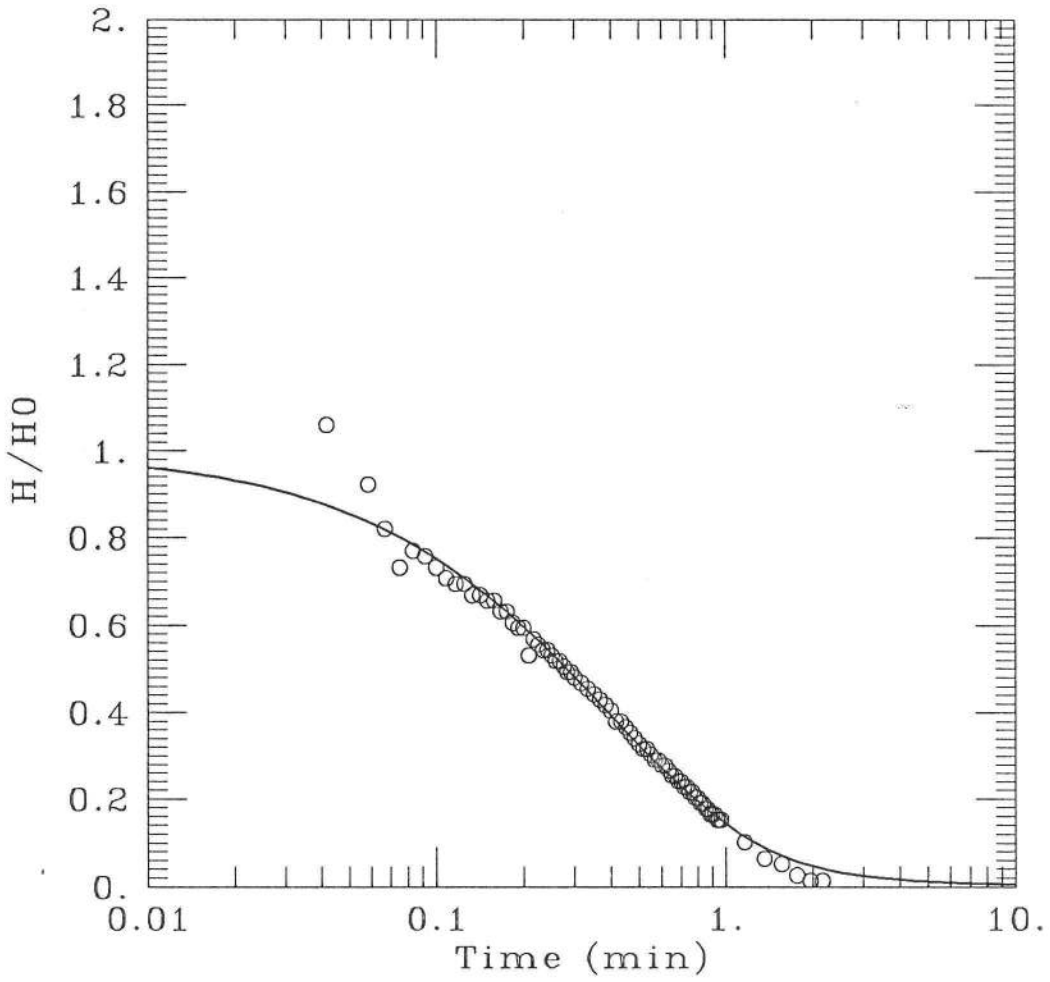
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.02555 $ft^2$/min
S = 7.9368E-07

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-4 DRAWDOWN




DATA SET:
P-4-D.AQT
03/13/93

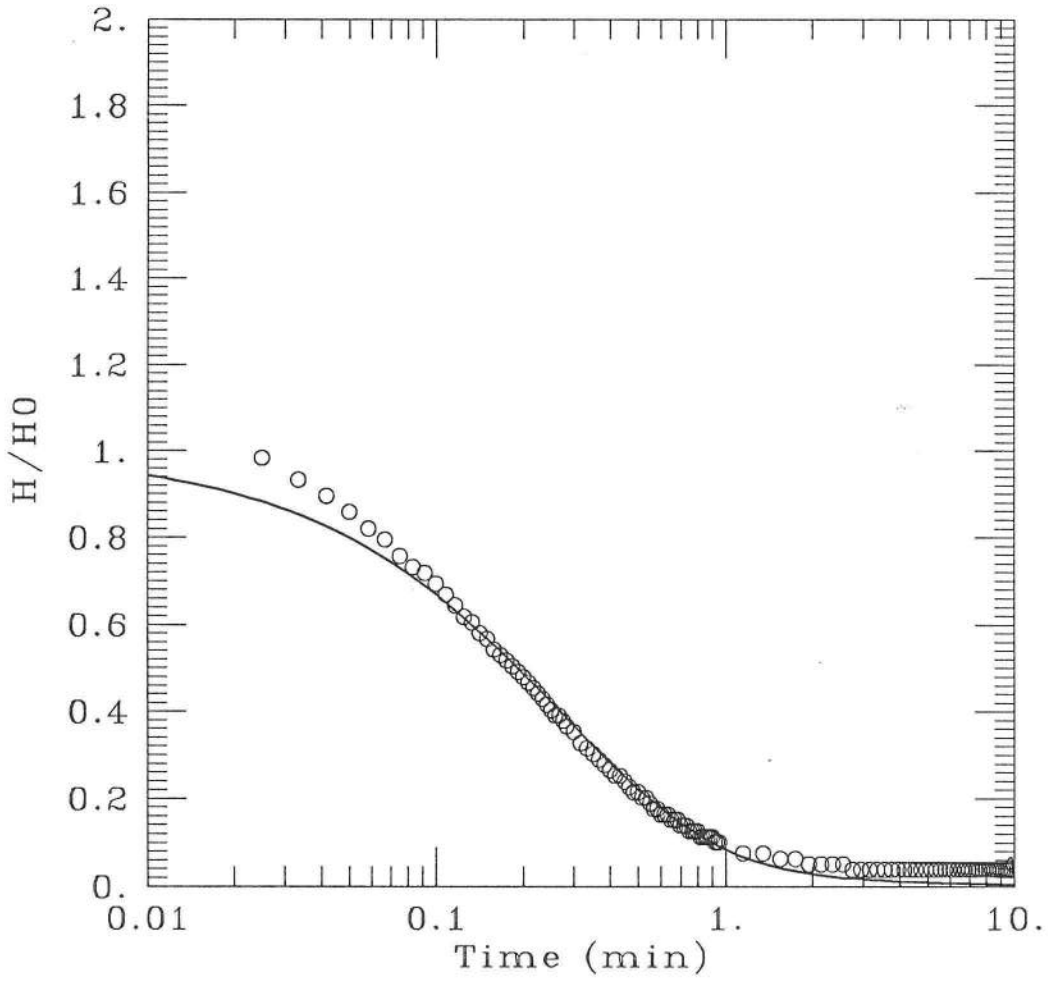
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.03979 $ft^2$/min
S = 1.1213E-05

TEST DATA:
H0 = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-5D RECOVERY




DATA SET:
P-5D-R.AQT
03/14/93

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Cooper et al.

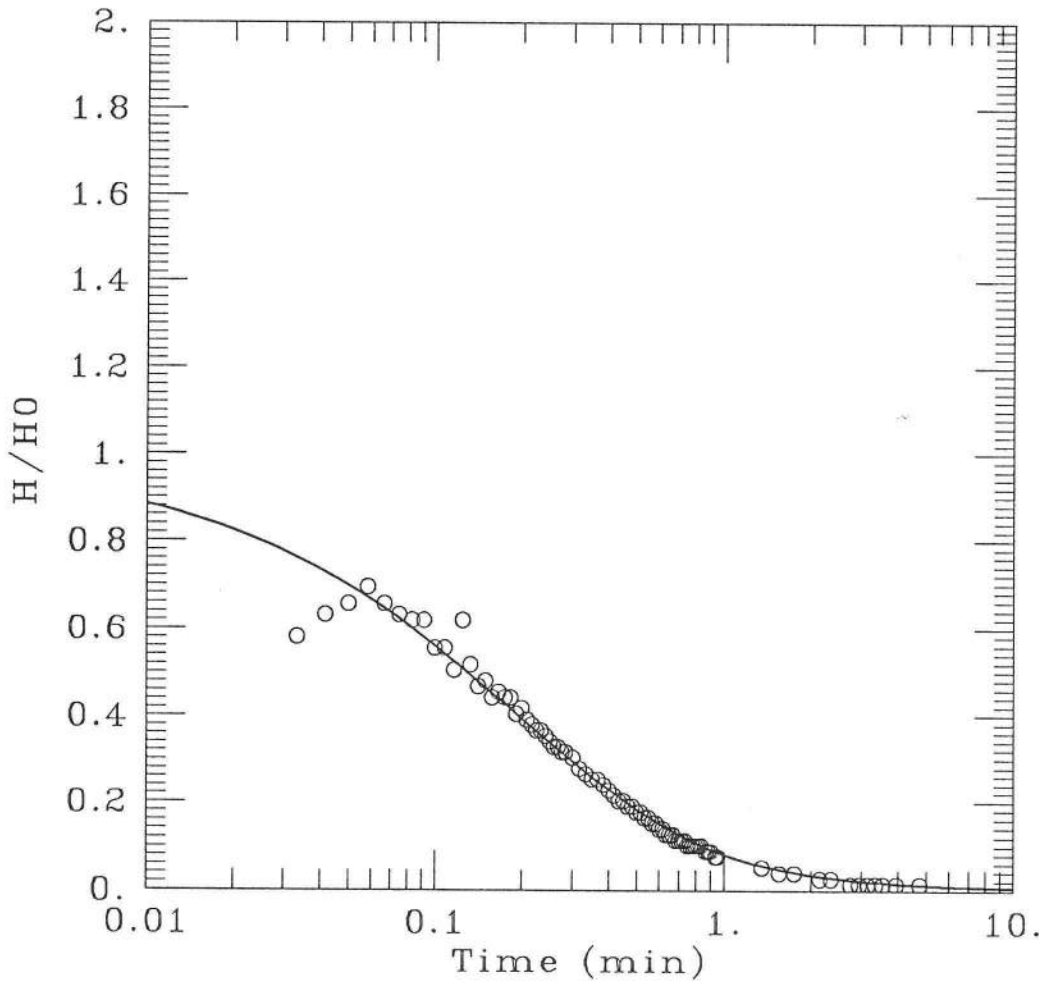
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.05179 $ft^2$/min
S = 2.962E-05

TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-5D DRAWDOWN

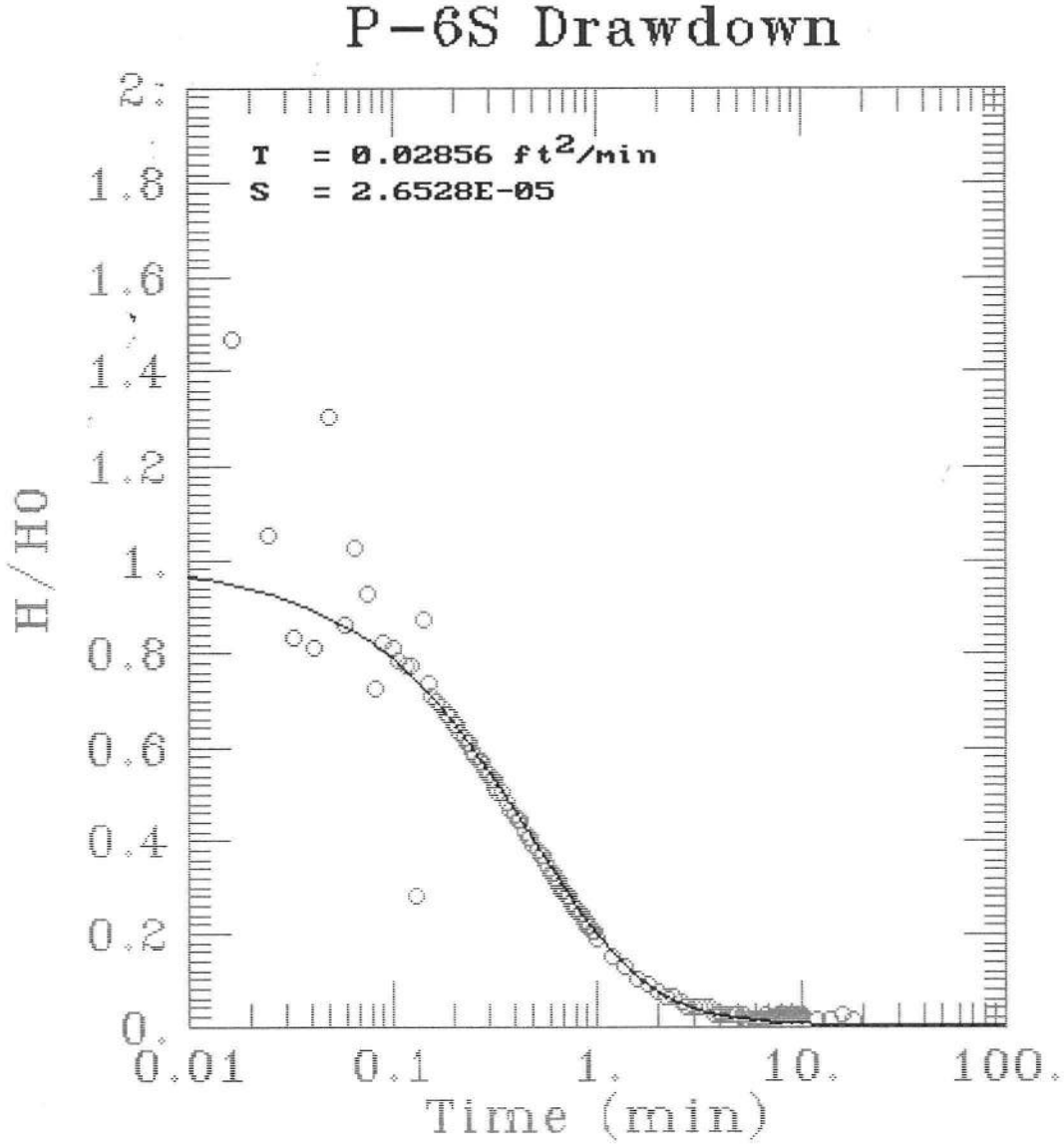



DATA SET:
P-5D-D.AQT
03/14/93

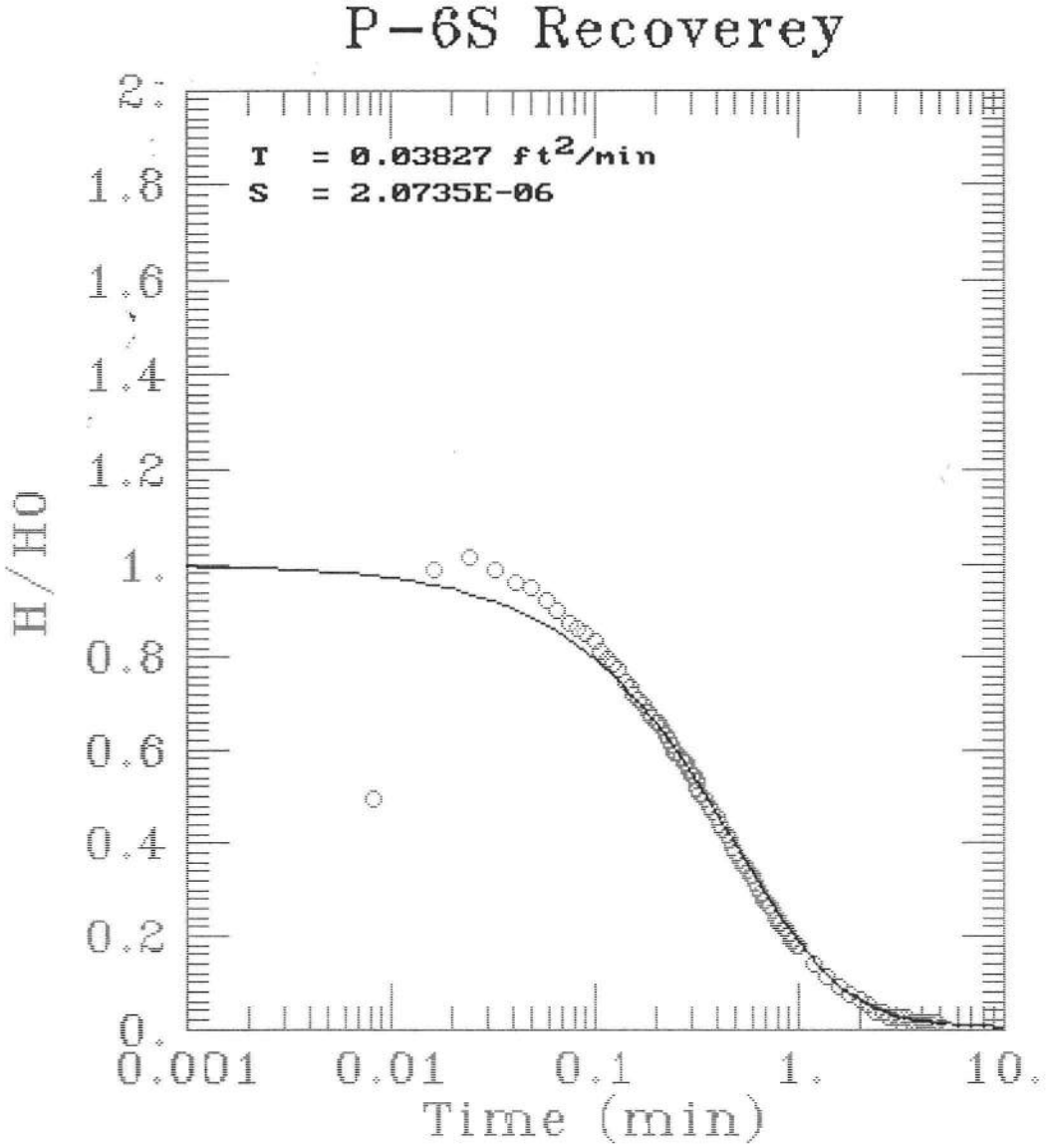
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
9/1/92

ESTIMATED PARAMETERS:
T = 0.03556 $ft^2$/min
S = 0.001533

TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft


P-6S Drawdown
T = 0.02856 ft²/min
S = 2.6528E-05
H/H0
Time (min)
2.
1.8
1.6
1.4
1.2
1.
0.8
0.6
0.4
0.2
0.
0.01
0.1
1.
10.
100.

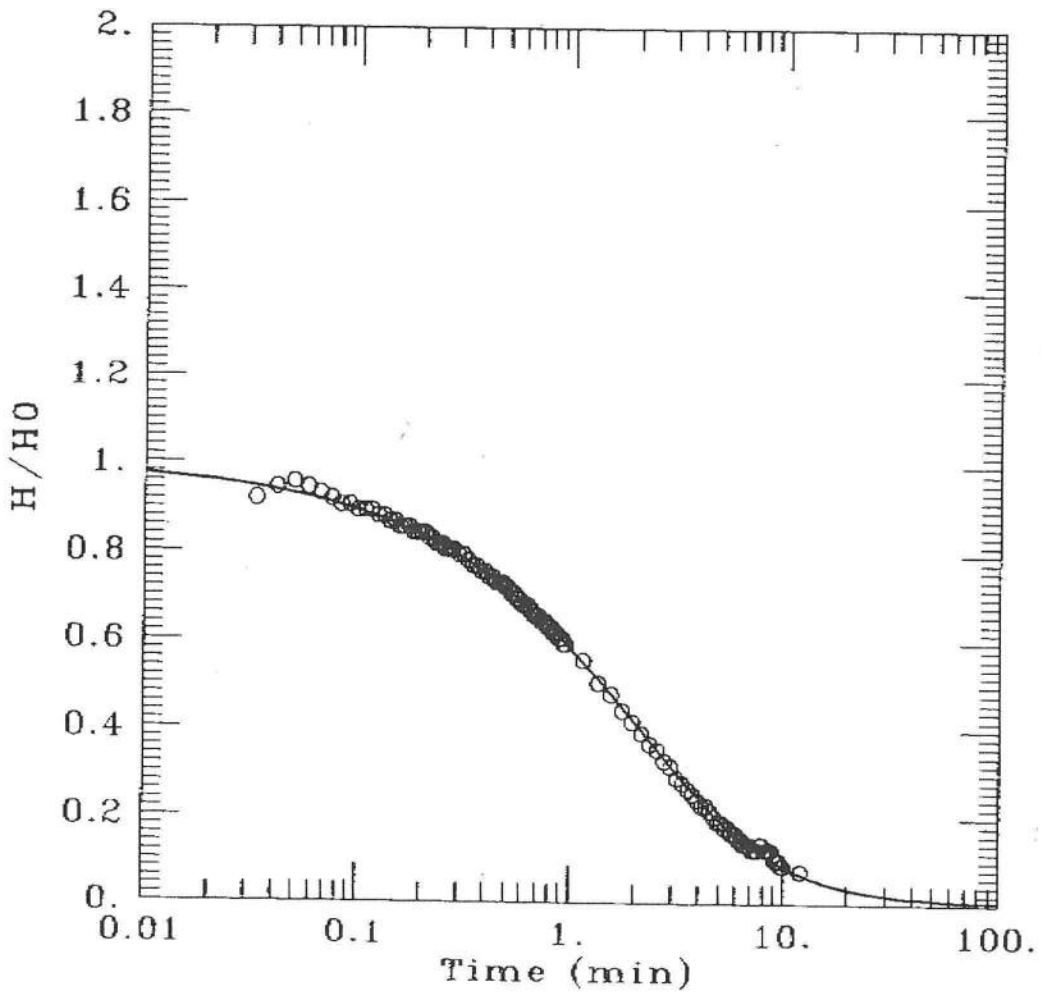
DRAFT


P-6S Recoverey
T = 0.03827 ft²/min
S = 2.0735E-06
H/H0
2.
1.8
1.6
1.4
1.2
1.
0.8
0.6
0.4
0.2
0.
0.001
0.01
0.1
1.
10.
Time (min)

DRAFT

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-7S RECOVERY




DATA SET:
P-7S-R.AQT
03/14/93

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Cooper et al.

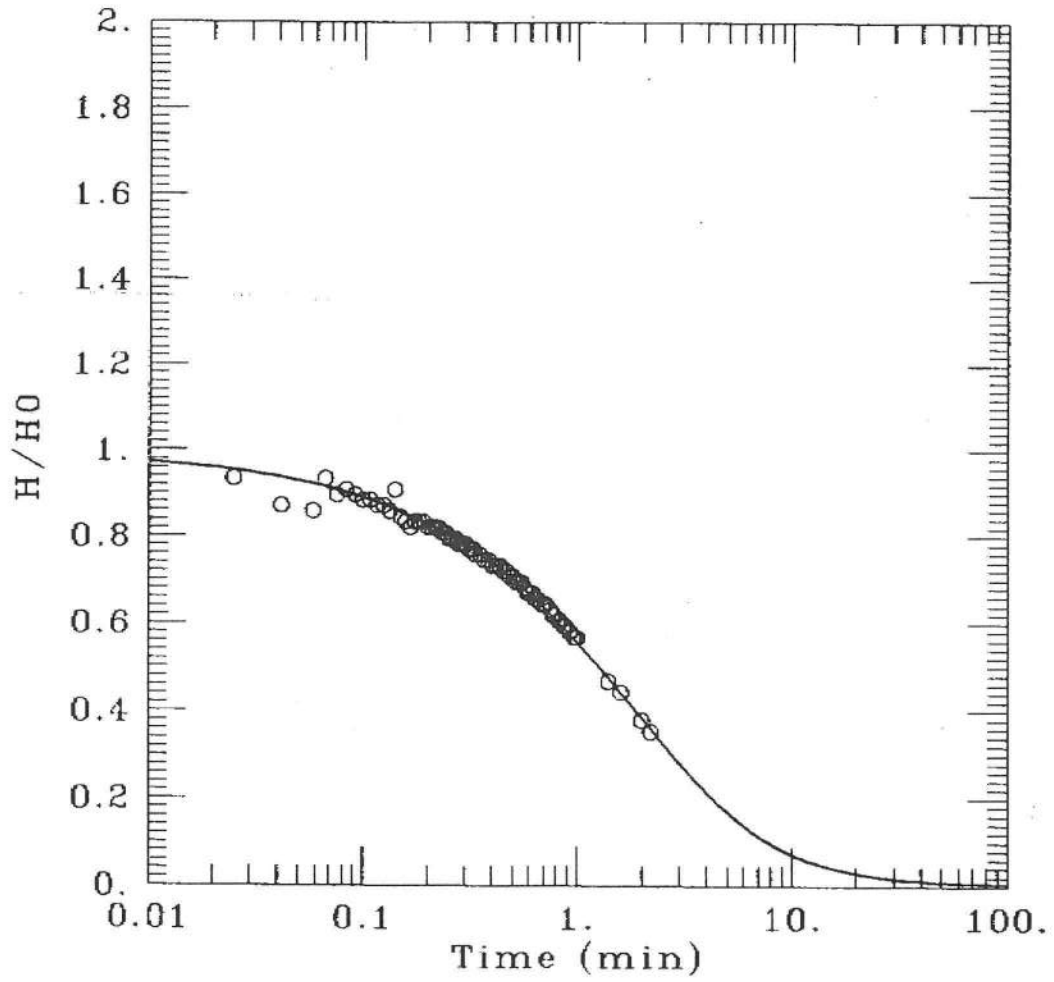
TEST DATE:
10/5/92

ESTIMATED PARAMETERS:
T = 0.003566 $ft^2/min$
S = 0.001063

TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-7S DRAWDOWN




DATA SET:
P-7S-D.AQT
03/14/93

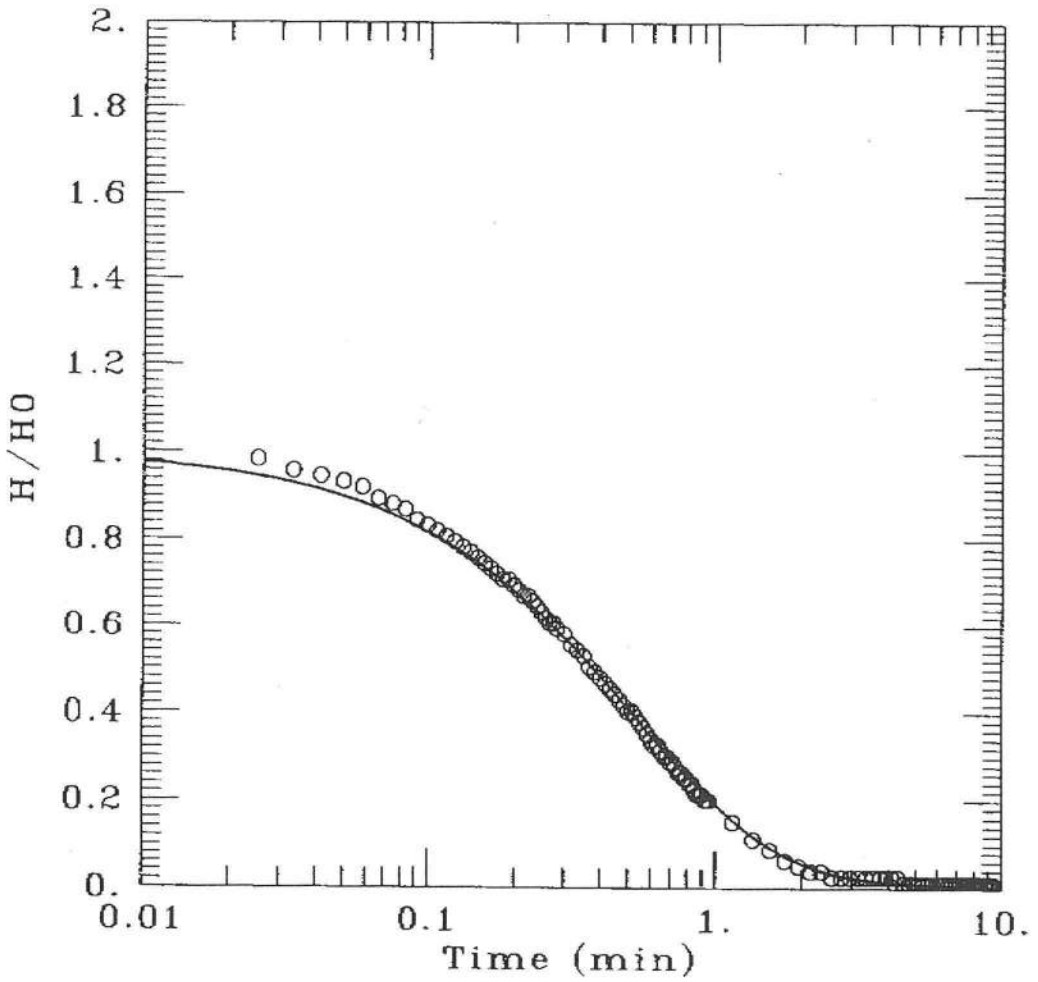
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
10/5/92

ESTIMATED PARAMETERS:
T = 0.004152 $ft^2$/min
S = 0.0009301

TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-7D RECOVERY




DATA SET:
P-7D-R.AQT
03/14/93

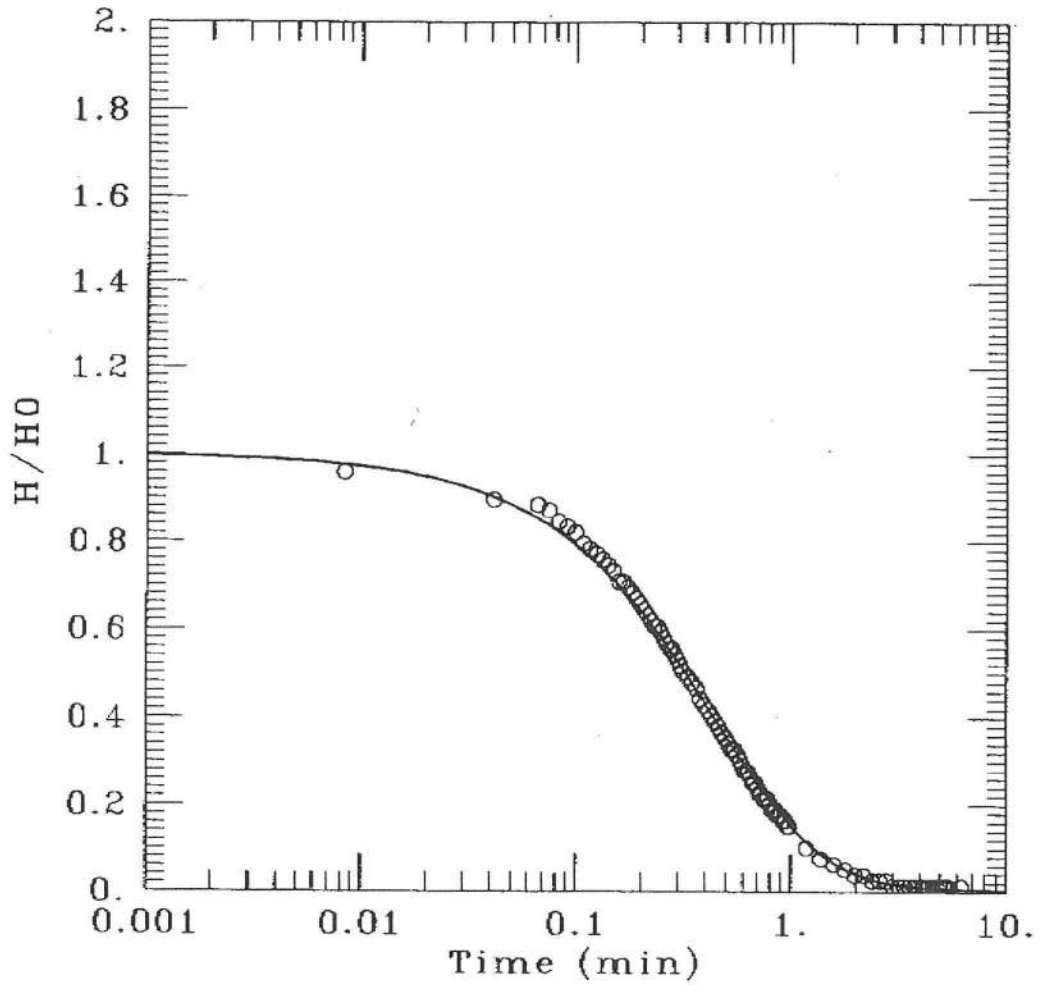
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
10/5/92

ESTIMATED PARAMETERS:
T = 0.05323 $ft^2/min$
S = 1.E-08

TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-7D DRAWDOWN

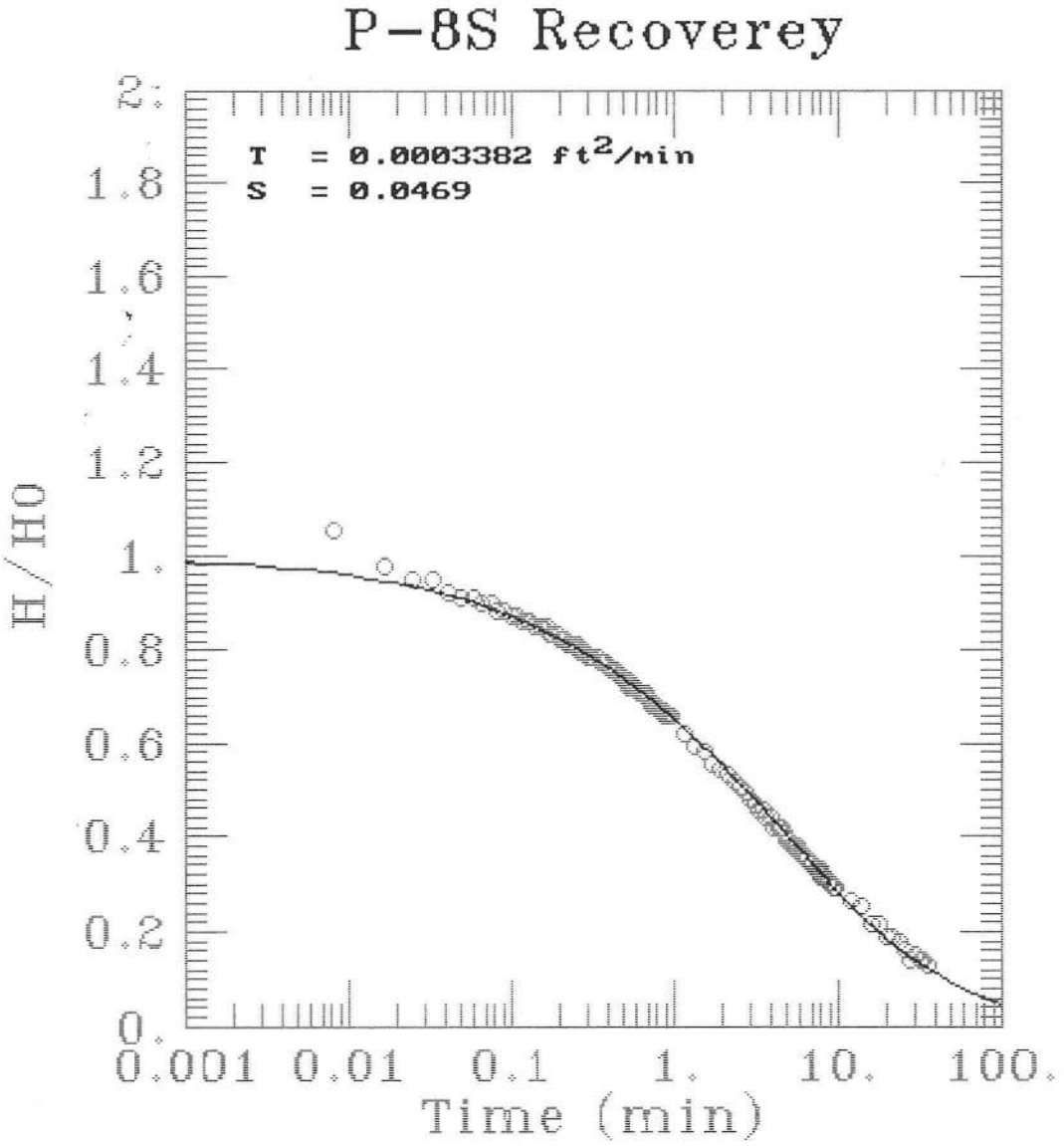



DATA SET:
P-7D-D.AQT
03/14/93

AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
10/5/92

ESTIMATED PARAMETERS:
T = 0.06182 $ft^2/min$
S = 1.E-08

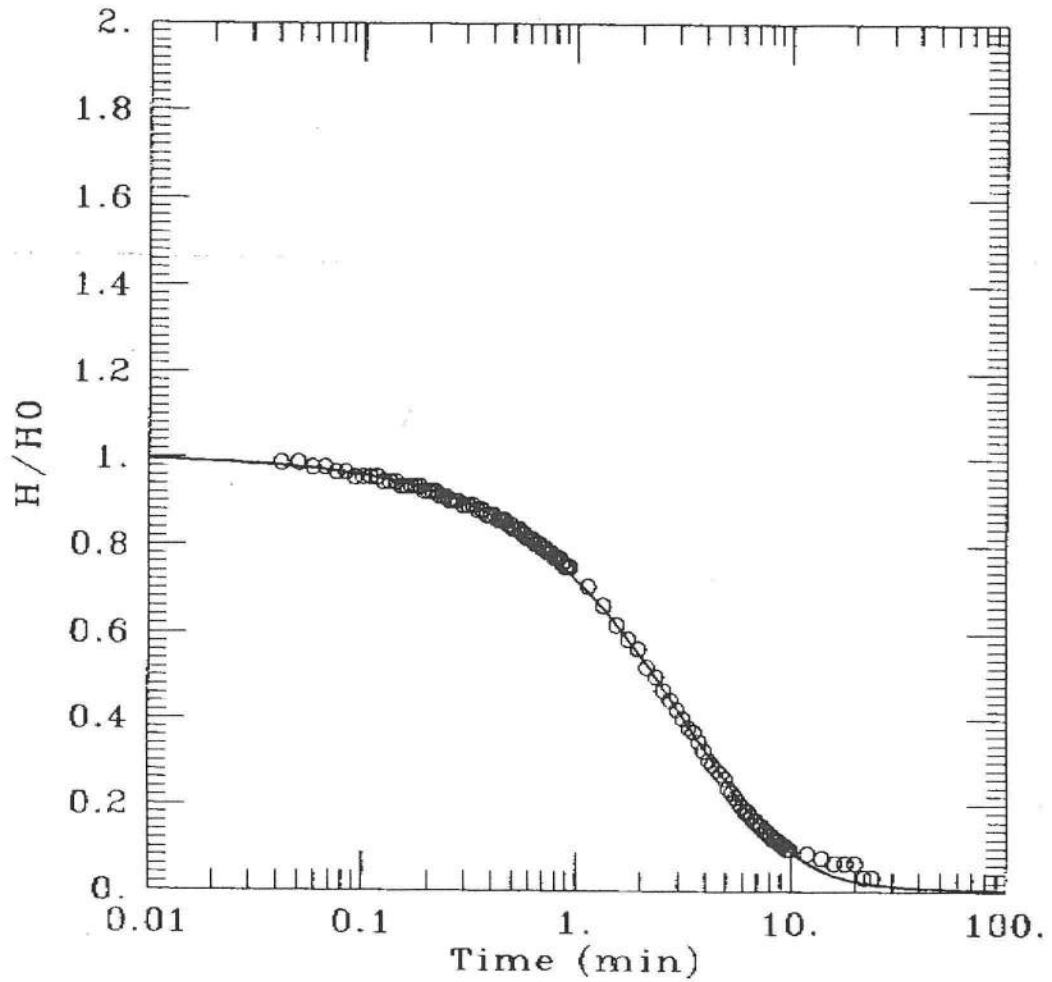
TEST DATA:
HO = 1.25 ft
rc = 0.083 ft
rw = 0.344 ft


P-8S Recoverey
T = 0.0003382 ft²/min
S = 0.0469
H/HO
2.
1.8
1.6
1.4
1.2
1.
0.8
0.6
0.4
0.2
0.
0.001
0.01
0.1
1.
10.
100.
Time (min)

DRAFT

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-9D RECOVERY




DATA SET:
P-9D-R.AQT
03/14/93

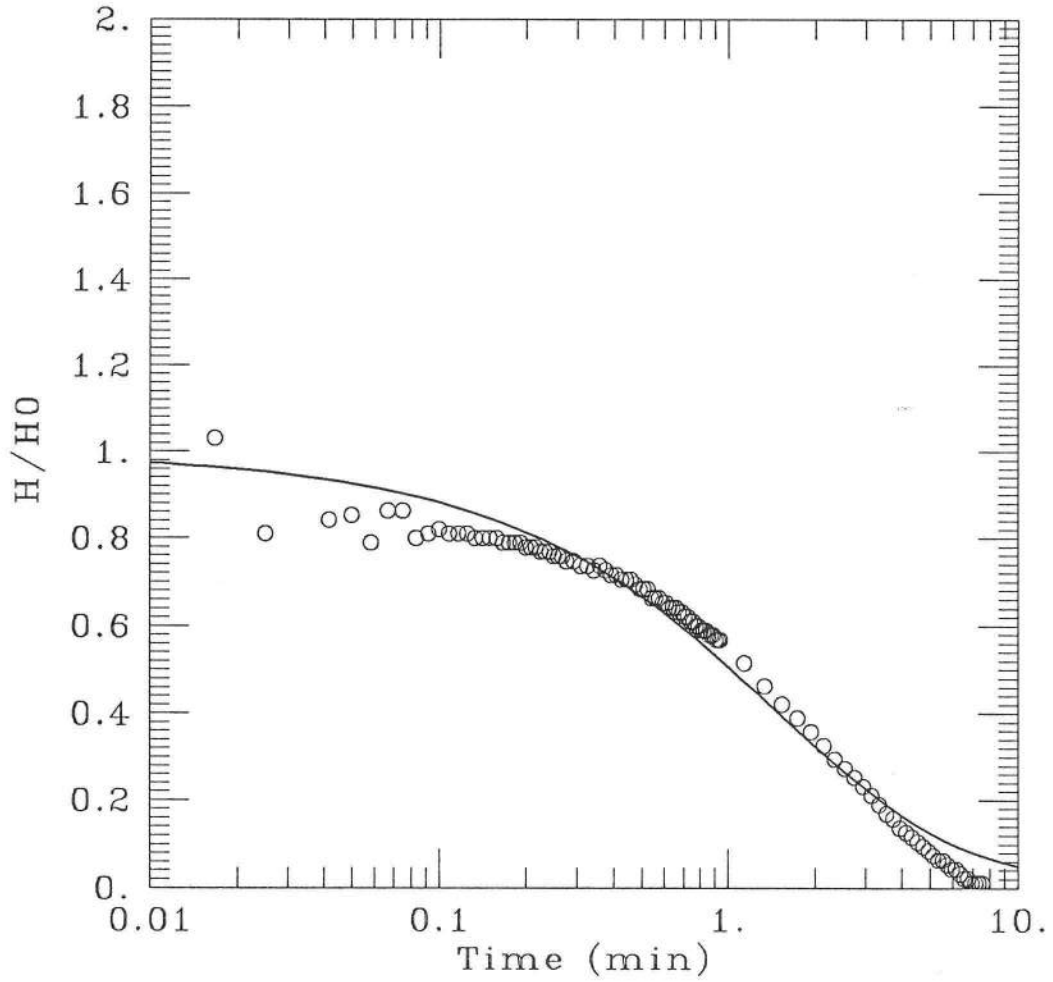
AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
8/31/92

ESTIMATED PARAMETERS:
T = 0.007533 $ft^2/min$
S = 1.6923E-07

TEST DATA:
H0 = 1.45 ft
rc = 0.083 ft
rw = 0.344 ft

| PATRICK ENGINEERING INC. | Client: CITY WATER, LIGHT & POWER |
|---|---|
| Project No.: 496B | Location: SPRINGFIELD, ILLINOIS |

# P-9D DRAWDOWN

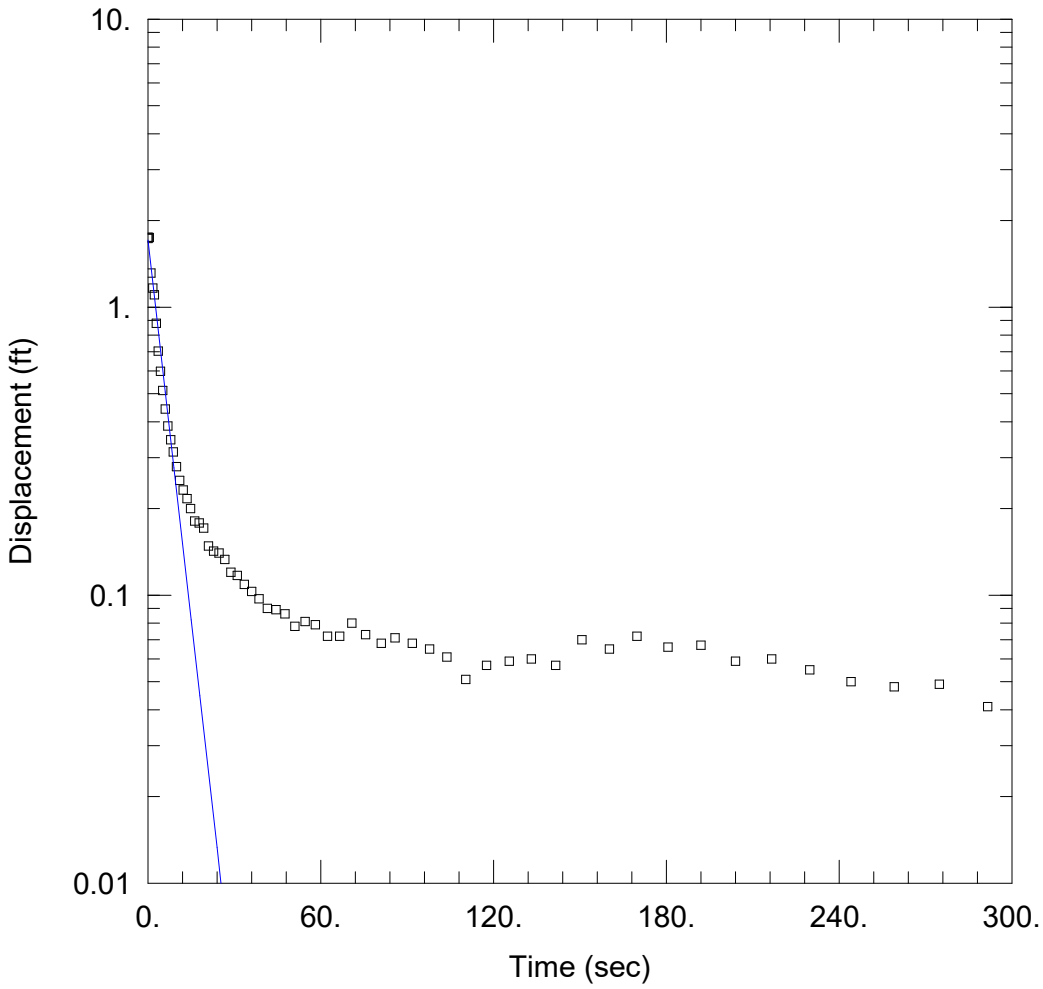



DATA SET:
P-9D-D.AQT
03/14/93

AQUIFER TYPE:
Confined
SOLUTION METHOD:
Cooper et al.
TEST DATE:
8/31/92

ESTIMATED PARAMETERS:
T = 0.005745 $ft^2/min$
S = 0.0005814

TEST DATA:
H0 = 1.5 ft
rc = 0.083 ft
rw = 0.344 ft




## P03S DRAWDOWN

Data Set: J:\...\P03S Drawdown.aqt
Date: 09/02/25 Time: 10:09:16

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: P03S
Test Date: 8-29-25

## AQUIFER DATA

Saturated Thickness: 5.64 ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (P03S)

Initial Displacement: 1.75 ft
Total Well Penetration Depth: 5.26 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 5.62 ft
Screen Length: 4.67 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.008191 cm/sec y0 = 1.709 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\P03S\P03S Drawdown.
Title: P03S Drawdown
Date: 09/02/25
Time: 10:09:28

PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-29-25
Test Well: P03S

AQUIFER DATA

Saturated Thickness: 5.64 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: P03S

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.75 ft
Static Water Column Height: 5.62 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.67 ft
Total Well Penetration Depth: 5.26 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.06471 ft
Gravel Pack Porosity: 0.

No. of Observations: 62

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.73 | 44.46 | 0.089 |
| 0.48 | 1.744 | 47.64 | 0.086 |
| 1.08 | 1.312 | 51. | 0.078 |
| 1.68 | 1.164 | 54.6 | 0.081 |
| 2.28 | 1.103 | 58.2 | 0.079 |
| 2.94 | 0.879 | 62.4 | 0.072 |
| 3.66 | 0.703 | 66.6 | 0.072 |
| 4.44 | 0.599 | 70.8 | 0.08 |
| 5.22 | 0.513 | 75.6 | 0.073 |
| 6.06 | 0.443 | 81. | 0.068 |
| 6.96 | 0.387 | 85.8 | 0.071 |
| 7.92 | 0.346 | 91.8 | 0.068 |
| 8.88 | 0.314 | 97.8 | 0.065 |
| 9.96 | 0.279 | 103.8 | 0.061 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 11.1 | 0.25 | 110.4 | 0.051 |
| 12.3 | 0.232 | 117.6 | 0.057 |
| 13.56 | 0.216 | 125.4 | 0.059 |
| 14.88 | 0.2 | 133.2 | 0.06 |
| 16.32 | 0.181 | 141.6 | 0.057 |
| 17.82 | 0.178 | 150.7 | 0.07 |
| 19.38 | 0.171 | 160.3 | 0.065 |
| 21.06 | 0.148 | 169.9 | 0.072 |
| 22.86 | 0.142 | 180.7 | 0.066 |
| 24.72 | 0.14 | 192. | 0.067 |
| 26.76 | 0.133 | 204. | 0.059 |
| 28.86 | 0.12 | 216.6 | 0.06 |
| 31.08 | 0.117 | 229.8 | 0.055 |
| 33.48 | 0.109 | 244.2 | 0.05 |
| 36. | 0.103 | 259.2 | 0.048 |
| 38.64 | 0.097 | 274.8 | 0.049 |
| 41.46 | 0.09 | 291.6 | 0.041 |

## SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.962

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.008191 | cm/sec |
| y0 | 1.709 | ft |

T = K*b = 1.408 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.008191 | 0.0004615 | +/- 0.0009229 | 17.75 | cm/sec |
| y0 | 1.709 | 0.0534 | +/- 0.1068 | 32.01 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 1.408 cm²/sec

### Parameter Correlations

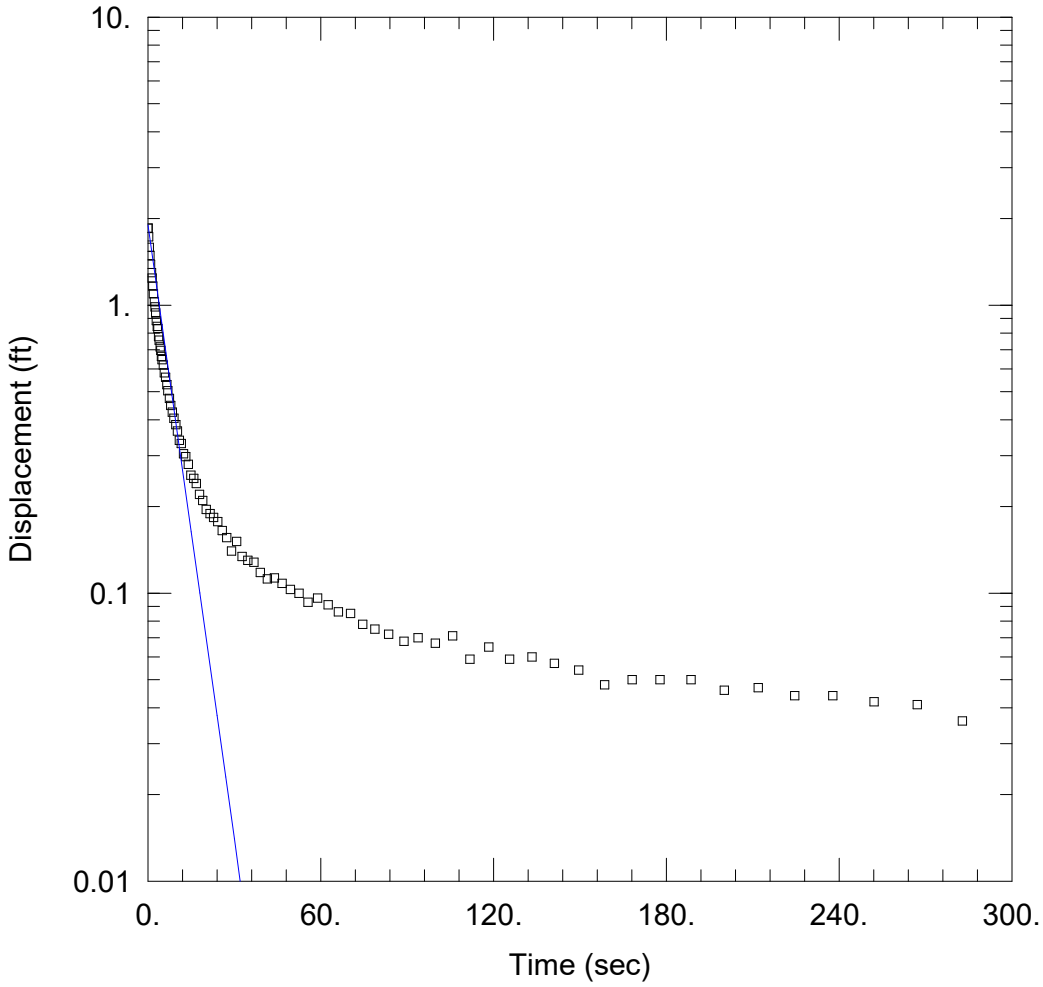
| | K | y0 |
|---|---|---|
| K | 1.00 | 0.65 |

y0 0.65 1.00

Residual Statistics

for weighted residuals

Sum of Squares... 0.4385 $ft^2$
Variance ..... 0.007309 $ft^2$
Std. Deviation..... 0.08549 ft
Mean..... 0.05952 ft
No. of Residuals .. 62
No. of Estimates .. 2




## P03S RECOVERY

Data Set: J:\...\P03S Recovery.aqt
Date: 09/02/25 Time: 10:08:57

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: P03S
Test Date: 8-15-25

## AQUIFER DATA

Saturated Thickness: 6.91 ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (P03S)

Initial Displacement: 1.849 ft
Total Well Penetration Depth: 6.47 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 6.91 ft
Screen Length: 4.67 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.006843 cm/sec y0 = 1.896 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\P03S\P03S Recovery.a
Title: P03S Recovery
Date: 09/02/25
Time: 10:09:04

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-15-25
Test Well: P03S

## AQUIFER DATA

Saturated Thickness: 6.91 ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: P03S

X Location: 1130755.048 ft
Y Location: 2457062.359 ft

Initial Displacement: 1.849 ft
Static Water Column Height: 6.91 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.67 ft
Total Well Penetration Depth: 6.47 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.06471 ft
Gravel Pack Porosity: 0.

No. of Observations: 88

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.849 | 22.88 | 0.183 |
| 0.247 | 1.726 | 24.32 | 0.177 |
| 0.497 | 1.588 | 25.82 | 0.165 |
| 0.747 | 1.489 | 27.38 | 0.156 |
| 0.997 | 1.386 | 29.06 | 0.14 |
| 1.247 | 1.296 | 30.86 | 0.151 |
| 1.497 | 1.24 | 32.72 | 0.134 |
| 1.747 | 1.165 | 34.76 | 0.13 |
| 1.997 | 1.095 | 36.86 | 0.128 |
| 2.247 | 1.028 | 39.08 | 0.118 |
| 2.497 | 0.987 | 41.48 | 0.112 |
| 2.747 | 0.94 | 44. | 0.113 |
| 2.997 | 0.884 | 46.64 | 0.108 |
| 3.247 | 0.843 | 49.46 | 0.103 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 3.497 | 0.829 | 52.46 | 0.1 |
| 3.747 | 0.778 | 55.64 | 0.093 |
| 3.997 | 0.755 | 59. | 0.096 |
| 4.247 | 0.717 | 62.6 | 0.091 |
| 4.497 | 0.697 | 66.2 | 0.086 |
| 4.747 | 0.664 | 70.4 | 0.085 |
| 4.997 | 0.646 | 74.6 | 0.078 |
| 5.357 | 0.619 | 78.8 | 0.075 |
| 5.717 | 0.582 | 83.6 | 0.072 |
| 6.137 | 0.561 | 89. | 0.068 |
| 6.557 | 0.529 | 93.8 | 0.07 |
| 6.977 | 0.505 | 99.8 | 0.067 |
| 7.457 | 0.474 | 105.8 | 0.071 |
| 7.997 | 0.448 | 111.8 | 0.059 |
| 8.477 | 0.425 | 118.4 | 0.065 |
| 9.077 | 0.405 | 125.6 | 0.059 |
| 9.677 | 0.385 | 133.4 | 0.06 |
| 10.28 | 0.365 | 141.2 | 0.057 |
| 10.94 | 0.339 | 149.6 | 0.054 |
| 11.66 | 0.331 | 158.6 | 0.048 |
| 12.44 | 0.305 | 168.2 | 0.05 |
| 13.22 | 0.298 | 177.8 | 0.05 |
| 14.06 | 0.28 | 188.6 | 0.05 |
| 14.96 | 0.257 | 200.1 | 0.046 |
| 15.92 | 0.25 | 212. | 0.047 |
| 16.88 | 0.24 | 224.6 | 0.044 |
| 17.96 | 0.22 | 237.8 | 0.044 |
| 19.1 | 0.21 | 252.2 | 0.042 |
| 20.3 | 0.195 | 267.2 | 0.041 |
| 21.56 | 0.189 | 282.8 | 0.036 |

## SOLUTION

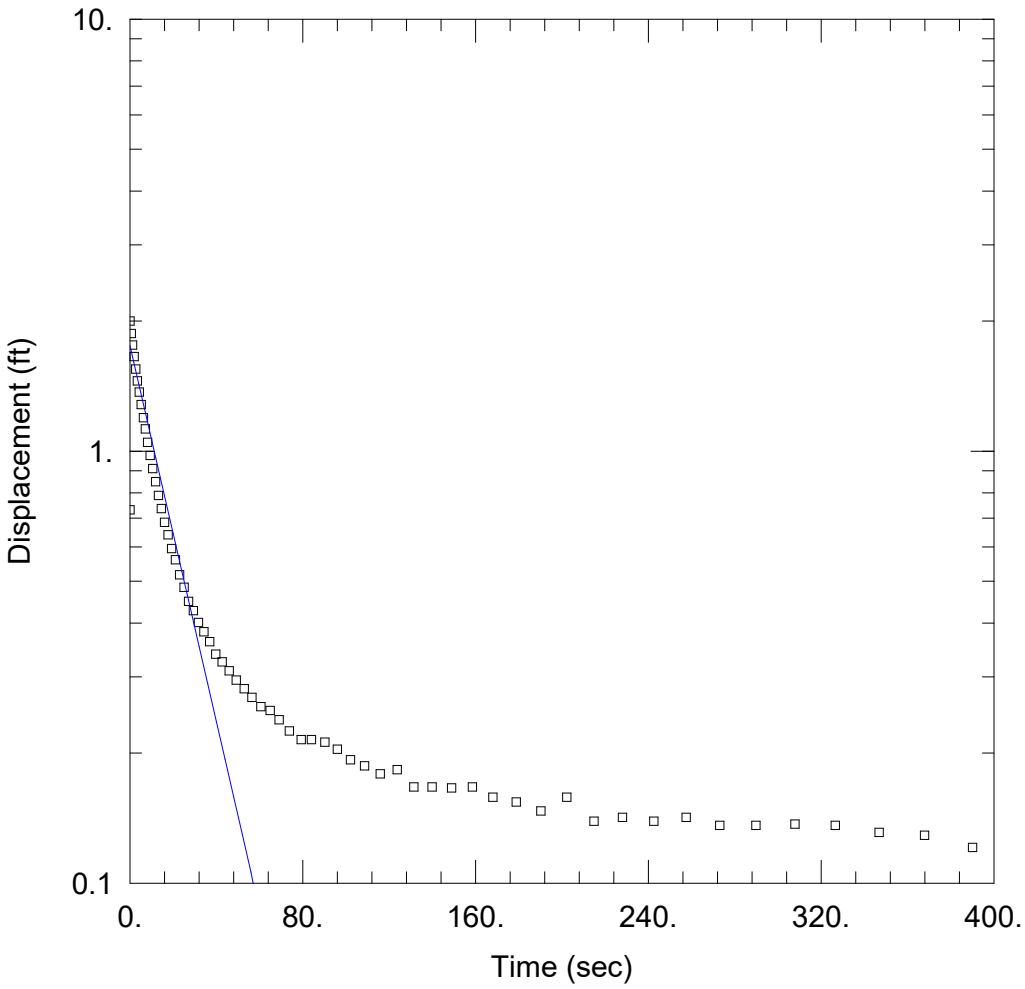
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.064

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.006843 | cm/sec |
| y0 | 1.896 | ft |

$T = K*b = 1.441$ cm²/sec




## P03D DRAWDOWN

Data Set: J:\...\P03D Drawdown.aqt
Date: 09/02/25 Time: 10:06:41

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: P03D
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (P03D)

Initial Displacement: 0.731 ft
Total Well Penetration Depth: 29.02 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 23.25 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.00405 cm/sec
y0 = 1.754 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\P03D\P03D Drawdown.
Title: P03D Drawdown
Date: 09/02/25
Time: 10:06:51

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: P03D

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: P03D

X Location: 1130755.616 ft
Y Location: 2457066.455 ft

Initial Displacement: 0.731 ft
Static Water Column Height: 23.25 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 29.02 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 64

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.001 | 56.52 | 0.269 |
| 0.6 | 1.873 | 60.72 | 0.256 |
| 1.26 | 1.76 | 64.92 | 0.251 |
| 1.98 | 1.656 | 69.12 | 0.239 |
| 2.76 | 1.548 | 73.92 | 0.225 |
| 3.54 | 1.455 | 79.32 | 0.215 |
| 4.38 | 1.369 | 84.12 | 0.215 |
| 5.28 | 1.281 | 90.24 | 0.212 |
| 6.24 | 1.196 | 96.12 | 0.204 |
| 7.2 | 1.126 | 102.1 | 0.193 |
| 8.28 | 1.048 | 108.7 | 0.187 |
| 9.42 | 0.978 | 115.9 | 0.179 |
| 10.62 | 0.911 | 123.7 | 0.183 |
| 11.88 | 0.85 | 131.5 | 0.167 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 13.2 | 0.789 | 139.9 | 0.167 |
| 14.64 | 0.736 | 148.9 | 0.166 |
| 16.14 | 0.684 | 158.5 | 0.167 |
| 17.7 | 0.64 | 168.1 | 0.158 |
| 19.38 | 0.595 | 178.9 | 0.154 |
| 21.18 | 0.56 | 190.3 | 0.147 |
| 23.04 | 0.517 | 202.3 | 0.158 |
| 25.08 | 0.484 | 214.9 | 0.139 |
| 27.18 | 0.449 | 228.1 | 0.142 |
| 29.4 | 0.427 | 242.5 | 0.139 |
| 31.8 | 0.401 | 257.5 | 0.142 |
| 34.32 | 0.382 | 273.1 | 0.136 |
| 36.96 | 0.362 | 289.9 | 0.136 |
| 39.78 | 0.339 | 307.9 | 0.137 |
| 42.78 | 0.325 | 326.5 | 0.136 |
| 45.96 | 0.31 | 346.9 | 0.131 |
| 49.32 | 0.295 | 367.9 | 0.129 |
| 52.92 | 0.282 | 390.1 | 0.121 |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 4.189

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.00405 | cm/sec |
| y0 | 1.754 | ft |

T = K*b = 0.6172 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.00405 | 0.0002678 | +/- 0.0005353 | 15.12 | cm/sec |
| y0 | 1.754 | 0.05678 | +/- 0.1135 | 30.89 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.6172 cm²/sec

### Parameter Correlations

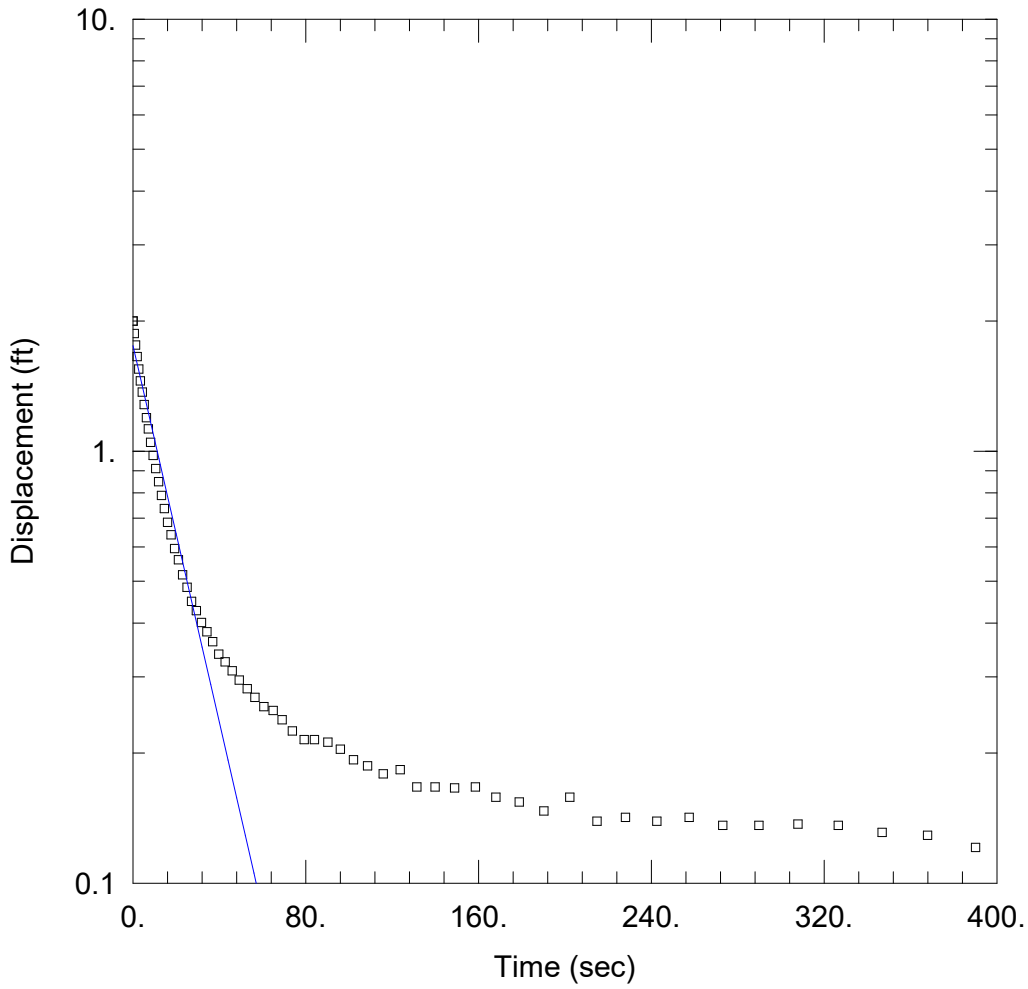
| | K | y0 |
|---|---|---|

| | | |
|---|---|---|
| K | 1.00 | 0.66 |
| y0 | 0.66 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 1.172 $ft^2$
Variance . . . . . 0.0189 $ft^2$
Std. Deviation . . . . . 0.1375 ft
Mean . . . . . 0.08258 ft
No. of Residuals . . 64
No. of Estimates . . 2




## P03D RECOVERY

Data Set: J:\...\P03D Recovery.aqt
Date: 09/02/25 Time: 10:06:23

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: P03D
Test Date: 8-15-25

## AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (P03D)

Initial Displacement: 2.001 ft
Total Well Penetration Depth: 29.02 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 23.25 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.004059 cm/sec y0 = 1.755 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\P03D\P03D Recovery.a
Title: P03D Recovery
Date: 09/02/25
Time: 10:06:33

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-15-25
Test Well: P03D

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: P03D

X Location: 1130755.347 ft
Y Location: 2457066.36 ft

Initial Displacement: 2.001 ft
Static Water Column Height: 23.25 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 29.02 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 64

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.001 | 56.52 | 0.269 |
| 0.6 | 1.873 | 60.72 | 0.256 |
| 1.26 | 1.76 | 64.92 | 0.251 |
| 1.98 | 1.656 | 69.12 | 0.239 |
| 2.76 | 1.548 | 73.92 | 0.225 |
| 3.54 | 1.455 | 79.32 | 0.215 |
| 4.38 | 1.369 | 84.12 | 0.215 |
| 5.28 | 1.281 | 90.24 | 0.212 |
| 6.24 | 1.196 | 96.12 | 0.204 |
| 7.2 | 1.126 | 102.1 | 0.193 |
| 8.28 | 1.048 | 108.7 | 0.187 |
| 9.42 | 0.978 | 115.9 | 0.179 |
| 10.62 | 0.911 | 123.7 | 0.183 |
| 11.88 | 0.85 | 131.5 | 0.167 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 13.2 | 0.789 | 139.9 | 0.167 |
| 14.64 | 0.736 | 148.9 | 0.166 |
| 16.14 | 0.684 | 158.5 | 0.167 |
| 17.7 | 0.64 | 168.1 | 0.158 |
| 19.38 | 0.595 | 178.9 | 0.154 |
| 21.18 | 0.56 | 190.3 | 0.147 |
| 23.04 | 0.517 | 202.3 | 0.158 |
| 25.08 | 0.484 | 214.9 | 0.139 |
| 27.18 | 0.449 | 228.1 | 0.142 |
| 29.4 | 0.427 | 242.5 | 0.139 |
| 31.8 | 0.401 | 257.5 | 0.142 |
| 34.32 | 0.382 | 273.1 | 0.136 |
| 36.96 | 0.362 | 289.9 | 0.136 |
| 39.78 | 0.339 | 307.9 | 0.137 |
| 42.78 | 0.325 | 326.5 | 0.136 |
| 45.96 | 0.31 | 346.9 | 0.131 |
| 49.32 | 0.295 | 367.9 | 0.129 |
| 52.92 | 0.282 | 390.1 | 0.121 |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 4.189

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.004059 | cm/sec |
| y0 | 1.755 | ft |

T = K*b = 0.6186 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.004059 | 0.0002683 | +/- 0.0005364 | 15.13 | cm/sec |
| y0 | 1.755 | 0.05682 | +/- 0.1136 | 30.89 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.6186 cm²/sec

### Parameter Correlations

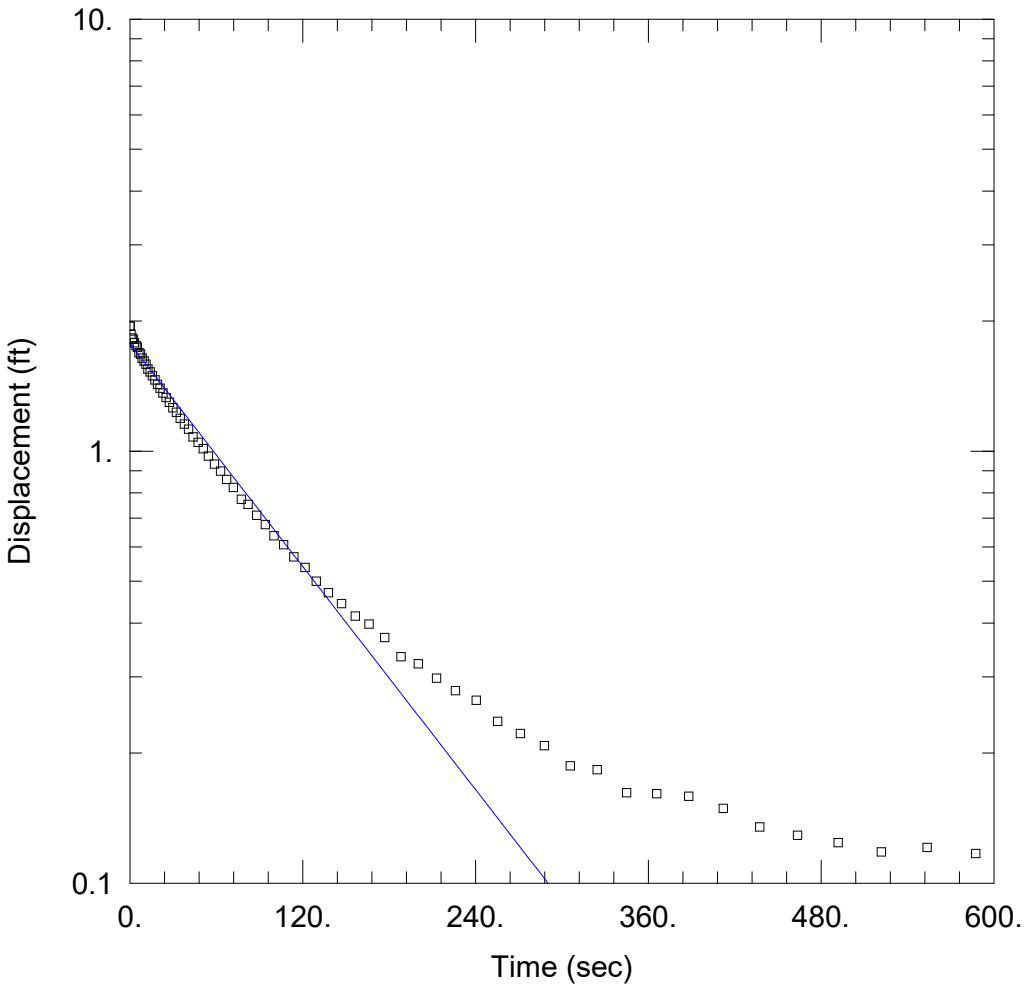
| | K | y0 |
|---|---|---|

| | | |
|---|---|---|
| K | 1.00 | 0.66 |
| y0 | 0.66 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 1.172 $ft^2$
Variance . . . . . 0.0189 $ft^2$
Std. Deviation . . . . . 0.1375 ft
Mean . . . . . 0.08283 ft
No. of Residuals . . 64
No. of Estimates . . 2




## R103S DRAWDOWN

Data Set: J:\...\R103S Drawdown.aqt
Date: 09/02/25 Time: 10:09:55

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: R103S
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (R103S)

Initial Displacement: 1.946 ft
Total Well Penetration Depth: 14.88 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 9.81 ft
Screen Length: 4.67 ft
Well Radius: 0.08333 ft

## SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0005147 cm/sec
y0 = 1.774 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\R103S\R103S Drawdow
Title: R103S Drawdown
Date: 09/02/25
Time: 10:10:04

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: R103S

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: R103S

X Location: 1130717.534 ft
Y Location: 2457299.138 ft

Initial Displacement: 1.946 ft
Static Water Column Height: 9.81 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.67 ft
Total Well Penetration Depth: 14.88 ft

No. of Observations: 68

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.946 | 77.34 | 0.773 |
| 0.78 | 1.866 | 82.14 | 0.753 |
| 1.56 | 1.827 | 88.14 | 0.71 |
| 2.4 | 1.816 | 94.14 | 0.676 |
| 3.3 | 1.782 | 100.1 | 0.637 |
| 4.26 | 1.755 | 106.7 | 0.607 |
| 5.22 | 1.738 | 113.9 | 0.569 |
| 6.3 | 1.691 | 121.7 | 0.538 |
| 7.44 | 1.677 | 129.5 | 0.5 |
| 8.64 | 1.64 | 137.9 | 0.47 |
| 9.9 | 1.615 | 146.9 | 0.444 |
| 11.22 | 1.588 | 156.5 | 0.415 |
| 12.66 | 1.55 | 166.1 | 0.398 |
| 14.16 | 1.524 | 176.9 | 0.37 |
| 15.72 | 1.494 | 188.3 | 0.334 |
| 17.4 | 1.462 | 200.3 | 0.322 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 19.2 | 1.426 | 212.9 | 0.298 |
| 21.06 | 1.398 | 226.1 | 0.279 |
| 23.1 | 1.363 | 240.5 | 0.265 |
| 25.2 | 1.33 | 255.5 | 0.237 |
| 27.42 | 1.296 | 271.1 | 0.222 |
| 29.82 | 1.259 | 287.9 | 0.208 |
| 32.34 | 1.23 | 305.9 | 0.187 |
| 34.98 | 1.192 | 324.5 | 0.183 |
| 37.8 | 1.156 | 344.9 | 0.162 |
| 40.8 | 1.123 | 365.9 | 0.161 |
| 43.98 | 1.079 | 388.1 | 0.159 |
| 47.34 | 1.048 | 412.1 | 0.149 |
| 50.94 | 1.013 | 437.3 | 0.135 |
| 54.54 | 0.974 | 463.7 | 0.129 |
| 58.74 | 0.933 | 491.9 | 0.124 |
| 62.94 | 0.899 | 521.9 | 0.118 |
| 67.14 | 0.86 | 553.7 | 0.121 |
| 71.94 | 0.824 | 587.3 | 0.117 |

## SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.802

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0005147 | cm/sec |
| y0 | 1.774 | ft |

T = K*b = 0.07844 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.0005147 | 1.44E-5 | +/- 2.875E-5 | 35.75 | cm/sec |
| y0 | 1.774 | 0.01927 | +/- 0.03848 | 92.05 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.07844 cm²/sec

### Parameter Correlations

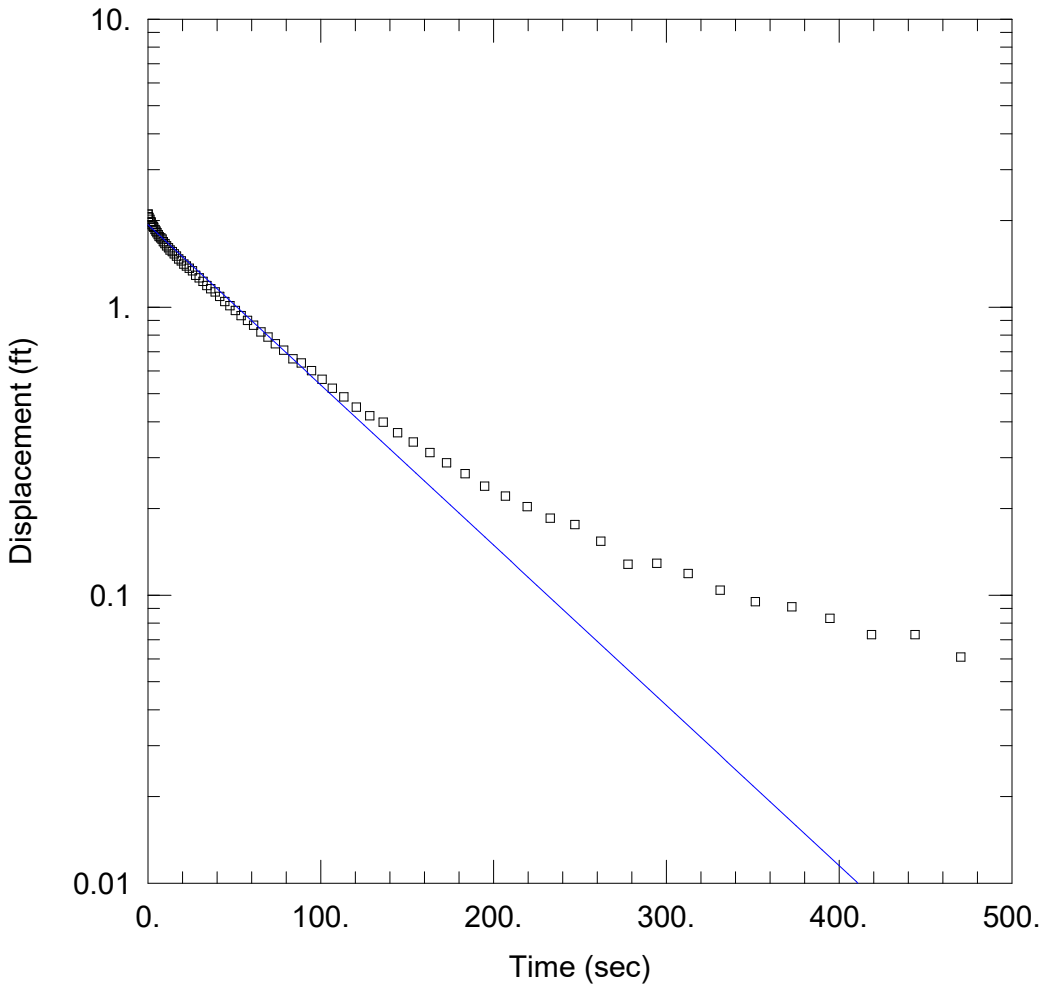
| | K | y0 |
|---|---|---|

| | | |
|---|---|---|
| K | 1.00 | 0.62 |
| y0 | 0.62 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 0.3552 $ft^2$
Variance . . . . . 0.005381 $ft^2$
Std. Deviation . . . . . 0.07336 ft
Mean . . . . . 0.02506 ft
No. of Residuals . . 68
No. of Estimates . . 2




## R103S RECOVERY

Data Set: J:\...\R103S Recovery.aqt
Date: 09/02/25 Time: 10:10:17

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: R103S
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (R103S)

Initial Displacement: 2.101 ft
Total Well Penetration Depth: 14.88 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 9.81 ft
Screen Length: 4.67 ft
Well Radius: 0.08333 ft

## SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.0006657 cm/sec
y0 = 1.934 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\R103S\R103S Recover
Title: R103S Recovery
Date: 09/02/25
Time: 10:10:28

PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: R103S

AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: R103S

X Location: 1130717.534 ft
Y Location: 2457299.138 ft

Initial Displacement: 2.101 ft
Static Water Column Height: 9.81 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.67 ft
Total Well Penetration Depth: 14.88 ft

No. of Observations: 77

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.101 | 50.64 | 0.974 |
| 0.359 | 2.061 | 54. | 0.934 |
| 0.72 | 2.049 | 57.6 | 0.899 |
| 1.14 | 2.016 | 61.2 | 0.865 |
| 1.559 | 1.985 | 65.4 | 0.821 |
| 1.979 | 1.971 | 69.6 | 0.787 |
| 2.46 | 1.934 | 73.8 | 0.746 |
| 2.999 | 1.908 | 78.6 | 0.708 |
| 3.479 | 1.892 | 84. | 0.662 |
| 4.079 | 1.861 | 88.8 | 0.64 |
| 4.68 | 1.835 | 94.8 | 0.602 |
| 5.279 | 1.815 | 100.8 | 0.561 |
| 5.94 | 1.784 | 106.8 | 0.523 |
| 6.66 | 1.76 | 113.4 | 0.488 |
| 7.44 | 1.739 | 120.6 | 0.45 |
| 8.22 | 1.721 | 128.4 | 0.42 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 9.06 | 1.687 | 136.2 | 0.399 |
| 9.96 | 1.66 | 144.6 | 0.366 |
| 10.92 | 1.633 | 153.6 | 0.34 |
| 11.88 | 1.607 | 163.2 | 0.313 |
| 12.96 | 1.579 | 172.8 | 0.288 |
| 14.1 | 1.559 | 183.6 | 0.264 |
| 15.3 | 1.531 | 195. | 0.239 |
| 16.56 | 1.503 | 207. | 0.221 |
| 17.88 | 1.471 | 219.6 | 0.203 |
| 19.32 | 1.447 | 232.8 | 0.185 |
| 20.82 | 1.409 | 247.2 | 0.176 |
| 22.38 | 1.388 | 262.2 | 0.154 |
| 24.06 | 1.363 | 277.8 | 0.128 |
| 25.86 | 1.336 | 294.6 | 0.129 |
| 27.72 | 1.289 | 312.6 | 0.119 |
| 29.76 | 1.263 | 331.2 | 0.104 |
| 31.86 | 1.23 | 351.6 | 0.095 |
| 34.08 | 1.19 | 372.6 | 0.091 |
| 36.48 | 1.158 | 394.8 | 0.083 |
| 39. | 1.129 | 418.8 | 0.073 |
| 41.64 | 1.089 | 444. | 0.073 |
| 44.46 | 1.046 | 470.4 | 0.061 |
| 47.46 | 1.012 | | |

## SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.802

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0006657 | cm/sec |
| y0 | 1.934 | ft |

T = K*b = 0.1015 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.0006657 | 1.427E-5 | +/- 2.843E-5 | 46.64 | cm/sec |
| y0 | 1.934 | 0.01484 | +/- 0.02955 | 130.3 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.1015 cm²/sec

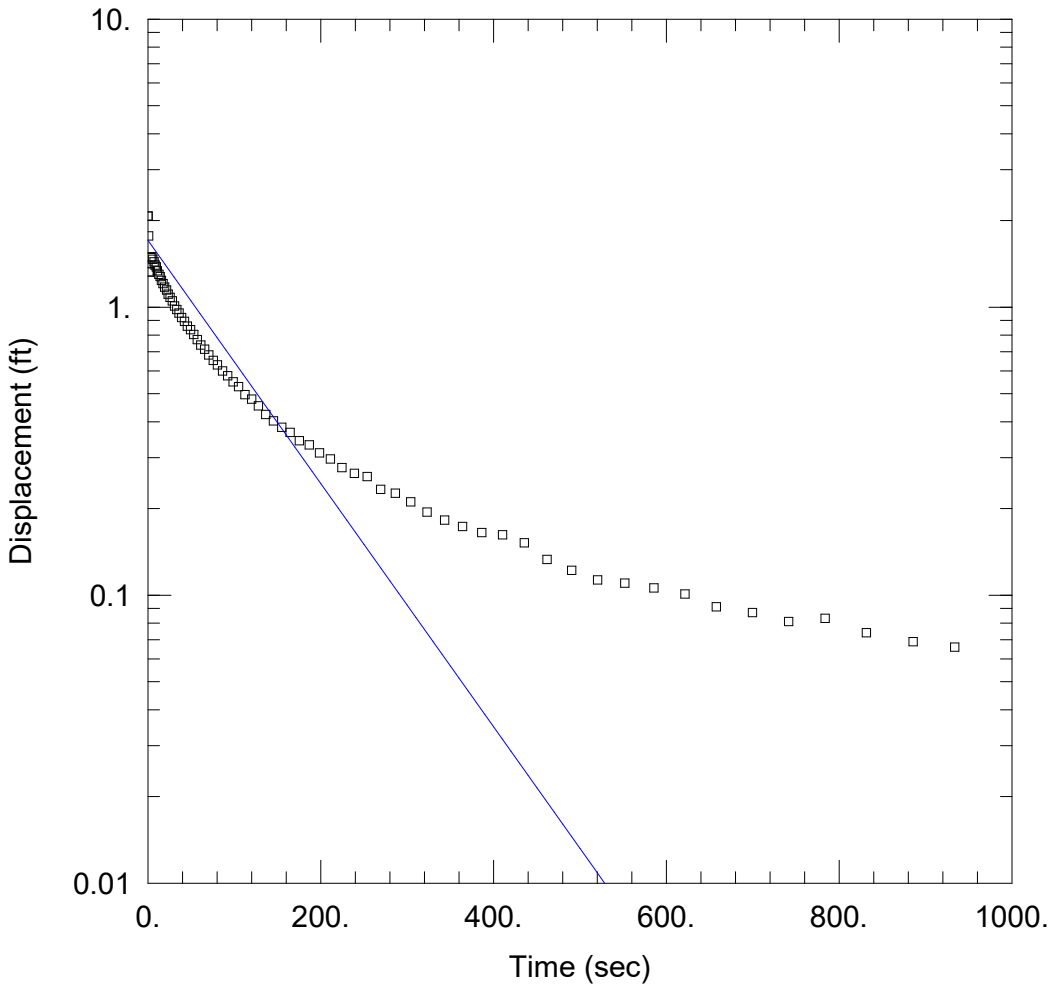
Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.60 |
| y0 | 0.60 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 0.3124 $ft^2$
Variance . . . . . 0.004165 $ft^2$
Std. Deviation . . . . . 0.06454 ft
Mean . . . . . 0.01767 ft
No. of Residuals . . 77
No. of Estimates . . 2




G104S

Data Set: J:\...\G104S Drawdown.aqt
Date: 09/02/25 Time: 10:05:35

PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: G104S
Test Date: 8-20-25

AQUIFER DATA

Saturated Thickness: 10.7 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (G104S)

Initial Displacement: 2.072 ft
Total Well Penetration Depth: 16.27 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.7 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.0005092 cm/sec y0 = 1.707 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\G104S\G104S Drawdo
Title: G104S
Date: 09/02/25
Time: 10:05:43

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: G104S

## AQUIFER DATA

Saturated Thickness: 10.7 ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: G104S

X Location: 1130745.859 ft
Y Location: 2456717.96 ft

Initial Displacement: 2.072 ft
Static Water Column Height: 10.7 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 16.27 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.06471 ft
Gravel Pack Porosity: 0.

No. of Observations: 74

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.072 | 105.2 | 0.53 |
| 0.84 | 1.768 | 112.4 | 0.497 |
| 1.74 | 1.325 | 120.2 | 0.479 |
| 2.7 | 1.326 | 128. | 0.454 |
| 3.66 | 1.486 | 136.4 | 0.424 |
| 4.74 | 1.498 | 145.4 | 0.403 |
| 5.88 | 1.465 | 155. | 0.383 |
| 7.08 | 1.435 | 164.6 | 0.367 |
| 8.34 | 1.401 | 175.4 | 0.344 |
| 9.676 | 1.378 | 186.8 | 0.332 |
| 11.1 | 1.338 | 198.8 | 0.312 |
| 12.6 | 1.3 | 211.4 | 0.297 |
| 14.16 | 1.276 | 224.6 | 0.277 |
| 15.84 | 1.237 | 239. | 0.265 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 17.64 | 1.207 | 254. | 0.258 |
| 19.5 | 1.173 | 269.6 | 0.233 |
| 21.54 | 1.146 | 286.4 | 0.226 |
| 23.64 | 1.109 | 304.4 | 0.211 |
| 25.86 | 1.08 | 323. | 0.194 |
| 28.26 | 1.05 | 343.4 | 0.182 |
| 30.78 | 1.01 | 364.4 | 0.173 |
| 33.42 | 0.982 | 386.6 | 0.165 |
| 36.24 | 0.954 | 410.6 | 0.162 |
| 39.24 | 0.921 | 435.8 | 0.152 |
| 42.42 | 0.892 | 462.2 | 0.133 |
| 45.78 | 0.859 | 490.4 | 0.122 |
| 49.38 | 0.834 | 520.4 | 0.113 |
| 52.98 | 0.803 | 552.2 | 0.11 |
| 57.18 | 0.772 | 585.8 | 0.106 |
| 61.38 | 0.739 | 621.8 | 0.101 |
| 65.58 | 0.714 | 657.8 | 0.091 |
| 70.38 | 0.683 | 699.8 | 0.087 |
| 75.78 | 0.653 | 741.8 | 0.081 |
| 80.58 | 0.63 | 783.8 | 0.083 |
| 86.58 | 0.601 | 831.8 | 0.074 |
| 92.58 | 0.577 | 885.8 | 0.069 |
| 98.58 | 0.55 | 933.8 | 0.066 |

## SOLUTION

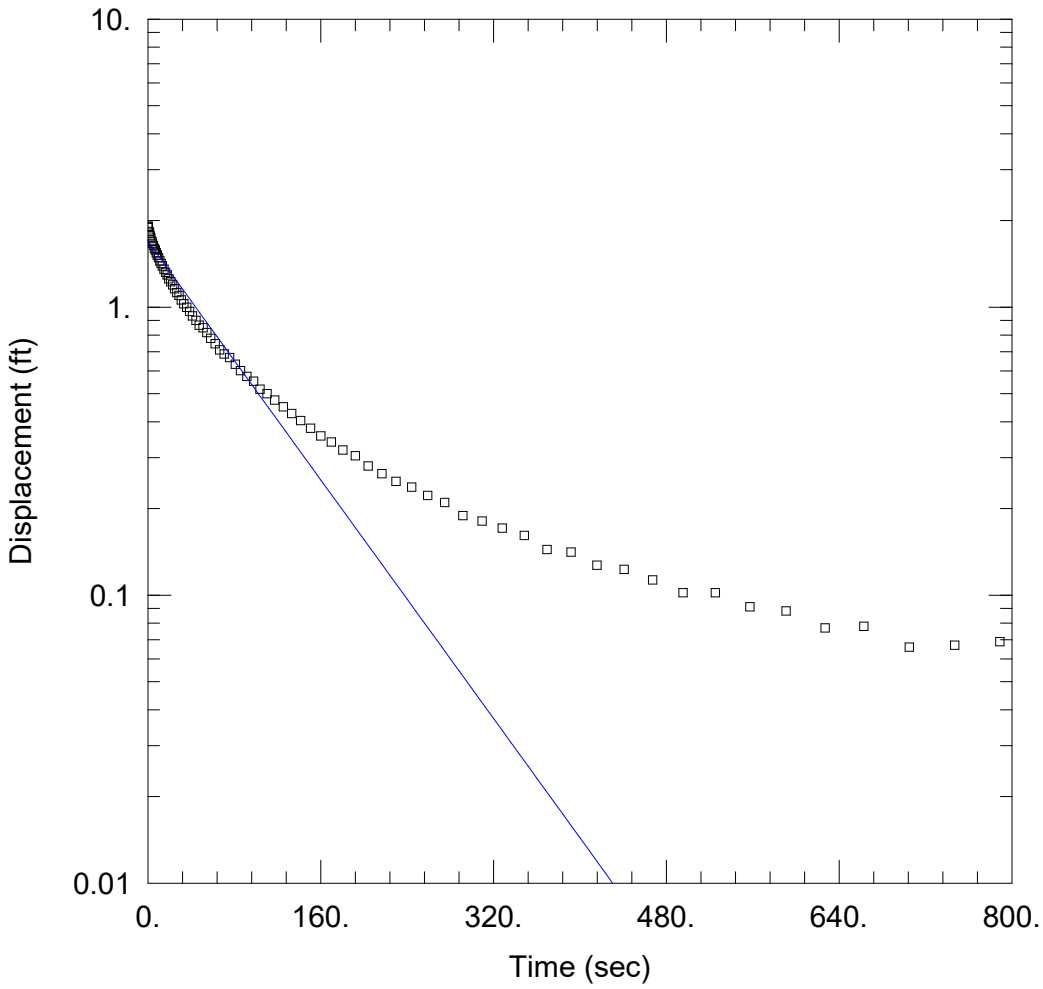
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.856

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0005092 | cm/sec |
| y0 | 1.707 | ft |

T = K*b = 0.1661 cm²/sec




## G104S RECOVERY

Data Set: J:\...\G104S Recovery.aqt
Date: 09/02/25 Time: 10:05:51

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: G104S
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (G104S)

Initial Displacement: 1.906 ft
Total Well Penetration Depth: 16.27 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.7 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.0006243 cm/sec y0 = 1.692 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\G104S\G104S Recover
Title: G104S Recovery
Date: 09/02/25
Time: 10:05:59

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: G104S

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: G104S

X Location: 1130745.859 ft
Y Location: 2456717.96 ft

Initial Displacement: 1.906 ft
Static Water Column Height: 10.7 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 16.27 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.06471 ft
Gravel Pack Porosity: 0.

No. of Observations: 79

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.906 | 81. | 0.634 |
| 0.48 | 1.89 | 85.8 | 0.602 |
| 1.08 | 1.833 | 91.8 | 0.574 |
| 1.68 | 1.81 | 97.8 | 0.553 |
| 2.28 | 1.766 | 103.8 | 0.519 |
| 2.94 | 1.734 | 110.4 | 0.5 |
| 3.66 | 1.693 | 117.6 | 0.475 |
| 4.44 | 1.667 | 125.4 | 0.451 |
| 5.22 | 1.635 | 133.2 | 0.427 |
| 6.06 | 1.6 | 141.6 | 0.404 |
| 6.96 | 1.578 | 150.6 | 0.38 |
| 7.92 | 1.542 | 160.2 | 0.357 |
| 8.88 | 1.516 | 169.8 | 0.34 |
| 9.96 | 1.484 | 180.6 | 0.319 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 11.1 | 1.448 | 192. | 0.305 |
| 12.3 | 1.417 | 204. | 0.281 |
| 13.56 | 1.388 | 216.6 | 0.264 |
| 14.88 | 1.354 | 229.8 | 0.248 |
| 16.32 | 1.319 | 244.2 | 0.237 |
| 17.82 | 1.292 | 259.2 | 0.222 |
| 19.38 | 1.253 | 274.8 | 0.21 |
| 21.06 | 1.225 | 291.6 | 0.189 |
| 22.86 | 1.196 | 309.6 | 0.181 |
| 24.72 | 1.158 | 328.2 | 0.171 |
| 26.76 | 1.123 | 348.6 | 0.161 |
| 28.86 | 1.098 | 369.6 | 0.144 |
| 31.08 | 1.058 | 391.8 | 0.141 |
| 33.48 | 1.028 | 415.8 | 0.127 |
| 36. | 0.998 | 441. | 0.123 |
| 38.64 | 0.967 | 467.4 | 0.113 |
| 41.46 | 0.932 | 495.6 | 0.102 |
| 44.46 | 0.899 | 525.6 | 0.102 |
| 47.64 | 0.865 | 557.4 | 0.091 |
| 51. | 0.847 | 591. | 0.088 |
| 54.6 | 0.815 | 627. | 0.077 |
| 58.2 | 0.779 | 663. | 0.078 |
| 62.4 | 0.747 | 705. | 0.066 |
| 66.6 | 0.71 | 747. | 0.067 |
| 70.8 | 0.687 | 789. | 0.069 |
| 75.6 | 0.668 | | |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.856

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0006243 | cm/sec |
| y0 | 1.692 | ft |

T = K*b = 0.09514 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.0006243 | 2.442E-5 | +/- 4.862E-5 | 25.56 | cm/sec |
| y0 | 1.692 | 0.02502 | +/- 0.04981 | 67.65 | ft |

C.I. is approximate 95% confidence interval for parameter

t-ratio = estimate/std. error
No estimation window

T = K*b = 0.09514 cm²/sec

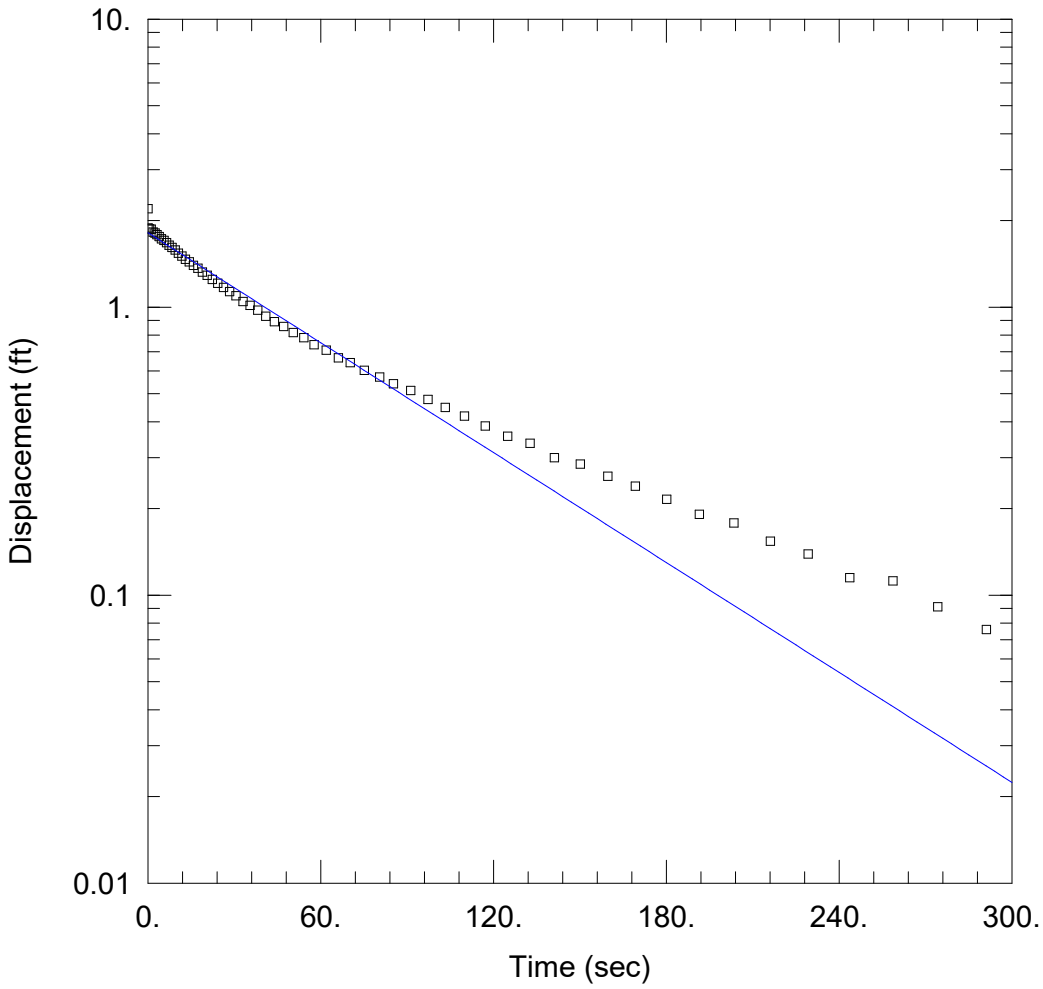
Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.62 |
| y0 | 0.62 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 0.7656 $ft^2$
Variance . . . . . 0.009943 $ft^2$
Std. Deviation . . . . . 0.09971 ft
Mean . . . . . 0.03548 ft
No. of Residuals . . 79
No. of Estimates . . 2




## RW3S DRAWDOWN

Data Set: J:\...\RW3S Drawdown.aqt
Date: 09/02/25 Time: 10:11:43

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: RW3S
Test Date: 8-19-25

## AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (RW3S)

Initial Displacement: 2.197 ft
Total Well Penetration Depth: 6.29 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 6.65 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0006517 cm/sec y0 = 1.811 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\RW3S\RW3S Drawdow
Title: RW3S Drawdown
Date: 09/02/25
Time: 10:11:57

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-19-25
Test Well: RW3S

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: RW3S

X Location: 1130653.064 ft
Y Location: 2456148.635 ft

Initial Displacement: 2.197 ft
Static Water Column Height: 6.65 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 6.29 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.06471 ft
Gravel Pack Porosity: 0.

No. of Observations: 61

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.884 | 47.16 | 0.856 |
| 0.6 | 1.87 | 50.52 | 0.817 |
| 1.2 | 1.865 | 54.12 | 0.784 |
| 1.8 | 1.823 | 57.72 | 0.74 |
| 2.46 | 1.809 | 61.92 | 0.709 |
| 3.18 | 1.784 | 66.12 | 0.666 |
| 3.96 | 1.756 | 70.32 | 0.641 |
| 4.74 | 1.728 | 75.12 | 0.604 |
| 5.58 | 1.706 | 80.52 | 0.572 |
| 6.48 | 1.673 | 85.32 | 0.542 |
| 7.44 | 1.64 | 91.32 | 0.514 |
| 8.4 | 1.611 | 97.32 | 0.478 |
| 9.48 | 1.577 | 103.3 | 0.448 |
| 10.62 | 1.537 | 109.9 | 0.419 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 11.82 | 1.503 | 117.1 | 0.387 |
| 13.1 | 1.467 | 124.9 | 0.356 |
| 14.4 | 1.437 | 132.7 | 0.337 |
| 15.84 | 1.396 | 141.1 | 0.3 |
| 17.34 | 1.364 | 150.1 | 0.285 |
| 18.9 | 1.324 | 159.7 | 0.259 |
| 20.58 | 1.289 | 169.3 | 0.239 |
| 22.38 | 1.247 | 180.1 | 0.215 |
| 24.24 | 1.21 | 191.5 | 0.191 |
| 26.28 | 1.17 | 203.5 | 0.178 |
| 28.38 | 1.131 | 216.1 | 0.154 |
| 30.6 | 1.095 | 229.3 | 0.139 |
| 33. | 1.045 | 243.7 | 0.115 |
| 35.52 | 1.015 | 258.7 | 0.112 |
| 38.16 | 0.975 | 274.3 | 0.091 |
| 40.98 | 0.93 | 291.1 | 0.076 |
| 43.98 | 0.89 | | |

## SOLUTION

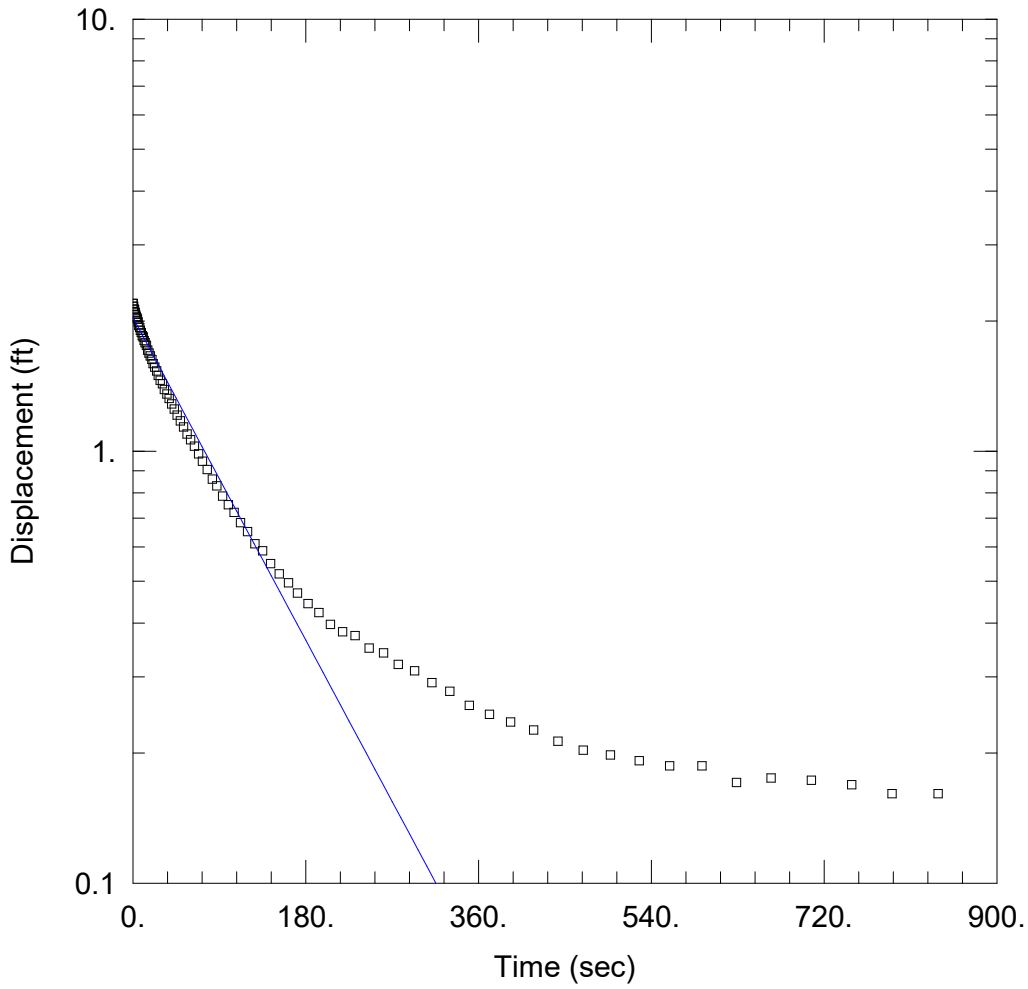
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.277

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0006517 | cm/sec |
| y0 | 1.811 | ft |

$T = K*b = 0.09932$ cm²/sec




## RW3S RECOVERY

Data Set: J:\...\RW3S Recovery.aqt
Date: 09/02/25 Time: 10:12:10

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: RW3S
Test Date: 8-19-25

## AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (RW3S)

Initial Displacement: 2.197 ft
Total Well Penetration Depth: 6.66 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 6.65 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0004298 cm/sec y0 = 2.038 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\RW3S\RW3S Recovery
Title: RW3S Recovery
Date: 09/02/25
Time: 10:12:18

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-19-25
Test Well: RW3S

## AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: RW3S

X Location: 1130652.179 ft
Y Location: 2456148.818 ft

Initial Displacement: 2.197 ft
Static Water Column Height: 6.65 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 6.66 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.06471 ft
Gravel Pack Porosity: 0.

No. of Observations: 84

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.197 | 72.66 | 0.947 |
| 0.42 | 2.164 | 77.46 | 0.907 |
| 0.84 | 2.162 | 82.86 | 0.861 |
| 1.32 | 2.135 | 87.66 | 0.831 |
| 1.86 | 2.122 | 93.66 | 0.787 |
| 2.34 | 2.096 | 99.66 | 0.751 |
| 2.94 | 2.074 | 105.7 | 0.721 |
| 3.54 | 2.051 | 112.3 | 0.683 |
| 4.14 | 2.034 | 119.5 | 0.651 |
| 4.8 | 2.022 | 127.3 | 0.61 |
| 5.52 | 1.991 | 135.1 | 0.588 |
| 6.3 | 1.954 | 143.5 | 0.549 |
| 7.08 | 1.932 | 152.5 | 0.52 |
| 7.92 | 1.904 | 162.1 | 0.496 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 8.82 | 1.882 | 171.7 | 0.469 |
| 9.78 | 1.85 | 182.5 | 0.444 |
| 10.74 | 1.838 | 193.9 | 0.423 |
| 11.82 | 1.804 | 205.9 | 0.397 |
| 12.96 | 1.78 | 218.5 | 0.382 |
| 14.16 | 1.757 | 231.7 | 0.374 |
| 15.42 | 1.713 | 246.1 | 0.35 |
| 16.74 | 1.686 | 261.1 | 0.341 |
| 18.18 | 1.661 | 276.7 | 0.321 |
| 19.68 | 1.63 | 293.5 | 0.31 |
| 21.24 | 1.595 | 311.5 | 0.291 |
| 22.92 | 1.566 | 330.1 | 0.278 |
| 24.72 | 1.532 | 350.5 | 0.258 |
| 26.58 | 1.497 | 371.5 | 0.246 |
| 28.62 | 1.46 | 393.7 | 0.236 |
| 30.72 | 1.431 | 417.7 | 0.226 |
| 32.94 | 1.389 | 442.9 | 0.213 |
| 35.34 | 1.357 | 469.3 | 0.203 |
| 37.86 | 1.325 | 497.5 | 0.198 |
| 40.5 | 1.287 | 527.5 | 0.192 |
| 43.32 | 1.252 | 559.3 | 0.187 |
| 46.32 | 1.211 | 592.9 | 0.187 |
| 49.5 | 1.175 | 628.9 | 0.171 |
| 52.86 | 1.138 | 664.9 | 0.175 |
| 56.46 | 1.096 | 706.9 | 0.173 |
| 60.06 | 1.062 | 748.9 | 0.169 |
| 64.26 | 1.027 | 790.9 | 0.161 |
| 68.46 | 0.986 | 838.9 | 0.161 |

## SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.313

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0004298 | cm/sec |
| y0 | 2.038 | ft |

T = K*b = 0.0655 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.0004298 | 1.54E-5 | +/- 3.062E-5 | 27.92 | cm/sec |
| y0 | 2.038 | 0.0256 | +/- 0.05092 | 79.59 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.0655 cm²/sec

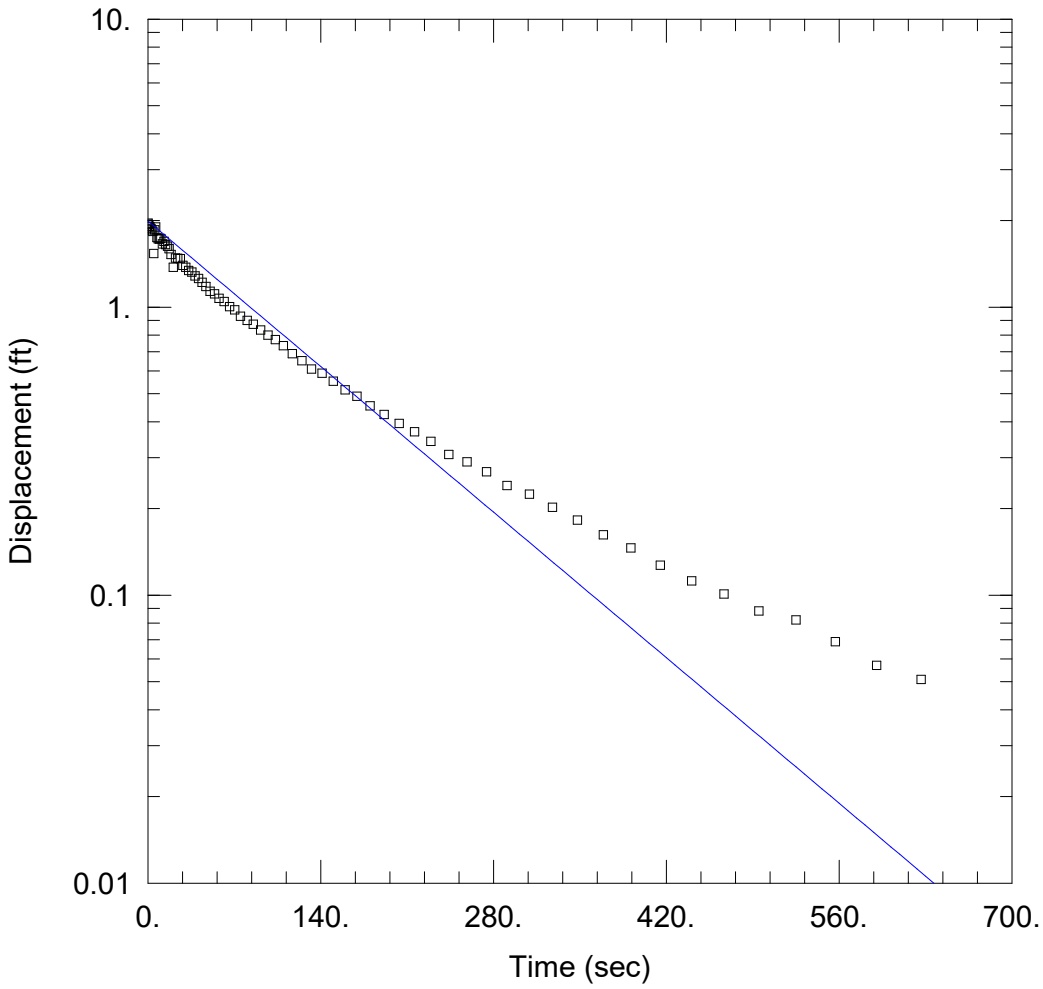
Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.60 |
| y0 | 0.60 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares... 1.082 $ft^2$
Variance ..... 0.0132 $ft^2$
Std. Deviation..... 0.1149 ft
Mean..... 0.04488 ft
No. of Residuals .. 84
No. of Estimates .. 2




## AP-6S DRAWDOWN

Data Set: J:\...\AP-6S Drawdown.aqt
Date: 09/02/25 Time: 09:54:02

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-6S
Test Date: 8-19-25

## AQUIFER DATA

Saturated Thickness: 6.36 ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-6S)

Initial Displacement: 1.94 ft
Total Well Penetration Depth: 5.96 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 5.933 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0004859 cm/sec y0 = 1.99 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-6S\AP-6S Drawdow
Title: AP-6S Drawdown
Date: 09/02/25
Time: 09:54:11

PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-19-25
Test Well: AP-6S

AQUIFER DATA

Saturated Thickness: 6.36 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: AP-6S

X Location: 1130735.938 ft
Y Location: 2456104.086 ft

Initial Displacement: 1.94 ft
Static Water Column Height: 5.933 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 5.96 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 74

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.956 | 70.32 | 0.979 |
| 0.6 | 1.932 | 75.12 | 0.93 |
| 1.2 | 1.909 | 80.52 | 0.899 |
| 1.8 | 1.897 | 85.32 | 0.871 |
| 2.46 | 1.873 | 91.32 | 0.832 |
| 3.18 | 1.856 | 97.32 | 0.799 |
| 3.96 | 1.833 | 103.3 | 0.771 |
| 4.74 | 1.534 | 109.9 | 0.734 |
| 5.58 | 1.853 | 117.1 | 0.689 |
| 6.48 | 1.897 | 124.9 | 0.651 |
| 7.44 | 1.745 | 132.7 | 0.609 |
| 8.4 | 1.725 | 141.1 | 0.59 |
| 9.48 | 1.723 | 150.1 | 0.553 |
| 10.62 | 1.733 | 159.7 | 0.516 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 11.82 | 1.659 | 169.3 | 0.49 |
| 13.08 | 1.693 | 180.1 | 0.454 |
| 14.4 | 1.648 | 191.5 | 0.424 |
| 15.84 | 1.63 | 203.5 | 0.395 |
| 17.34 | 1.597 | 216.1 | 0.369 |
| 18.9 | 1.522 | 229.3 | 0.342 |
| 20.58 | 1.374 | 243.7 | 0.308 |
| 22.38 | 1.482 | 258.7 | 0.29 |
| 24.24 | 1.477 | 274.3 | 0.268 |
| 26.28 | 1.473 | 291.1 | 0.24 |
| 28.38 | 1.396 | 309.1 | 0.224 |
| 30.6 | 1.375 | 327.7 | 0.202 |
| 33. | 1.341 | 348.1 | 0.182 |
| 35.52 | 1.322 | 369.1 | 0.162 |
| 38.16 | 1.283 | 391.3 | 0.146 |
| 40.98 | 1.257 | 415.3 | 0.127 |
| 43.98 | 1.218 | 440.5 | 0.112 |
| 47.16 | 1.178 | 466.9 | 0.101 |
| 50.52 | 1.136 | 495.1 | 0.088 |
| 54.12 | 1.112 | 525.1 | 0.082 |
| 57.72 | 1.072 | 556.9 | 0.069 |
| 61.92 | 1.047 | 590.5 | 0.057 |
| 66.12 | 1.004 | 626.5 | 0.051 |

## SOLUTION

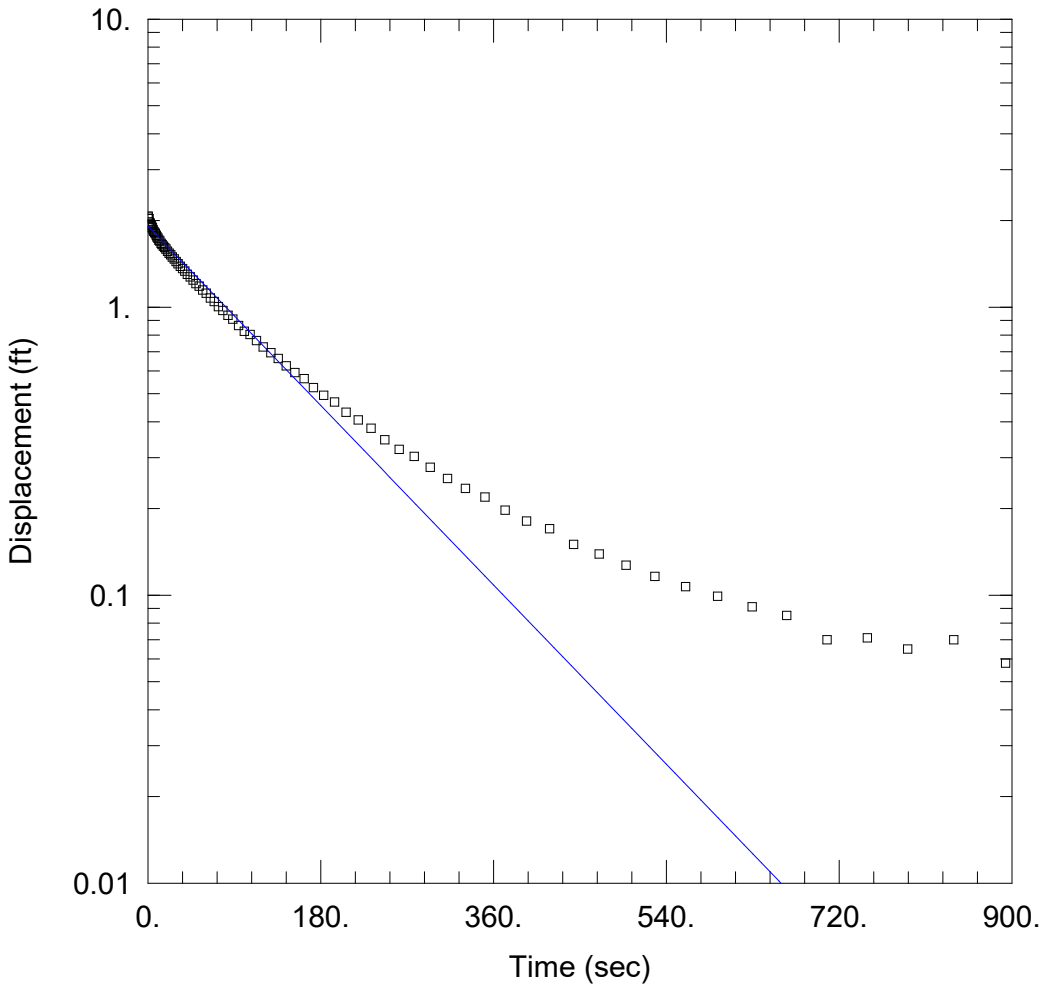
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.029

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0004859 | cm/sec |
| y0 | 1.99 | ft |

T = K*b = 0.0942 cm²/sec




## AP-6S RECOVERY

Data Set: J:\...\AP-6S Recovery.aqt
Date: 09/02/25 Time: 09:54:19

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-6S
Test Date: 8-19-25

## AQUIFER DATA

Saturated Thickness: 6.36 ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-6S)

Initial Displacement: 1.94 ft
Total Well Penetration Depth: 6.66 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 5.93 ft
Screen Length: 4.7 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.000509 cm/sec y0 = 1.907 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-6S\AP-6S Recovery
Title: AP-6S Recovery
Date: 09/02/25
Time: 09:54:40

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-19-25
Test Well: AP-6S

## AQUIFER DATA

Saturated Thickness: 6.36 ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: AP-6S

X Location: 1130735.938 ft
Y Location: 2456104.086 ft

Initial Displacement: 1.94 ft
Static Water Column Height: 5.93 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.7 ft
Total Well Penetration Depth: 6.66 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 87

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.072 | 73.44 | 1.005 |
| 0.36 | 2.054 | 78.24 | 0.973 |
| 0.78 | 2.028 | 83.64 | 0.936 |
| 1.2 | 2.03 | 88.44 | 0.908 |
| 1.62 | 1.976 | 94.44 | 0.864 |
| 2.1 | 1.929 | 100.4 | 0.824 |
| 2.64 | 1.956 | 106.4 | 0.803 |
| 3.12 | 1.934 | 113. | 0.766 |
| 3.72 | 1.912 | 120.2 | 0.728 |
| 4.32 | 1.895 | 128. | 0.694 |
| 4.92 | 1.882 | 135.8 | 0.664 |
| 5.58 | 1.855 | 144.2 | 0.625 |
| 6.3 | 1.831 | 153.2 | 0.592 |
| 7.08 | 1.817 | 162.8 | 0.564 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 7.86 | 1.797 | 172.4 | 0.525 |
| 8.7 | 1.778 | 183.2 | 0.494 |
| 9.6 | 1.754 | 194.6 | 0.468 |
| 10.56 | 1.735 | 206.6 | 0.431 |
| 11.52 | 1.711 | 219.2 | 0.406 |
| 12.6 | 1.697 | 232.4 | 0.38 |
| 13.74 | 1.668 | 246.8 | 0.346 |
| 14.94 | 1.651 | 261.8 | 0.321 |
| 16.2 | 1.63 | 277.4 | 0.303 |
| 17.52 | 1.61 | 294.2 | 0.278 |
| 18.96 | 1.59 | 312.2 | 0.254 |
| 20.46 | 1.564 | 330.8 | 0.235 |
| 22.02 | 1.537 | 351.2 | 0.219 |
| 23.7 | 1.52 | 372.2 | 0.197 |
| 25.5 | 1.494 | 394.4 | 0.181 |
| 27.36 | 1.469 | 418.4 | 0.17 |
| 29.41 | 1.441 | 443.6 | 0.15 |
| 31.5 | 1.416 | 470. | 0.139 |
| 33.72 | 1.386 | 498.2 | 0.127 |
| 36.12 | 1.361 | 528.2 | 0.116 |
| 38.64 | 1.332 | 560. | 0.107 |
| 41.28 | 1.3 | 593.6 | 0.099 |
| 44.1 | 1.274 | 629.6 | 0.091 |
| 47.1 | 1.241 | 665.6 | 0.085 |
| 50.28 | 1.206 | 707.6 | 0.07 |
| 53.64 | 1.181 | 749.6 | 0.071 |
| 57.24 | 1.146 | 791.6 | 0.065 |
| 60.84 | 1.118 | 839.6 | 0.07 |
| 65.04 | 1.076 | 893.6 | 0.058 |
| 69.24 | 1.046 | | |

## SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.313

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.000509 | cm/sec |
| y0 | 1.907 | ft |

T = K*b = 0.09868 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| K | 0.000509 | 1.17E-5 | +/- 2.325E-5 | 43.52 | cm/sec |
| y0 | 1.907 | 0.01465 | +/- 0.02912 | 130.2 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.09868 cm²/sec

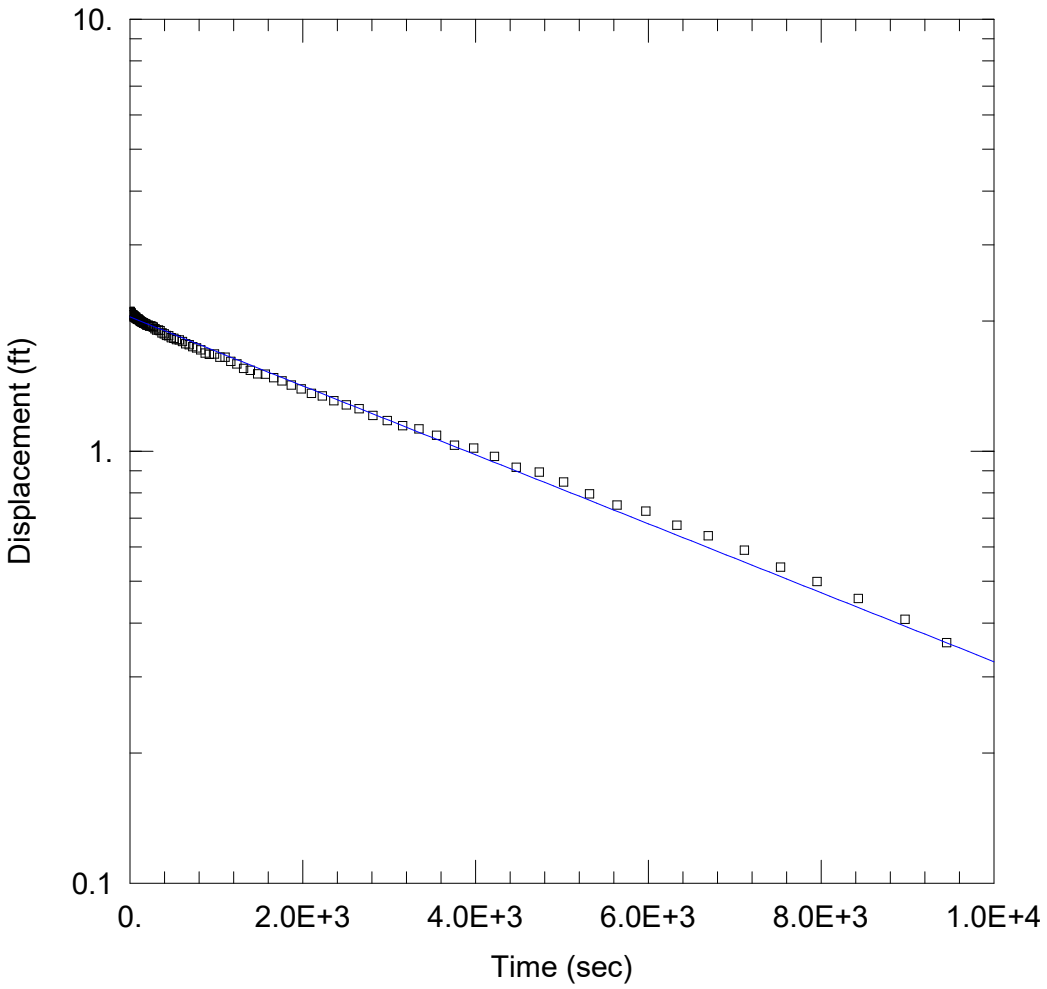
Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.58 |
| y0 | 0.58 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 0.4247 $ft^2$
Variance . . . . . 0.004996 $ft^2$
Std. Deviation . . . . . 0.07068 ft
Mean . . . . . 0.02013 ft
No. of Residuals . . 87
No. of Estimates . . 2




## AP-15D DRAWDOWN

Data Set: J:\...\AP-15D Drawdown.aqt
Date: 09/02/25 Time: 10:03:03

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-15D
Test Date: 8-19-25

## AQUIFER DATA

Saturated Thickness: 2. ft
Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-15D)

Initial Displacement: 2.107 ft
Total Well Penetration Depth: 29.85 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 23.3 ft
Screen Length: 2.4 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 3.189E-5 cm/sec
y0 = 2.044 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-15D\AP-15D Drawd
Title: AP-15D Drawdown
Date: 09/02/25
Time: 10:02:54

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-19-25
Test Well: AP-15D

## AQUIFER DATA

Saturated Thickness: 2. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: AP-15D

X Location: 1127956.648 ft
Y Location: 2455904.286 ft

Initial Displacement: 2.107 ft
Static Water Column Height: 23.3 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 2.4 ft
Total Well Penetration Depth: 29.85 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 103

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.107 | 507.8 | 1.825 |
| 1.559 | 2.096 | 539.6 | 1.813 |
| 3.24 | 2.099 | 573.2 | 1.809 |
| 5.039 | 2.098 | 609.2 | 1.794 |
| 6.899 | 2.093 | 645.2 | 1.771 |
| 8.939 | 2.093 | 687.2 | 1.762 |
| 11.04 | 2.083 | 729.2 | 1.745 |
| 13.26 | 2.088 | 771.2 | 1.733 |
| 15.66 | 2.083 | 819.2 | 1.717 |
| 18.18 | 2.074 | 873.2 | 1.687 |
| 20.82 | 2.072 | 921.2 | 1.675 |
| 23.64 | 2.068 | 981.2 | 1.678 |
| 26.64 | 2.069 | 1041.2 | 1.651 |
| 29.82 | 2.07 | 1101.2 | 1.649 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 33.18 | 2.065 | 1167.2 | 1.614 |
| 36.78 | 2.059 | 1239.2 | 1.592 |
| 40.38 | 2.061 | 1317.2 | 1.553 |
| 44.58 | 2.057 | 1395.2 | 1.539 |
| 48.78 | 2.046 | 1479.2 | 1.509 |
| 52.98 | 2.052 | 1569.2 | 1.508 |
| 57.78 | 2.044 | 1665.2 | 1.479 |
| 63.18 | 2.039 | 1761.2 | 1.453 |
| 67.98 | 2.04 | 1869.2 | 1.422 |
| 73.98 | 2.029 | 1983.2 | 1.394 |
| 79.98 | 2.027 | 2103.2 | 1.361 |
| 85.98 | 2.02 | 2229.2 | 1.341 |
| 92.58 | 2.019 | 2361.2 | 1.309 |
| 99.78 | 2.02 | 2505.2 | 1.279 |
| 107.6 | 2.009 | 2655.2 | 1.253 |
| 115.4 | 2.004 | 2811.2 | 1.21 |
| 123.8 | 1.997 | 2979.2 | 1.176 |
| 132.8 | 1.993 | 3159.2 | 1.145 |
| 142.4 | 1.988 | 3345.2 | 1.126 |
| 152. | 1.984 | 3549.2 | 1.089 |
| 162.8 | 1.977 | 3759.2 | 1.032 |
| 174.2 | 1.972 | 3981.2 | 1.017 |
| 186.2 | 1.968 | 4221.2 | 0.972 |
| 198.8 | 1.957 | 4473.2 | 0.918 |
| 212. | 1.957 | 4737.2 | 0.895 |
| 226.4 | 1.945 | 5019.2 | 0.848 |
| 241.4 | 1.949 | 5319.2 | 0.797 |
| 257. | 1.943 | 5637.2 | 0.75 |
| 273.8 | 1.938 | 5973.2 | 0.726 |
| 291.8 | 1.92 | 6333.2 | 0.674 |
| 310.4 | 1.906 | 6693.2 | 0.637 |
| 330.8 | 1.907 | 7113.2 | 0.59 |
| 351.8 | 1.901 | 7533.2 | 0.539 |
| 374. | 1.879 | 7953.2 | 0.499 |
| 398. | 1.868 | 8433.2 | 0.456 |
| 423.2 | 1.854 | 8973.2 | 0.408 |
| 449.6 | 1.848 | 9453.2 | 0.36 |
| 477.8 | 1.832 | | |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.936

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 3.189E-5 | cm/sec |
| y0 | 2.044 | ft |

T = K*b = 0.001944 cm²/sec

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 3.189E-5 | 2.9E-7 | +/- 5.754E-7 | 109.9 | cm/sec |
| y0 | 2.044 | 0.004242 | +/- 0.008417 | 481.9 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.001944 cm²/sec

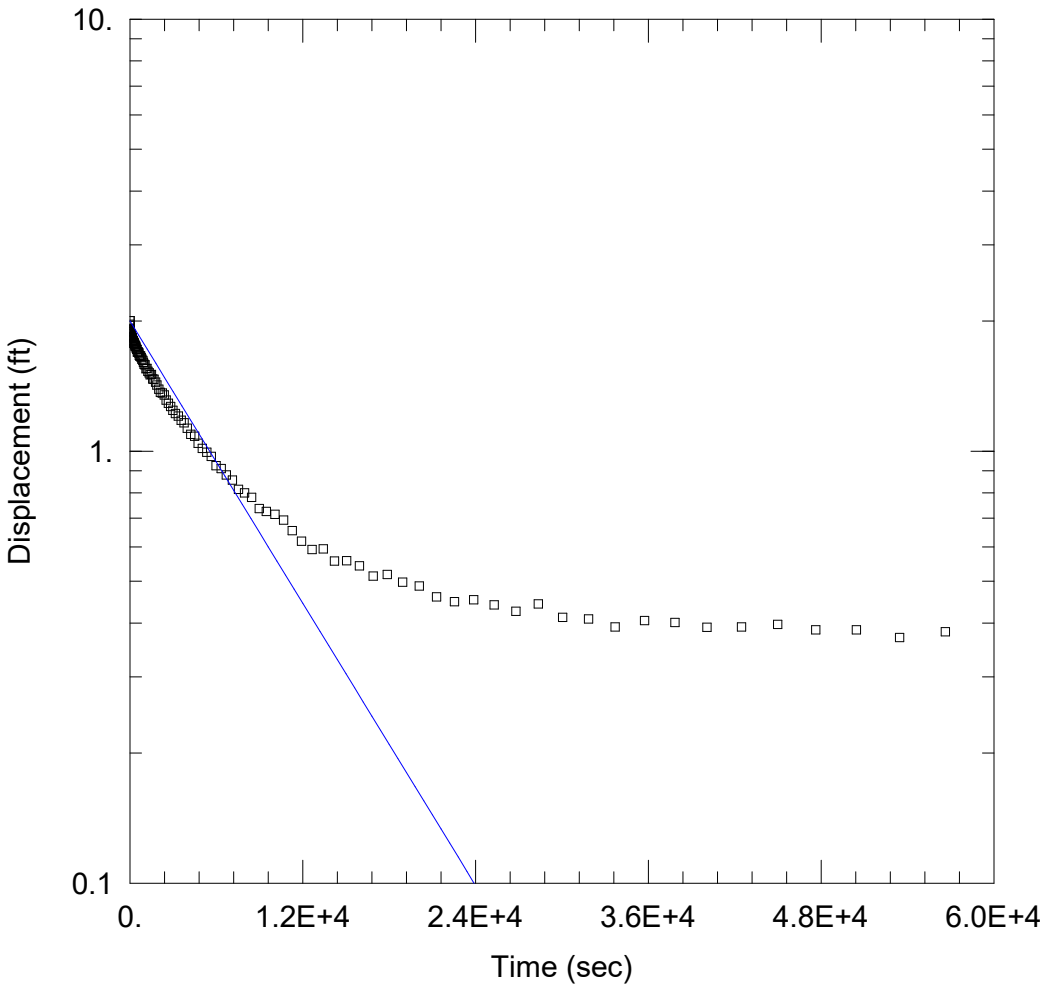
Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.50 |
| y0 | 0.50 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 0.09811 $ft^2$
Variance . . . . . 0.0009714 $ft^2$
Std. Deviation . . . . . 0.03117 ft
Mean . . . . . 0.001176 ft
No. of Residuals . . 103
No. of Estimates . . 2




## AP-15D RECOVERY

Data Set: J:\...\AP-15D Recovery.aqt
Date: 09/02/25 Time: 10:03:13

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-15D
Test Date: 8-19-25

## AQUIFER DATA

Saturated Thickness: 2. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-15D)

Initial Displacement: 2.004 ft
Total Well Penetration Depth: 29.85 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 23.3 ft
Screen Length: 2.4 ft
Well Radius: 0.08333 ft

## SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 2.175E-5 cm/sec y0 = 2. ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-15D\AP-15D Recov
Title: AP-15D Recovery
Date: 09/02/25
Time: 10:03:22

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-19-25
Test Well: AP-15D

## AQUIFER DATA

Saturated Thickness: 2. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: AP-15D

X Location: 1127956.057 ft
Y Location: 2455904.276 ft

Initial Displacement: 2.004 ft
Static Water Column Height: 23.3 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 2.4 ft
Total Well Penetration Depth: 29.85 ft

No. of Observations: 152

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.004 | 746.5 | 1.662 |
| 0.6 | 1.965 | 788.5 | 1.646 |
| 1.2 | 1.953 | 836.5 | 1.632 |
| 1.8 | 1.914 | 890.5 | 1.621 |
| 2.46 | 1.923 | 938.5 | 1.606 |
| 3.18 | 1.92 | 998.5 | 1.59 |
| 3.96 | 1.924 | 1058.5 | 1.584 |
| 4.741 | 1.915 | 1118.5 | 1.551 |
| 5.581 | 1.91 | 1184.5 | 1.553 |
| 6.481 | 1.907 | 1256.5 | 1.531 |
| 7.44 | 1.903 | 1334.5 | 1.518 |
| 8.4 | 1.908 | 1412.5 | 1.502 |
| 9.481 | 1.901 | 1496.5 | 1.505 |
| 10.62 | 1.902 | 1586.5 | 1.468 |
| 11.82 | 1.911 | 1682.5 | 1.467 |
| 13.08 | 1.897 | 1778.5 | 1.443 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 14.4 | 1.893 | 1886.5 | 1.423 |
| 15.84 | 1.894 | 2000.5 | 1.392 |
| 17.34 | 1.89 | 2120.5 | 1.367 |
| 18.9 | 1.892 | 2246.5 | 1.362 |
| 20.58 | 1.892 | 2378.5 | 1.35 |
| 22.38 | 1.89 | 2522.5 | 1.313 |
| 24.24 | 1.89 | 2672.5 | 1.291 |
| 26.28 | 1.883 | 2828.5 | 1.268 |
| 28.38 | 1.879 | 2996.5 | 1.243 |
| 30.6 | 1.88 | 3176.5 | 1.222 |
| 33. | 1.88 | 3362.5 | 1.205 |
| 35.52 | 1.877 | 3566.5 | 1.178 |
| 38.16 | 1.872 | 3776.5 | 1.163 |
| 40.98 | 1.871 | 3998.5 | 1.13 |
| 43.98 | 1.868 | 4238.5 | 1.093 |
| 47.16 | 1.869 | 4490.5 | 1.083 |
| 50.52 | 1.865 | 4754.5 | 1.043 |
| 54.12 | 1.86 | 5036.5 | 1.015 |
| 57.72 | 1.868 | 5336.5 | 0.994 |
| 61.92 | 1.86 | 5654.5 | 0.972 |
| 66.12 | 1.86 | 5990.5 | 0.925 |
| 70.32 | 1.857 | 6350.5 | 0.912 |
| 75.12 | 1.848 | 6710.5 | 0.881 |
| 80.52 | 1.851 | 7130.5 | 0.857 |
| 85.32 | 1.85 | 7550.5 | 0.815 |
| 91.32 | 1.847 | 7970.5 | 0.8 |
| 97.32 | 1.841 | 8450.5 | 0.782 |
| 103.3 | 1.843 | 8990.5 | 0.736 |
| 109.9 | 1.844 | 9470.5 | 0.725 |
| 117.1 | 1.835 | 1.007E+4 | 0.714 |
| 124.9 | 1.838 | 1.067E+4 | 0.692 |
| 132.7 | 1.837 | 1.127E+4 | 0.654 |
| 141.1 | 1.829 | 1.193E+4 | 0.619 |
| 150.1 | 1.826 | 1.265E+4 | 0.592 |
| 159.7 | 1.827 | 1.343E+4 | 0.594 |
| 169.3 | 1.818 | 1.421E+4 | 0.557 |
| 180.1 | 1.809 | 1.505E+4 | 0.558 |
| 191.5 | 1.806 | 1.595E+4 | 0.543 |
| 203.5 | 1.8 | 1.691E+4 | 0.514 |
| 216.1 | 1.802 | 1.787E+4 | 0.518 |
| 229.3 | 1.8 | 1.895E+4 | 0.497 |
| 243.7 | 1.797 | 2.009E+4 | 0.487 |
| 258.7 | 1.791 | 2.129E+4 | 0.46 |
| 274.3 | 1.783 | 2.255E+4 | 0.448 |
| 291.1 | 1.777 | 2.387E+4 | 0.453 |
| 309.1 | 1.775 | 2.531E+4 | 0.441 |
| 327.7 | 1.771 | 2.681E+4 | 0.426 |
| 348.1 | 1.762 | 2.837E+4 | 0.443 |
| 369.1 | 1.752 | 3.005E+4 | 0.412 |
| 391.3 | 1.752 | 3.185E+4 | 0.409 |
| 415.3 | 1.749 | 3.371E+4 | 0.392 |
| 440.5 | 1.734 | 3.575E+4 | 0.405 |
| 466.9 | 1.723 | 3.785E+4 | 0.401 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 495.1 | 1.72 | 4.007E+4 | 0.391 |
| 525.1 | 1.696 | 4.247E+4 | 0.392 |
| 556.9 | 1.698 | 4.499E+4 | 0.397 |
| 590.5 | 1.692 | 4.763E+4 | 0.386 |
| 626.5 | 1.687 | 5.045E+4 | 0.386 |
| 662.5 | 1.668 | 5.345E+4 | 0.37 |
| 704.5 | 1.659 | 5.663E+4 | 0.382 |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.827

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 2.175E-5 | cm/sec |
| y0 | 2. | ft |

T = K*b = 0.001326 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 1.576E-5 | 6.205E-7 | +/- 1.226E-6 | 25.39 | cm/sec |
| y0 | 1.824 | 0.01479 | +/- 0.02922 | 123.3 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.0009605 cm²/sec

### Parameter Correlations

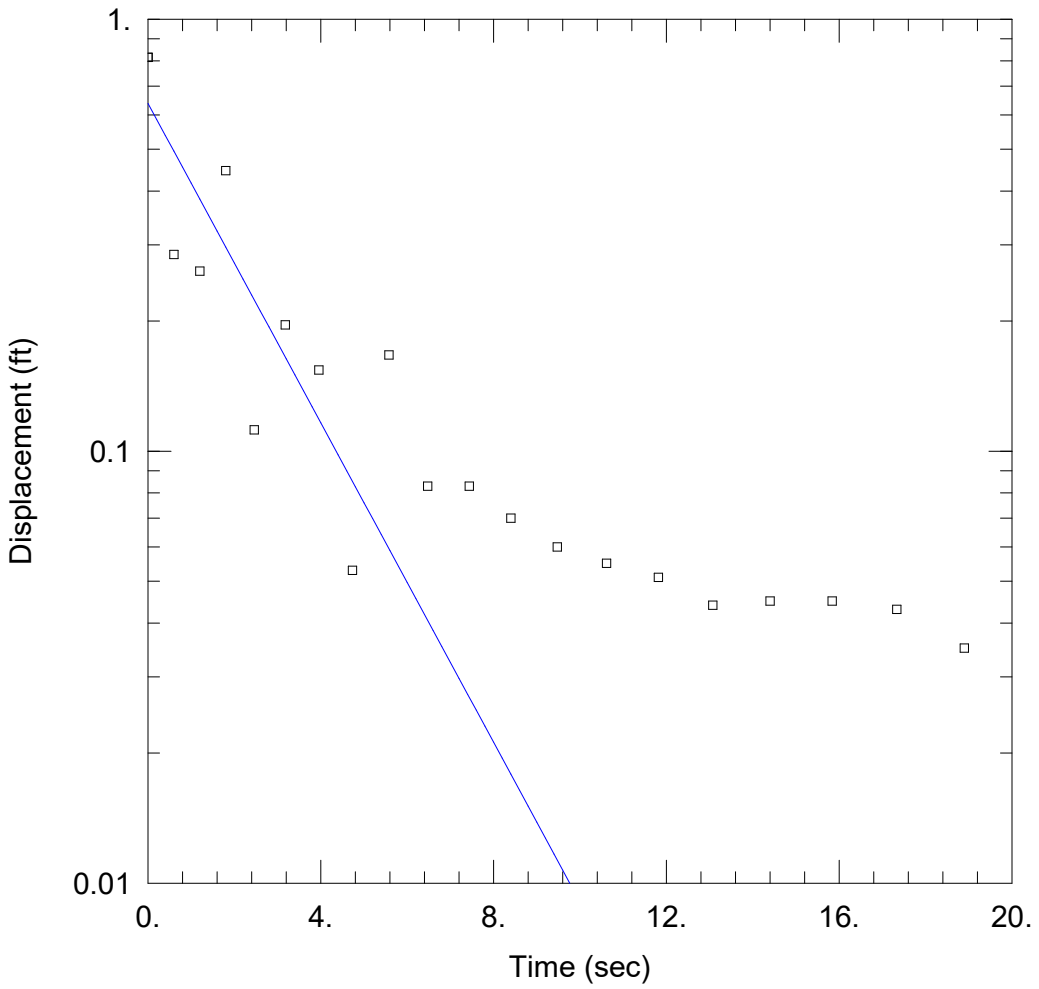
| | K | y0 |
|---|---|---|
| K | 1.00 | 0.41 |
| y0 | 0.41 | 1.00 |

### Residual Statistics

for weighted residuals

Sum of Squares... 2.758 $ft^2$
Variance ..... 0.01838 $ft^2$
Std. Deviation..... 0.1356 ft
Mean..... 0.03165 ft

No. of Residuals . . 152
No. of Estimates . . 2




## AP-15S DRAWDOWN

Data Set: J:\...\AP-15S Drawdown.aqt
Date: 09/02/25 Time: 10:00:37

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-15S
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 11.6 ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-15S)

Initial Displacement: 0.815 ft
Total Well Penetration Depth: 22.2 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 16.6 ft
Screen Length: 4.73 ft
Well Radius: 0.08333 ft

## SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 0.03296 cm/sec
y0 = 0.6383 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-15S\AP-15S Drawd
Title: AP-15S Drawdown
Date: 09/02/25
Time: 10:00:46

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: AP-15S

## AQUIFER DATA

Saturated Thickness: 11.6 ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: AP-15S

X Location: 1127960.672 ft
Y Location: 2455903.692 ft

Initial Displacement: 0.815 ft
Static Water Column Height: 16.6 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.73 ft
Total Well Penetration Depth: 22.2 ft

No. of Observations: 20

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 0.815 | 7.44 | 0.083 |
| 0.6 | 0.285 | 8.4 | 0.07 |
| 1.2 | 0.261 | 9.48 | 0.06 |
| 1.8 | 0.446 | 10.62 | 0.055 |
| 2.46 | 0.112 | 11.82 | 0.051 |
| 3.18 | 0.196 | 13.08 | 0.044 |
| 3.96 | 0.154 | 14.4 | 0.045 |
| 4.74 | 0.053 | 15.84 | 0.045 |
| 5.58 | 0.167 | 17.34 | 0.043 |
| 6.48 | 0.083 | 18.9 | 0.035 |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice

ln(Re/rw): 4.038

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.03006 | cm/sec |
| y0 | 0.6383 | ft |

T = K*b = 10.63 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.03296 | 0.006996 | +/- 0.0147 | 4.712 | cm/sec |
| y0 | 0.6383 | 0.0773 | +/- 0.1624 | 8.258 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 11.66 cm²/sec

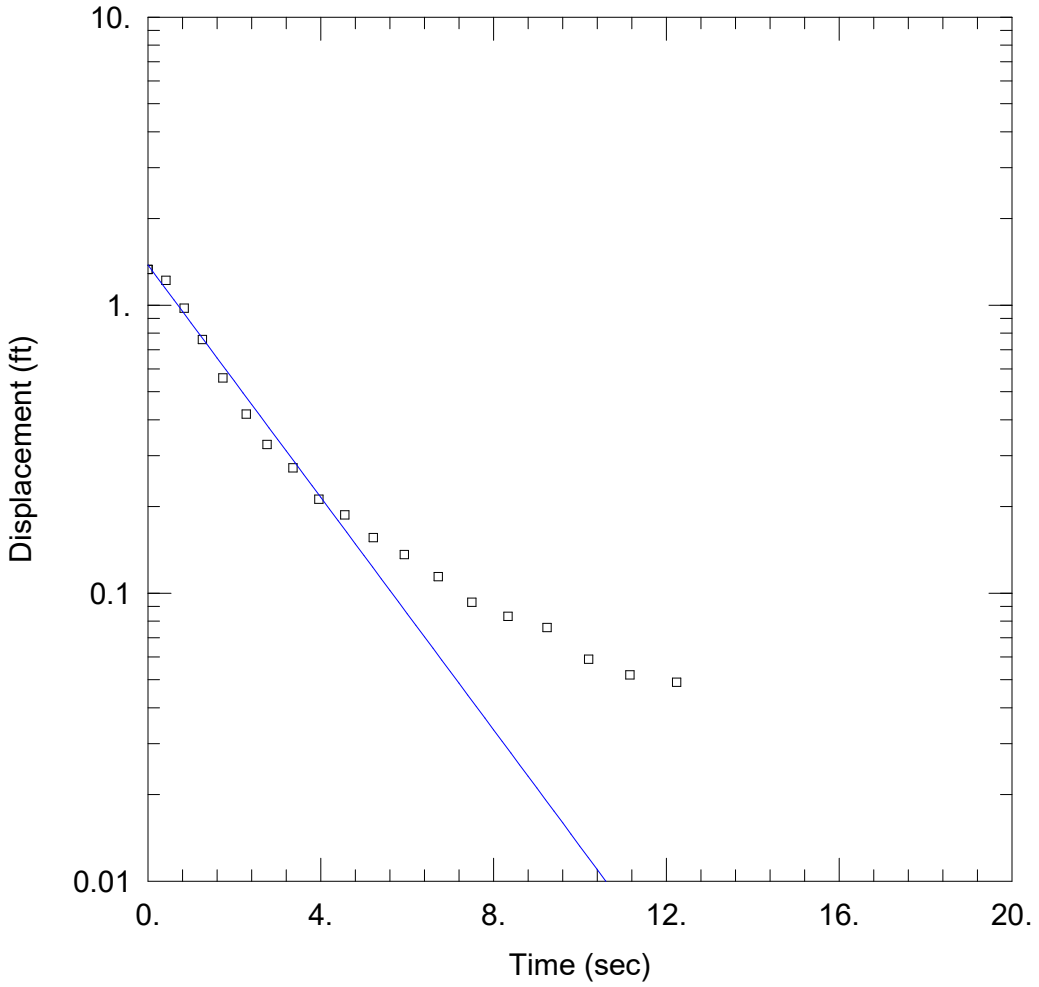
### Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.61 |
| y0 | 0.61 | 1.00 |

### Residual Statistics

for weighted residuals

Sum of Squares. . . 0.1628 $ft^2$
Variance . . . . . 0.009046 $ft^2$
Std. Deviation . . . . . 0.09511 ft
Mean . . . . . 0.02632 ft
No. of Residuals . . 20
No. of Estimates . . 2




## AP-15S RECOVERY

Data Set: J:\...\AP-15S Recovery.aqt
Date: 09/02/25 Time: 10:00:57

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-15S
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 11.6 ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-15S)

Initial Displacement: 1.331 ft
Total Well Penetration Depth: 22.2 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 16.6 ft
Screen Length: 4.73 ft
Well Radius: 0.08333 ft

## SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 0.03597 cm/sec
y0 = 1.378 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-15S\AP-15S Recove
Title: AP-15S Recovery
Date: 09/02/25
Time: 10:01:11

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: AP-15S

## AQUIFER DATA

Saturated Thickness: 11.6 ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: AP-15S

X Location: 1127960.672 ft
Y Location: 2455903.692 ft

Initial Displacement: 1.331 ft
Static Water Column Height: 16.6 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 4.73 ft
Total Well Penetration Depth: 22.2 ft

No. of Observations: 19

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 1.331 | 5.22 | 0.156 |
| 0.42 | 1.22 | 5.94 | 0.136 |
| 0.84 | 0.977 | 6.72 | 0.114 |
| 1.26 | 0.76 | 7.5 | 0.093 |
| 1.74 | 0.559 | 8.34 | 0.083 |
| 2.28 | 0.418 | 9.24 | 0.076 |
| 2.76 | 0.328 | 10.2 | 0.059 |
| 3.36 | 0.272 | 11.16 | 0.052 |
| 3.96 | 0.212 | 12.24 | 0.049 |
| 4.56 | 0.187 | | |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice

ln(Re/rw): 4.038

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.03597 | cm/sec |
| y0 | 1.378 | ft |

T = K*b = 12.72 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.03597 | 0.00174 | +/- 0.003672 | 20.67 | cm/sec |
| y0 | 1.378 | 0.03803 | +/- 0.08025 | 36.23 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 12.72 cm²/sec

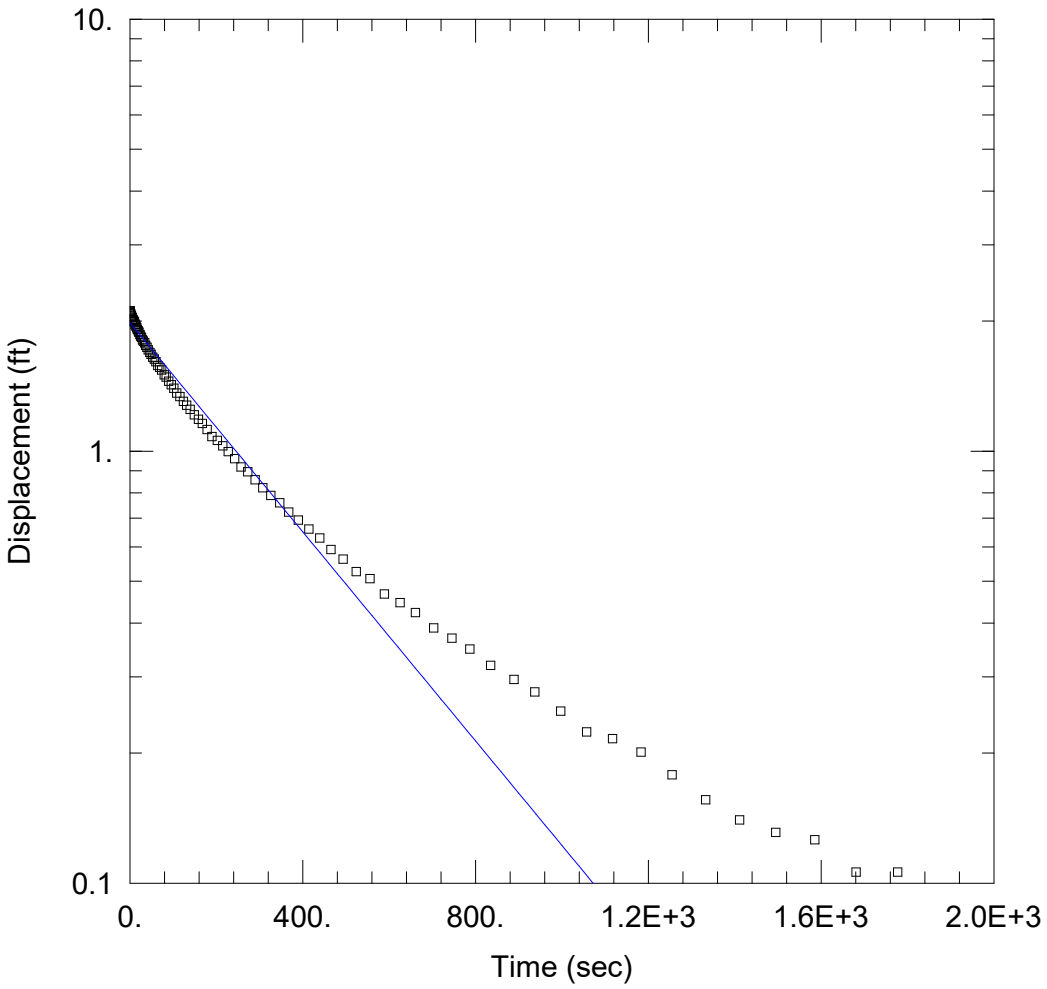
### Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.63 |
| y0 | 0.63 | 1.00 |

### Residual Statistics

for weighted residuals

Sum of Squares... 0.04332 $ft^2$
Variance ..... 0.002548 $ft^2$
Std. Deviation..... 0.05048 ft
Mean..... 0.01778 ft
No. of Residuals .. 19
No. of Estimates .. 2




## AP-16 DRAWDOWN

Data Set: J:\...\AP-16 Drawdown.aqt
Date: 09/02/25 Time: 10:04:05

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-16
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 7. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-16)

Initial Displacement: 2.113 ft
Total Well Penetration Depth: 16.15 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.01 ft
Screen Length: 4.68 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice
K = 0.0002079 cm/sec y0 = 1.981 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-16\AP-16 Drawdow
Title: AP-16 Drawdown
Date: 09/02/25
Time: 10:04:17

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: AP-16

## AQUIFER DATA

Saturated Thickness: 7. ft
Anisotropy Ratio (Kz/Kr): 1.

## SLUG TEST WELL DATA

### Test Well: AP-16

X Location: 1131172.579 ft
Y Location: 2455836.828 ft

Initial Displacement: 2.113 ft
Static Water Column Height: 10.01 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.68 ft
Total Well Penetration Depth: 16.15 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 90

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.113 | 131.5 | 1.277 |
| 0.599 | 2.102 | 139.9 | 1.25 |
| 1.26 | 2.09 | 148.9 | 1.214 |
| 1.98 | 2.08 | 158.5 | 1.185 |
| 2.76 | 2.065 | 168.1 | 1.159 |
| 3.54 | 2.055 | 178.9 | 1.122 |
| 4.38 | 2.052 | 190.3 | 1.08 |
| 5.28 | 2.038 | 202.3 | 1.058 |
| 6.239 | 2.022 | 214.9 | 1.028 |
| 7.199 | 2.013 | 228.1 | 0.997 |
| 8.279 | 2.007 | 242.5 | 0.96 |
| 9.419 | 1.997 | 257.5 | 0.919 |
| 10.62 | 1.991 | 273.1 | 0.896 |
| 11.88 | 1.967 | 289.9 | 0.858 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 13.2 | 1.961 | 307.9 | 0.823 |
| 14.64 | 1.946 | 326.5 | 0.789 |
| 16.14 | 1.929 | 346.9 | 0.759 |
| 17.7 | 1.915 | 367.9 | 0.722 |
| 19.38 | 1.898 | 390.1 | 0.692 |
| 21.18 | 1.884 | 414.1 | 0.66 |
| 23.04 | 1.862 | 439.3 | 0.629 |
| 25.08 | 1.845 | 465.7 | 0.592 |
| 27.18 | 1.835 | 493.9 | 0.562 |
| 29.4 | 1.81 | 523.9 | 0.526 |
| 31.8 | 1.797 | 555.7 | 0.507 |
| 34.32 | 1.78 | 589.3 | 0.467 |
| 36.96 | 1.757 | 625.3 | 0.446 |
| 39.78 | 1.739 | 661.3 | 0.423 |
| 42.78 | 1.715 | 703.3 | 0.39 |
| 45.96 | 1.692 | 745.3 | 0.369 |
| 49.32 | 1.674 | 787.3 | 0.348 |
| 52.92 | 1.649 | 835.3 | 0.319 |
| 56.52 | 1.634 | 889.3 | 0.296 |
| 60.72 | 1.612 | 937.3 | 0.277 |
| 64.92 | 1.579 | 997.3 | 0.25 |
| 69.12 | 1.561 | 1057.3 | 0.224 |
| 73.92 | 1.54 | 1117.3 | 0.216 |
| 79.32 | 1.501 | 1183.3 | 0.201 |
| 84.12 | 1.484 | 1255.3 | 0.178 |
| 90.12 | 1.452 | 1333.3 | 0.156 |
| 96.12 | 1.424 | 1411.3 | 0.14 |
| 102.1 | 1.397 | 1495.3 | 0.131 |
| 108.7 | 1.362 | 1585.3 | 0.126 |
| 115.9 | 1.338 | 1681.3 | 0.106 |
| 123.7 | 1.304 | 1777.3 | 0.106 |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.851

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0002079 | cm/sec |
| y0 | 1.981 | ft |

T = K*b = 0.04436 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.0002079 | 5.116E-6 | +/- 1.017E-5 | 40.64 | cm/sec |
| y0 | 1.981 | 0.01501 | +/- 0.02983 | 131.9 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.04436 cm²/sec

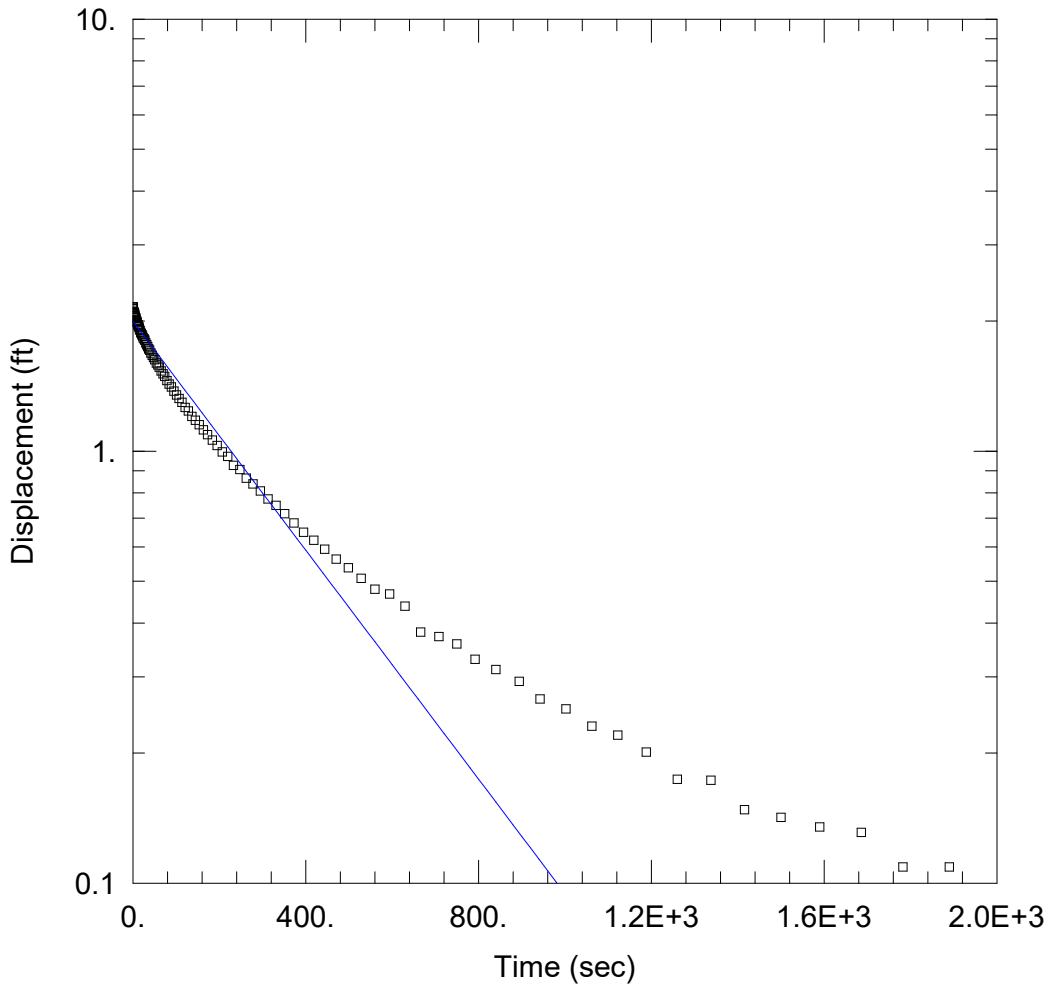
Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.56 |
| y0 | 0.56 | 1.00 |

Residual Statistics

for weighted residuals

Sum of Squares. . . 0.5863 $ft^2$
Variance . . . . . 0.006662 $ft^2$
Std. Deviation . . . . . 0.08162 ft
Mean . . . . . 0.01914 ft
No. of Residuals . . 90
No. of Estimates . . 2




## AP-16 RECOVERY

Data Set: J:\...\AP-16 Recovery.aqt
Date: 09/02/25 Time: 10:04:43

## PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Well: AP-16
Test Date: 8-20-25

## AQUIFER DATA

Saturated Thickness: 7. ft Anisotropy Ratio (Kz/Kr): 1.

## WELL DATA (AP-16)

Initial Displacement: 2.156 ft
Total Well Penetration Depth: 16.15 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.01 ft
Screen Length: 4.68 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.

## SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice
K = 0.0002276 cm/sec y0 = 1.997 ft

Data Set: J:\S\Springfield CWLP\CWLP Ash Pond\GEO\Slug Testing Data\Converted Files\AP-16\AP-16 Recovery.
Title: AP-16 Recovery
Date: 09/02/25
Time: 10:04:58

PROJECT INFORMATION

Company: Andrews Engineering
Client: CWLP
Project: 240338
Location: CWLP
Test Date: 8-20-25
Test Well: AP-16

AQUIFER DATA

Saturated Thickness: 7. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: AP-16

X Location: 1131172.579 ft
Y Location: 2455836.828 ft

Initial Displacement: 2.156 ft
Static Water Column Height: 10.01 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 0.3438 ft
Screen Length: 4.68 ft
Total Well Penetration Depth: 16.15 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.07715 ft
Gravel Pack Porosity: 0.

No. of Observations: 102

Observation Data

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 0. | 2.156 | 101. | 1.35 |
| 0.25 | 2.153 | 107. | 1.325 |
| 0.609 | 2.136 | 113.6 | 1.296 |
| 0.97 | 2.133 | 120.8 | 1.263 |
| 1.389 | 2.11 | 128.6 | 1.239 |
| 1.809 | 2.103 | 136.4 | 1.203 |
| 2.229 | 2.097 | 144.8 | 1.179 |
| 2.71 | 2.091 | 153.8 | 1.151 |
| 3.249 | 2.086 | 163.4 | 1.12 |
| 3.729 | 2.079 | 173. | 1.091 |
| 4.329 | 2.067 | 183.8 | 1.06 |
| 4.929 | 2.063 | 195.2 | 1.03 |
| 5.529 | 2.046 | 207.2 | 0.995 |
| 6.189 | 2.038 | 219.8 | 0.972 |

| Time (sec) | Displacement (ft) | Time (sec) | Displacement (ft) |
|---|---|---|---|
| 6.909 | 2.033 | 233. | 0.927 |
| 7.689 | 2.012 | 247.4 | 0.907 |
| 8.47 | 2.004 | 262.4 | 0.866 |
| 9.31 | 1.997 | 278. | 0.839 |
| 10.21 | 1.984 | 294.8 | 0.808 |
| 11.17 | 1.962 | 312.8 | 0.775 |
| 12.13 | 1.959 | 331.4 | 0.749 |
| 13.21 | 1.942 | 351.8 | 0.716 |
| 14.35 | 1.935 | 372.8 | 0.682 |
| 15.55 | 1.917 | 395. | 0.649 |
| 16.81 | 1.904 | 419. | 0.622 |
| 18.13 | 1.886 | 444.2 | 0.593 |
| 19.57 | 1.872 | 470.6 | 0.562 |
| 21.07 | 1.858 | 498.8 | 0.537 |
| 22.63 | 1.846 | 528.8 | 0.508 |
| 24.31 | 1.827 | 560.6 | 0.479 |
| 26.11 | 1.818 | 594.2 | 0.467 |
| 27.97 | 1.805 | 630.2 | 0.438 |
| 30.01 | 1.782 | 666.2 | 0.381 |
| 32.11 | 1.764 | 708.2 | 0.372 |
| 34.33 | 1.745 | 750.2 | 0.358 |
| 36.73 | 1.725 | 792.2 | 0.33 |
| 39.25 | 1.713 | 840.2 | 0.312 |
| 41.89 | 1.686 | 894.2 | 0.293 |
| 44.71 | 1.666 | 942.2 | 0.267 |
| 47.71 | 1.646 | 1002.2 | 0.253 |
| 50.89 | 1.626 | 1062.2 | 0.231 |
| 54.25 | 1.6 | 1122.2 | 0.22 |
| 57.85 | 1.584 | 1188.2 | 0.201 |
| 61.45 | 1.564 | 1260.2 | 0.174 |
| 65.65 | 1.533 | 1338.2 | 0.173 |
| 69.85 | 1.509 | 1416.2 | 0.148 |
| 74.05 | 1.488 | 1500.2 | 0.142 |
| 78.85 | 1.456 | 1590.2 | 0.135 |
| 84.25 | 1.43 | 1686.2 | 0.131 |
| 89.05 | 1.408 | 1782.2 | 0.109 |
| 95.05 | 1.377 | 1890.2 | 0.109 |

## SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.851

## VISUAL ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | |
|---|---|---|
| K | 0.0002276 | cm/sec |
| y0 | 1.997 | ft |

T = K*b = 0.04857 cm²/sec

## AUTOMATIC ESTIMATION RESULTS

### Estimated Parameters

| Parameter | Estimate | Std. Error | Approx. C.I. | t-Ratio | |
|---|---|---|---|---|---|
| K | 0.0002276 | 6.531E-6 | +/- 1.296E-5 | 34.86 | cm/sec |
| y0 | 1.997 | 0.01632 | +/- 0.03239 | 122.3 | ft |

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.04857 cm²/sec

### Parameter Correlations

| | K | y0 |
|---|---|---|
| K | 1.00 | 0.53 |
| y0 | 0.53 | 1.00 |

### Residual Statistics

for weighted residuals

Sum of Squares. . . 0.9793 $ft^2$
Variance . . . . . 0.009793 $ft^2$
Std. Deviation . . . . . 0.09896 ft
Mean . . . . . 0.02408 ft
No. of Residuals . . 102
No. of Estimates . . 2

# PACKER TEST DATA

**Packer Test Summary Table**
**CWLP Ash Pond Investigation**

| Boring | Bottom of Top Packer (ft. BGS) | Top of Bottom Packer (ft. BGS) | Hydraulic Conductivity | Formation | Comment |
|---|---|---|---|---|---|
| B100 | 93 | 103.5 | 1.00E-09 | shale w/ claystone, limestone interbeddings | No take |
| B100 | 93 | 103.5 | 2.69E-07 | shale w/ claystone, limestone interbeddings | took .05 gallons during test |
| B100 | 93 | 103.5 | 1.00E-09 | shale w/ claystone, limestone interbeddings | No take |
| B100 | 93 | 103.5 | 1.00E-09 | shale w/ claystone, limestone interbeddings | No take |
| B100 | 93 | 103.5 | 1.00E-09 | shale w/ claystone, limestone interbeddings | No take |
| | | | | | |
| B100 | 82.5 | 93 | 1.00E-09 | shale w/ claystone interbeddings | No take, switch gauges from 0-200 psi to 0-100 psi prior to test. |
| B100 | 82.5 | 93 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 82.5 | 93 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 82.5 | 93 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 82.5 | 93 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| | | | | | |
| B100 | 72 | 82.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 72 | 82.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 72 | 82.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 72 | 82.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 72 | 82.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| | | | | | |
| B100 | 61.5 | 72 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 61.5 | 72 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 61.5 | 72 | 2.60E-07 | shale w/ claystone interbeddings | |
| B100 | 61.5 | 72 | 4.33E-07 | shale w/ claystone interbeddings | |
| B100 | 61.5 | 72 | 2.60E-07 | shale w/ claystone interbeddings | |
| | | | | | |
| B100 | 51 | 61.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 51 | 61.5 | 1.00E-09 | shale w/ claystone interbeddings | No take |
| B100 | 51 | 61.5 | 1.20E-06 | shale w/ claystone interbeddings | pressure drpped on 60 psi test so next test terminated. |
| | | | | | |
| B100 | 40.5 | 51 | 1.28E-05 | shale w/ claystone interbeddings | |
| B100 | 40.5 | 51 | 3.17E-04 | shale w/ claystone interbeddings | pressure drpped on 45 psi test so next test terminated. |
| | | | | | |
| B100 | 38.5 | 49 | 3.91E-05 | shale | packer blowout. Replace backer and resumed test. |
| B100 | 38.5 | 49 | 4.26E-04 | shale | could only maintain 28 psi on the planned 30 psi test. |

Packer Test Solution - CWLP Ash Ponds - Springfield, IL.

"Methods and procedures for defining aquifer parameters" (by John Sevee);
in Practical Handbook of Ground-Water Monitor`

Friction loss calculation using Hazen-Williams formula.
[Hf = (3.022)(v)^1.85(L) / (C)^1.85(D)^1.165]

Shale
Date: 5/23/2024
Boring B100
0.14 Radius of test hole (in ft.)
2.67 Gauge height above ground (in ft.)
4.9 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 93 | 103.5 | 98.25 | 10.5 | 2711.65 | 2711.65 | 0 | 15 | 0 | 93.35 | 15 | 34.5 | 0 | 130.52 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1b | 93 | 103.5 | 98.25 | 10.5 | 2711.8 | 2711.95 | 0 | 15 | 0.01 | 93.35 | 30 | 69 | 4.08E-05 | 165.02 | ≦ | 2.69E-07 | 4.32 | 4.32 | 2.23E-05 |
| 1c | 93 | 103.5 | 98.25 | 10.5 | 2711.9 | 2711.9 | 0 | 15 | 0 | 93.35 | 45 | 103.5 | 0 | 199.52 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1d | 93 | 103.5 | 98.25 | 10.5 | 2711.95 | 2711.95 | 0 | 15 | 0 | 93.35 | 60 | 138 | 0 | 234.02 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1e | 93 | 103.5 | 98.25 | 10.5 | 2711.9 | 2711.9 | 0 | 15 | 0 | 93.35 | 45 | 103.5 | 0 | 199.52 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 5.47E-08 | | | |

Shale
Date: 5/23/2024
Boring B100
0.14 Radius of test hole (in ft.)
2.67 Gauge height above ground (in ft.)
2.4 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 82.5 | 93 | 87.75 | 10.5 | 2712.35 | 2712.35 | 0 | 15 | 0 | 85.35 | 15 | 34.5 | 0 | 122.52 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1b | 82.5 | 93 | 87.75 | 10.5 | 2712.4 | 2712.4 | 0 | 15 | 0 | 85.35 | 30 | 69 | 0 | 157.02 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1c | 82.5 | 93 | 87.75 | 10.5 | 2712.4 | 2712.4 | 0 | 15 | 0 | 85.35 | 45 | 103.5 | 0 | 191.52 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1d | 82.5 | 93 | 87.75 | 10.5 | 2712.4 | 2712.4 | 0 | 15 | 0 | 85.35 | 60 | 138 | 0 | 226.02 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1e | 82.5 | 93 | 87.75 | 10.5 | 2712.4 | 2712.4 | 0 | 15 | 0 | 85.35 | 45 | 103.5 | 0 | 191.52 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 1.00E-09 | | | |

Packer Test Solution - CWLP Ash Ponds - Springfield, IL.

"Methods and procedures for defining aquifer parameters" (by John Sevee);
in Practical Handbook of Ground-Water Monitor`

Friction loss calculation using Hazen-Williams formula.
[Hf = (3.022)(v)^1.85(L) / (C)^1.85(D)^1.165]

Shale

Date: 5/24/2024

Boring B100

0.14 Radius of test hole (in ft.)
2.67 Gauge height above ground (in ft.)
1.2 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 72 | 82.5 | 77.25 | 10.5 | 2717.85 | 2717.85 | 0 | 15 | 0 | 76.05 | 15 | 34.5 | 0 | 113.22 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1b | 72 | 82.5 | 77.25 | 10.5 | 2717.85 | 2717.85 | 0 | 15 | 0 | 76.05 | 30 | 69 | 0 | 147.72 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1c | 72 | 82.5 | 77.25 | 10.5 | 2717.85 | 2717.85 | 0 | 15 | 0 | 76.05 | 45 | 103.5 | 0 | 182.22 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1d | 72 | 82.5 | 77.25 | 10.5 | 2717.85 | 2717.85 | 0 | 15 | 0 | 76.05 | 60 | 138 | 0 | 216.72 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1e | 72 | 82.5 | 77.25 | 10.5 | 2717.85 | 2717.85 | 0 | 15 | 0 | 76.05 | 45 | 103.5 | 0 | 182.22 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 1.00E-09 | | | |

Shale

Date: 5/24/2024

Boring B100

0.14 Radius of test hole (in ft.)
2.67 Gauge height above ground (in ft.)
2.2 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 61.5 | 72 | 66.75 | 10.5 | 2724.05 | 2724.05 | 0 | 15 | 0 | 64.55 | 15 | 34.5 | 0 | 101.72 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1b | 61.5 | 72 | 66.75 | 10.5 | 2724.05 | 2724.05 | 0 | 15 | 0 | 64.55 | 30 | 69 | 0 | 136.22 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1c | 61.5 | 72 | 66.75 | 10.5 | 2724.05 | 2724.2 | 0 | 15 | 0.01 | 64.55 | 45 | 103.5 | 2.77E-05 | 170.72 | ≦ | 2.60E-07 | 4.32 | 4.32 | 2.23E-05 |
| 1d | 61.5 | 72 | 66.75 | 10.5 | 2724.2 | 2724.5 | 0 | 15 | 0.02 | 64.55 | 60 | 138 | 1.00E-04 | 205.22 | ≦ | 4.33E-07 | 4.32 | 4.32 | 4.46E-05 |
| 1e | 61.5 | 72 | 66.75 | 10.5 | 2724.5 | 2724.65 | 0 | 15 | 0.01 | 64.55 | 45 | 103.5 | 2.77E-05 | 170.72 | ≦ | 2.60E-07 | 4.32 | 4.32 | 2.23E-05 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 1.91E-07 | | | |

Packer Test Solution - CWLP Ash Ponds - Springfield, IL.

"Methods and procedures for defining aquifer parameters" (by John Sevee);
in Practical Handbook of Ground-Water Monitor`

Friction loss calculation using Hazen-Williams formula.
[Hf = (3.022)(v)^1.85(L) / (C)^1.85(D)^1.165]

Shale
Date: 5/24/2024
Boring B100
0.14 Radius of test hole (in ft.)
2.67 Gauge height above ground (in ft.)
2.1 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 51 | 61.5 | 56.25 | 10.5 | 2732 | 2732 | 0 | 15 | 0 | 54.15 | 15 | 34.5 | 0 | 91.32 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1b | 51 | 61.5 | 56.25 | 10.5 | 2732 | 2732 | 0 | 15 | 0 | 54.15 | 30 | 69 | 0 | 125.82 | ≦ | 1.00E-09 | 4.32 | 4.32 | 0.00E+00 |
| 1c | 51 | 61.5 | 56.25 | 10.5 | 2732 | 2732.65 | 0 | 15 | 0.04 | 54.15 | 45 | 103.5 | 3.52E-04 | 160.32 | ≦ | 1.20E-06 | 4.32 | 4.32 | 9.65E-05 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 4.01E-07 | | | |

Shale
Date: 5/24/2024
Boring B100
0.14 Radius of test hole (in ft.)
2.67 Gauge height above ground (in ft.)
1.9 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 40.5 | 51 | 45.75 | 10.5 | 2814.4 | 2817.9 | 0 | 15 | 0.23 | 43.65 | 15 | 34.5 | 0.01 | 80.81 | ≦ | 1.28E-05 | 4.32 | 4.32 | 5.20E-04 |
| 1b | 40.5 | 51 | 45.75 | 10.5 | 2718.8 | 2837.5 | 0 | 15 | 7.91 | 43.65 | 30 | 69 | 4.38 | 110.94 | ≦ | 3.17E-04 | 4.32 | 4.32 | 1.76E-02 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 1.65E-04 | | | |

Packer Test Solution - CWLP Ash Ponds - Springfield, IL.

"Methods and procedures for defining aquifer parameters" (by John Sevee);
in Practical Handbook of Ground-Water Monitor `

Friction loss calculation using Hazen-Williams formula.
[Hf = (3.022)(v)^1.85(L) / (C)^1.85(D)^1.165]

Shale

Date: 5/24/2024

Boring B100

0.14 Radius of test hole (in ft.)

2.67 Gauge height above ground (in ft.)

1.2 Depth to Water Below Ground (in ft.) - Water level after filling boring before testing.

| Test No. | Bottom of Top Packer (ft) | Top of Bottom Packer (ft) | Depth [interval midpoint] (ft) | Length of Interval (ft) | Initial Gauge Reading (gal) | End Gauge Reading (gal) | Begin Time (min) | End Time (min) | Constant flow rate Q (in gal/min) | Static Head Hs (in feet) | Gauge pressure p (in psi) | Fluid head Hp = p * 2.3 (in feet) | Friction loss Hf (in feet) | Differential head Hs+Hp+Hg-Hf (in feet) | | Hydraulic Cond K (in cm/sec) | Nat Log ln(L/r) | Inv Hyp Sin sinh-1 (L/2r) | Convert Q gal/min to cu ft/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 38.5 | 49 | 43.75 | 10.5 | 2914 | 2924.4 | 0 | 15 | 0.69 | 41.65 | 15 | 34.5 | 0.05 | 78.77 | ≦ | 3.91E-05 | 4.32 | 4.32 | 1.54E-03 |
| 1b | 38.5 | 49 | 43.75 | 10.5 | 2925.8 | 3073 | 0 | 15 | 9.81 | 41.65 | 28 | 64.4 | 6.23 | 102.49 | ≦ | 4.26E-04 | 4.32 | 4.32 | 2.19E-02 |
| | | | | | | | | | | | | | | mean K (cm/sec) | | 2.32E-04 | | | |

# APPENDIX E:
## LABORATORY SOILS ANALYSES

# APPENDIX E1:
## APPLICATION LOG NO. 1995-243

# Table 4
## Summary of Laboratory Test Results for Creek Fill Materials

| Boring/ Piezometer | Sample Number | Depth (ft) | USCS Symbol | Moisture Content (%) | Grain Size Analysis | | | Atterberg Limits | | | Dry Density (pcf) | Unconfined Compressive Strength (tsf) | Hydraulic Conductivity (cm/sec) | Cation Exchange Capacity (meq/100 gm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Gravel (%) | Sand (%) | Silt or Clay (%) | LL | PL | PI | | | | |
| B-7 | SS-4 | 6.0-8.0 | CL | 24.4 | 0 | 33 | 46/21* | | | | | | | |
| CB-1 | 3T-5 | 8.0-10.0 | CL | 27.4 | | | | 44 | 23 | 18 | 95.5 | | $1.5x10^{-7}$ | |
| CB-1 | 3T-5 | 8.0-10.0 | CL | 29.4 | | | | | | | 94.4 | 0.6 | | |
| CB-2 | 3T-9 | 16.0-18.0 | ML | 37.8 | | | | 34 | 25 | 9 | 79.6 | | $2.4x10^{-7}$ | |
| CB-3 | SS-4 | 6.0-8.0 | CL-ML | 20.5 | 0 | 48 | 52 | | | | | | | |
| CB-8 | SS-3 | 4.0-6.0 | OL | 31.4 | | | | 35 | 21 | 14 | | | | |
| CB-9 | SS-5 | 8.0-10.0 | OL | 34.2 | | | | | | | | | | 18.1 |
| P-1D | SS-5 | 8.0-10.0 | OL | 20.4 | | | | 46 | 20 | 26 | | | | |
| P-2D | 3T-15 | 28.0-30.0 | CL | 25.9 | | | | | | | 99.1 | | $7.3x10^{-7}$ | |
| P-1S | SS-2A | 38.0-38.7 | SC** | 19.3 | 2 | 65 | 33 | | | | | | | |
| P-3S | SS-3 | 10.0-12.0 | SM** | - | 0 | 55 | 45 | | | | | | | |
| P-5D | SS-4 | 6.0-8.0 | OL | 31.8 | | | | 45 | 25 | 20 | | | | |
| P-5S | 3T-2 | 10.0-12.0 | OL | 26.3 | | | | | | | 95.7 | | $7.6x10^{-8}$ | |
| P-8D | SS-4 | 60.-8.0 | OL | 25.3 | | | | 37 | 21 | 16 | | | | |
| P-8S | SS-3 | 10.0-12.0 | OL | 41.0 | 0 | 12 | 62/26* | | | | | | | |
| B-13*** | 2-ST | 5.0-7.0 | CL/OL | 37.2 | 0 | 2 | 67/31* | 39 | 23 | 16 | 83.7 | | $2.2x10^{-7}$ | 14.0 |
| B-16*** | 2-ST | 5.0-7.0 | CL/OL | 22.1 | 0 | 5 | 67/28* | 38 | 28 | 10 | 104.4 | | $2.1x10^{-7}$ | 16.0 |
| **P-9D**** ** | **3T-8** | **14.0-16.0** | **CL** | **22.7** | | | | | | | **102.3** | | **$3.3x10^{-8}$** | |

* *Represent percentages of silt and clay based on hydrometer analysis*
** *Granular Creek Fill*
*** *Based on PSI (1989) investigation*
**** *Berm Fill*

ref:hb\496b\496b-4.tbl

**Table 5**

**Summary of Slug Test Results for Creek Fill**

| Location | Soil Type Tested | USCS Classification | Calculated Hydraulic Conductivity (cm/sec) | | |
|---|---|---|---|---|---|
| | | | Recovery Test | Drawdown Test | Average Value |
| P-1S | Clayey sand | SC | $2.4 \times 10^{-4}$ | $6.1 \times 10^{-5}$ | $1.5 \times 10^{-4}$ |
| P-3S | Silty sand | SM | $5.6 \times 10^{-3}$ | $1.5 \times 10^{-2}$ | $1.0 \times 10^{-2}$ |
| P-5S | Organic silty clay | OL | $7.1 \times 10^{-5}$ | $1.1 \times 10^{-4}$ | $8.6 \times 10^{-5}$ |
| P-8S | Clayey sand | SC | $1.2 \times 10^{-4}$ | NT | $1.2 \times 10^{-4}$ |

Refer to Appendix D for detailed test results.
NT = Not Tested

ref:hb/496b/496b-5.tbl

## Table 6
## Summary of Laboratory Test Results for Upper Cohesive Deposit

| Boring/ Piezometer | Sample Number | Depth (ft) | USCS Symbol | Moisture Content (%) | Grain Size Analysis | | | Atterberg Limits | | | Dry Density (pcf) | Unconfined Compressive Strength (tsf) | Hydraulic Conductivity (cm/sec) | Cation Exchange Capacity (meq/100 gm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Gravel (%) | Sand (%) | Silt or Clay (%) | LL | PL | PI | | | | |
| B-4 | 3T-4 | 6.0 - 8.0 | CL | 28.0 | | | | | | | 98.7 | | $4.7 \times 10^{-8}$ | |
| P-6D | SS-2 | 2.0 - 4.0 | CL | 21.2 | | | | 29 | 18 | 11 | | | | |
| P-6S | SS-2A | 6.0 - 6.5 | CL | 23.4 | 0 | 14 | 86 | | | | | | | |
| P-7D | SS-3 | 4.0 - 6.0 | CL | 21.7 | | | | 33 | 19 | 14 | | | | |
| P-7D | SS-4 | 6.0 - 8.0 | CL | 25.3 | | | | | | | | | | 16.5 |
| P-7D | 3T-5 | 8.0 - 10.0 | CL | 22.6 | | | | | | | 101.2 | | $2.0 \times 10^{-7}$ | |
| P-7S | SS-1B | 10.5 - 11.0 | CL | - | 0 | 43 | 40/17* | | | | | | | |
| B-5** | 2-ST | 5.0 - 7.0 | CL/ML | 24.3 | 0 | 18 | 63/19* | 23 | 21 | 2 | 100.8 | | $1.6 \times 10^{-8}$ | 11.0 |
| B-15** | 2-ST | 5.0 - 7.0 | CL/ML | 23.9 | 0 | 15 | 62/23* | 27 | 19 | 8 | 102.8 | | $5.2 \times 10^{-7}$ | 12.0 |
| B-16** | 4-ST | 10.0 - 12.0 | CL/ML | 24.2 | 0 | 40 | 55/5* | Non-Plastic | | | 102.1 | | $7.6 \times 10^{-8}$ | 10.0 |

* Represent percentages of silt and clay based on hydrometer analysis.
** Based on PSI (1989) investigation.

ref:hb\496b\496b-6.tbl

## Table 7
## Summary of Laboratory Test Results for Shallow Sand

| Boring/ Piezometer | Sample Number | Depth (ft) | USCS Symbol | Moisture Content (%) | Grain Size Analysis | | | Atterberg Limits | | | Dry Density (pcf) | Unconfined Compressive Strength (tsf) | Hydraulic Conductivity (cm/sec) | Cation Exchange Capacity (meq/100 gm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Gravel (%) | Sand (%) | Silt or Clay (%) | LL | PL | PI | | | | |
| B-1 | SS-7 | 12.0 - 14.0 | SC | 21.8 | 0 | 50 | 50 | | | | | | | |
| P-7D | SS-6B | 11.5 - 12.0 | SC | 23.1 | 0 | 52 | 48 | | | | | | | |

ref:hb\496b\496b-7.tbl

** Represent percentages of silt and clay based on hydrometer analysis.*

**Table 8**

**Summary of Slug Test Results for Shallow Sand**

| Location | Soil Type Tested | USCS Classification | Calculated Hydraulic Conductivity (cm/sec) | | |
|---|---|---|---|---|---|
| | | | Recovery Test | Drawdown Test | Average Value |
| P-6S | Clayey sand | SC | $2.9 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| P-7S | Clayey sand | SC | $3.6 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $3.9 \times 10^{-3}$ |

Refer to Appendix D for detailed test results
NT = Not Tested

ref:hb/496b/496b-8.tbl

## Table 9
## Summary of Laboratory Test Results for Lower Cohesive Deposits

| Boring/ Piezometer | Sample Number | Depth (ft) | USCS Symbol | Moisture Content (%) | Grain Size Analysis | | | Atterberg Limits | | | Dry Density (pcf) | Unconfined Compressive Strength (tsf) | Hydraulic Conductivity (cm/sec) | Cation Exchange Capacity (meq/100 gm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Gravel (%) | Sand (%) | Silt or Clay (%) | LL | PL | PI | | | | |
| B-1 | SS-9 | 16.0 - 18.0 | ML/CL-ML | 36.9 | | | | 25 | 22 | 3 | | | | |
| B-3 | 3T-20 | 38.0 - 40.0 | CL | 24.6 | | | | | | | 104.2 | | $8.2 \times 10^{-8}$ | |
| B-4 | SS-8 | 12.0 - 14.0 | CL | 29.1 | 0 | 8 | 70/22* | 32 | 20 | 12 | | | | |
| B-6 | SS-10 | 18.0 - 20.0 | CL-ML/CL | 23.5 | | | | 25 | 20 | 5 | | | | |
| B-6 | SS-14 | 26.0 - 28.0 | CL-ML | 25.1 | 0 | 44 | 56 | | | | | | | |
| B-7 | SS-9 | 16.0 - 18.0 | CL-ML | 18.2 | 0 | 38 | 50/12* | | | | | | | |
| B-9 | SS-8 | 14.0 - 16.0 | CL | 24.6 | | | | | | | | | | 10.7 |
| CB-2 | SS-11 | 20.0 - 22.0 | CL | 34.9 | | | | 47 | 22 | 25 | | | | |
| CB-3 | SS-9 | 16.0 - 18.0 | CL-ML | 27.1 | 0 | 33 | 55/12* | | | | | | | |
| CB-4 | 3T-9 | 16.0 - 18.0 | CL/CL-ML | 23.9 | | | | | | | 103.3 | | $4.3 \times 10^{-7}$ | |
| CB-6 | 3T-7 | 12.0 - 14.0 | CL | 29.9 | | | | | | | 95.3 | | $5.3 \times 10^{-7}$ | |
| CB-6 | 3T-7 | 12.0 - 14.0 | CL | 26.4 | | | | | | | 99.0 | 1.4 | | |
| CB-6 | SS-12 | 22.0 - 24.0 | ML/CL-ML | 23.6 | | | | 23 | 20 | 3 | | | | |
| P-3D | 3T-9 | 16.0 - 18.0 | CL | 34.5 | | | | | | | 89.2 | | $1.3 \times 10^{-8}$ | |
| P-3D | SS-13 | 24.0 - 26.0 | CH | 53.7 | | | | 71 | 32 | 39 | | | | |
| P-4 | 3T-11 | 20.0 - 22.0 | CH | 40.9 | | | | | | | 78.2 | | $2.9 \times 10^{-8}$ | |
| P-4 | SS-16 | 30.0 - 32.0 | CH | 52.6 | | | | 67 | 30 | 37 | | | | |
| P-7D | SS-8 | 14.0 - 16.0 | CL-ML/CL | 26.9 | | | | 29 | 22 | 7 | | | | |
| P-7D | SS-13 | 24.0 - 26.0 | CL-ML | 24.3 | 0 | 34 | 54/12* | | | | | | | |
| P-7M | 3T-2 | 18.0 - 20.0 | CL | 22.5 | | | | | | | 101.4 | | $1.5 \times 10^{-7}$ | |
| P-9D | SS-26 | 50.0 - 52.0 | CL | 20.7 | 0 | 33 | 53/14* | | | | | | | |
| P-9S | 3T-1 | 34.0 - 36.0 | CL | 24.1 | | | | | | | 101.2 | | $1.3 \times 10^{-6}$ | |
| B-2** | 3-ST | 10.0 - 12.0 | CL-ML | 22.9 | 0 | 32 | 58/10* | ← Non-Plastic → | | | 93.4 | | $8.4 \times 10^{-7}$ | 9.0 |
| B-2** | 5-ST | 15.0 - 17.0 | CL | 22.0 | 0 | 15 | 77/18* | 30 | 18 | 12 | 104.9 | | $5.1 \times 10^{-7}$ | 7.0 |
| B-2** | 7-ST | 20.0 - 22.0 | CL | 23.1 | 0 | 38 | 50/12* | ← Non-Plastic → | | | 103.2 | | $3.2 \times 10^{-7}$ | 6.0 |
| B-13** | 4-ST | 10.0 - 12.0 | CL-ML | 21.7 | 0 | 48 | 42/10* | ← Non-Plastic → | | | 105.4 | | $9.7 \times 10^{-7}$ | 8.0 |
| B-13** | 6-ST | 15.0 - 17.0 | CL-ML | 24.8 | 0 | 20 | 62/18* | ← Non-Plastic → | | | 100.6 | | $1.8 \times 10^{-6}$ | |

** Represent percentages of silt and clay based on hydrometer analysis.*

**Table 10**

**Summary of Slug Test Results for Lower Cohesive Deposit**

| Location | Soil Type Tested | USCS Classification | Calculated Hydraulic Conductivity (cm/sec) | | |
|---|---|---|---|---|---|
| | | | Recovery Test | Drawdown Test | Average Value |
| P-7M | Silty clay | CL | NT | $7.6 \times 10^{-5}$ | $7.6 \times 10^{-5}$ |
| P-9S | Silty clay | CL | NT | $4.9 \times 10^{-5}$ | $4.9 \times 10^{-5}$ |

Refer to Appendix D for detailed test results
NT = Not Tested

ref:hb/496b/496b-10.tbl

# Table 11
## Summary of Laboratory Test Results for Basal Sand

| Boring/ Piezometer | Sample Number | Depth (ft) | USCS Symbol | Moisture Content (%) | Grain Size Analysis | | | Atterberg Limits | | | Dry Density (pcf) | Unconfined Compressive Strength (tsf) | Hydraulic Conductivity (cm/sec) | Cation Exchange Capacity (meq/100 gm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Gravel (%) | Sand (%) | Silt or Clay (%) | LL | PL | PI | | | | |
| B-4 | SS-14 | 26.0-28.0 | SC | 17.6 | 0 | 56 | 44 | | | | | | | |
| B-13 | SS-14 | 26.0-28.0 | SM | 15.1 | 16 | 65 | 19 | | | | | | | |
| CB-1 | SS-13 | 24.0-26.0 | SM | 21.1 | 0 | 69 | 31 | | | | | | | |
| CB-6 | SS-14 | 26.0-28.0 | SC | 30.9 | 0 | 62 | 38 | | | | | | | |
| P-1D | SS-25B | 48.0-50.0 | SC | 21.1 | 0 | 64 | 36 | | | | | | | |
| P-2D | SS-28A | 54.0-54.5 | SW-SM | - | 3 | 91 | 6 | | | | | | | |
| P-3D | SS-17B | 33.0-33.5 | SM | 17.9 | 0 | 58 | 42 | | | | | | | |
| P-4 | SS-19 | 36.0-38.0 | SW-SM | - | 23 | 69 | 8 | | | | | | | |
| P-5D | SS-14A | 26.0-27.3 | SM | - | 29 | 54 | 17 | | | | | | | |
| P-6D | SS-15 | 28.0-30.0 | SM | 14.6 | 23 | 55 | 22 | | | | | | | |
| P-7D | SS-15 | 29.0-30.0 | SW-SM/SM | 10.9 | 27 | 59 | 14 | | | | | | | |
| P-8D | SS-13A | 24.0-25.5 | SW-SM/SM | - | 34 | 50 | 16 | | | | | | | |
| P-9D | SS-29A | 56.0-57.5 | SP-SM/SM | - | 22 | 66 | 12 | | | | | | | |

**Table 12**

**Summary of Slug Test Results for Basal Sand**

| Location | Soil Type Tested | USCS Classification | Calculated Hydraulic Conductivity (cm/sec) | | |
|---|---|---|---|---|---|
| | | | Recovery Test | Drawdown Test | Average Value |
| P-1D | Silty to clayey Sand to sand | SC/SM/SP | $6.1 \times 10^{-4}$ | $1.1 \times 10^{-3}$ | $8.4 \times 10^{-4}$ |
| P-3D | Silty sand | SM | $1.6 \times 10^{-2}$ | $7.6 \times 10^{-3}$ | $1.2 \times 10^{-2}$ |
| P-4 | Silty sand | SP-SM/SM | $2.0 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $2.5 \times 10^{-3}$ |
| P-5D | Silty sand | SM/SW-SM | $5.0 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $4.4 \times 10^{-3}$ |
| P-6D | Silty sand | SM | $3.6 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.4 \times 10^{-2}$ |
| P-7D | Silty sand | SW-SM/SM | $5.6 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $5.8 \times 10^{-3}$ |
| P-8D | Silty sand to sand | SM/SW-SM | $2.3 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| P-9D | Silty sand | SM/SP-SM | $7.2 \times 10^{-4}$ | $5.6 \times 10^{-4}$ | $6.4 \times 10^{-4}$ |

Refer to Appendix D for detailed test results.
NT = Not Tested

ref:hb/496b/496b-12.tbl

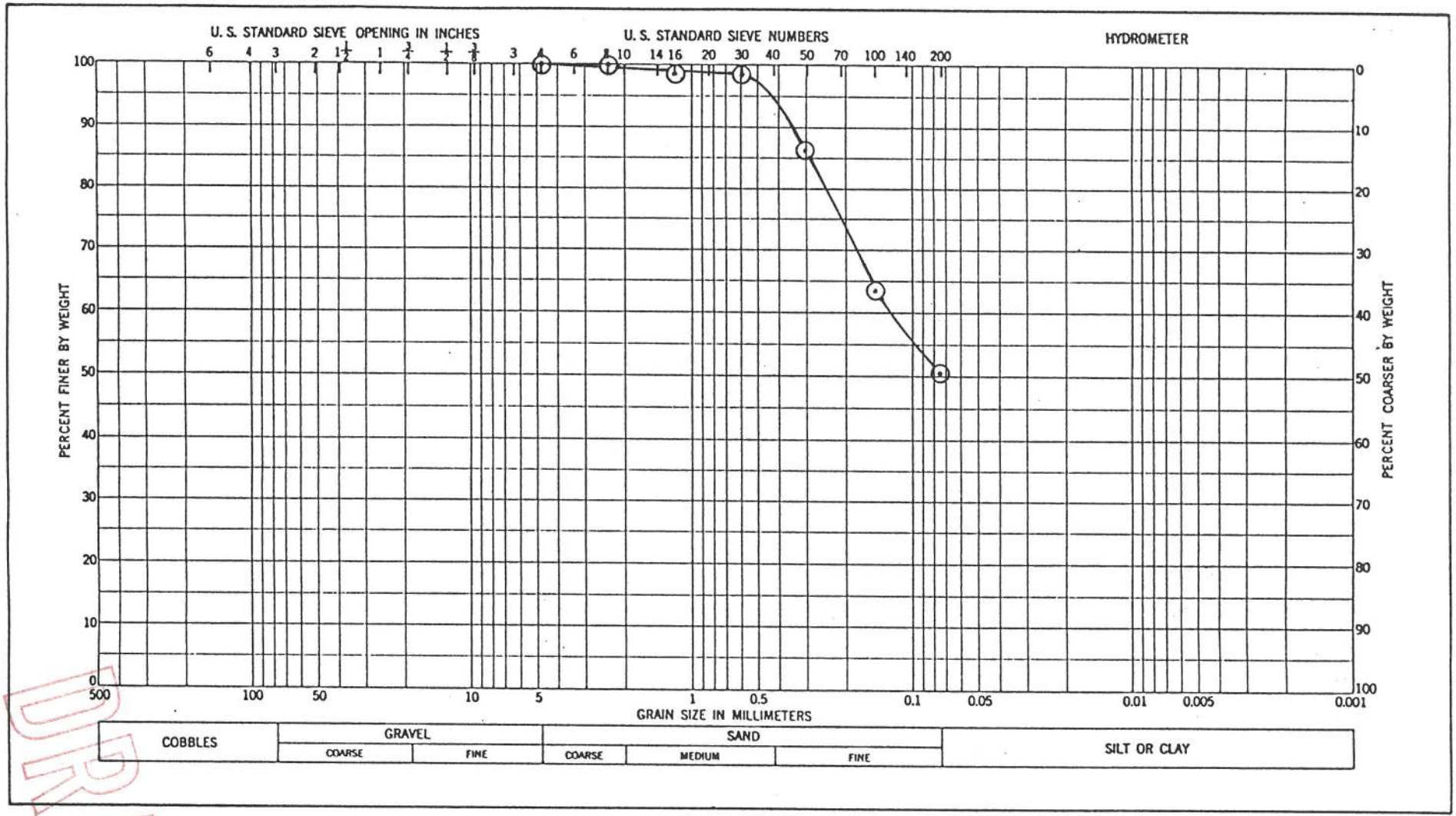
**Table 13**

**Summary of Slug Test Results for Bedrock (Shale)**

| Location | Soil Type Tested | USCS Classification | Calculated Hydraulic Conductivity (cm/sec) | | |
|---|---|---|---|---|---|
| | | | Recovery Test | Drawdown Test | Average Value |
| P-7R | Shale | - | NT | $1.8 \times 10^{-7}$ | $1.8 \times 10^{-7}$ |
| P-6R | Shale | - | NT | $1.3 \times 10^{-6}$ | $1.3 \times 10^{-6}$ |

Refer to Appendix D for detailed test results
NT = Not Tested

ref:hb/496b/496b-13.tbl

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| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-1 | 12.0'-14.0' | Gray clayey sand and | 20.0 | | | | |
| SS-7 | | silt | | | | | |
| | | SC | | | | | |
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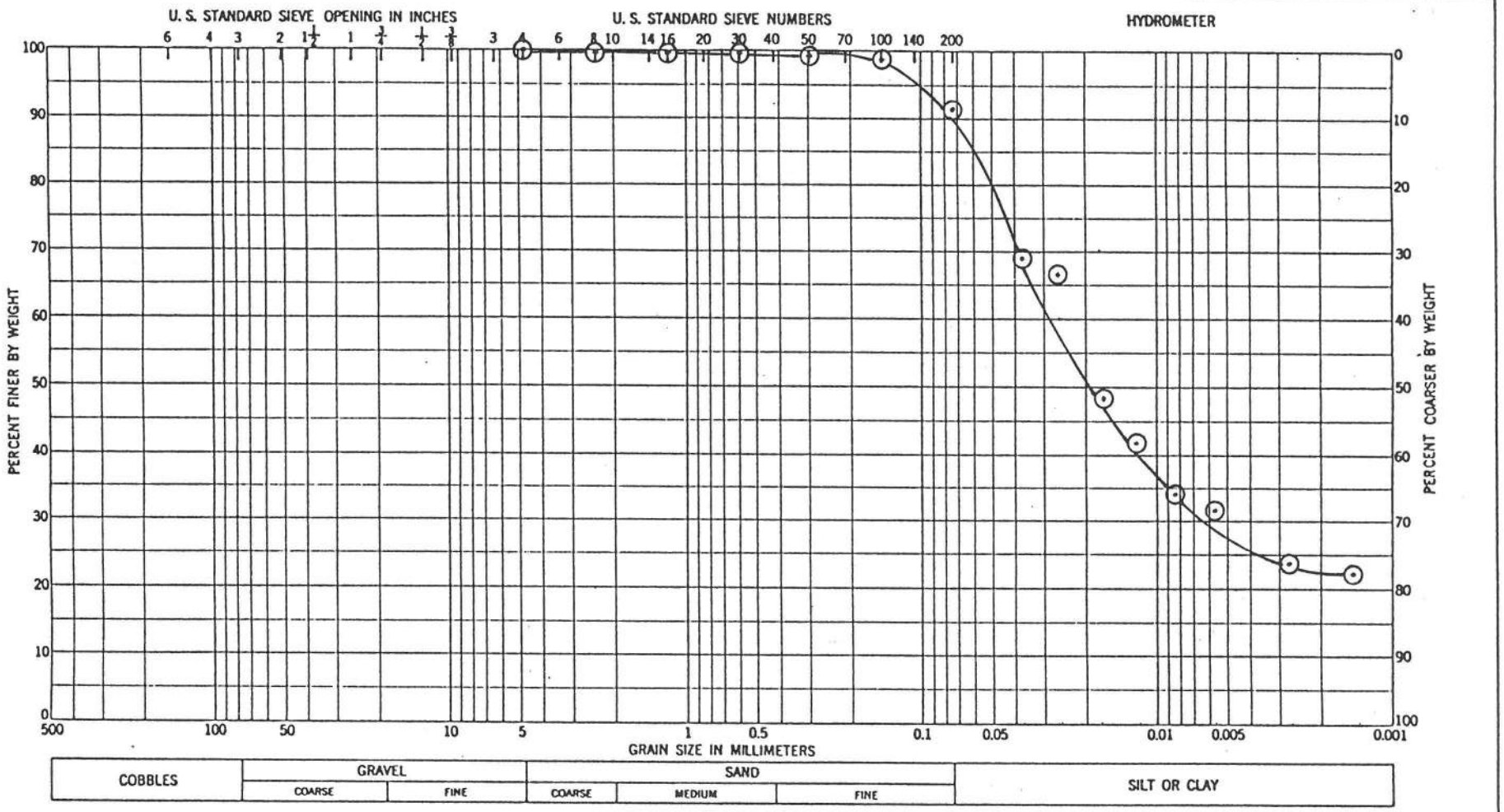


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-4 | 14.0'-16.0' | Dark gray silty clay, | 29.1 | | | | |
| SS-8 | | trace fine sand | | | | | |
| | | CL | | | | | |
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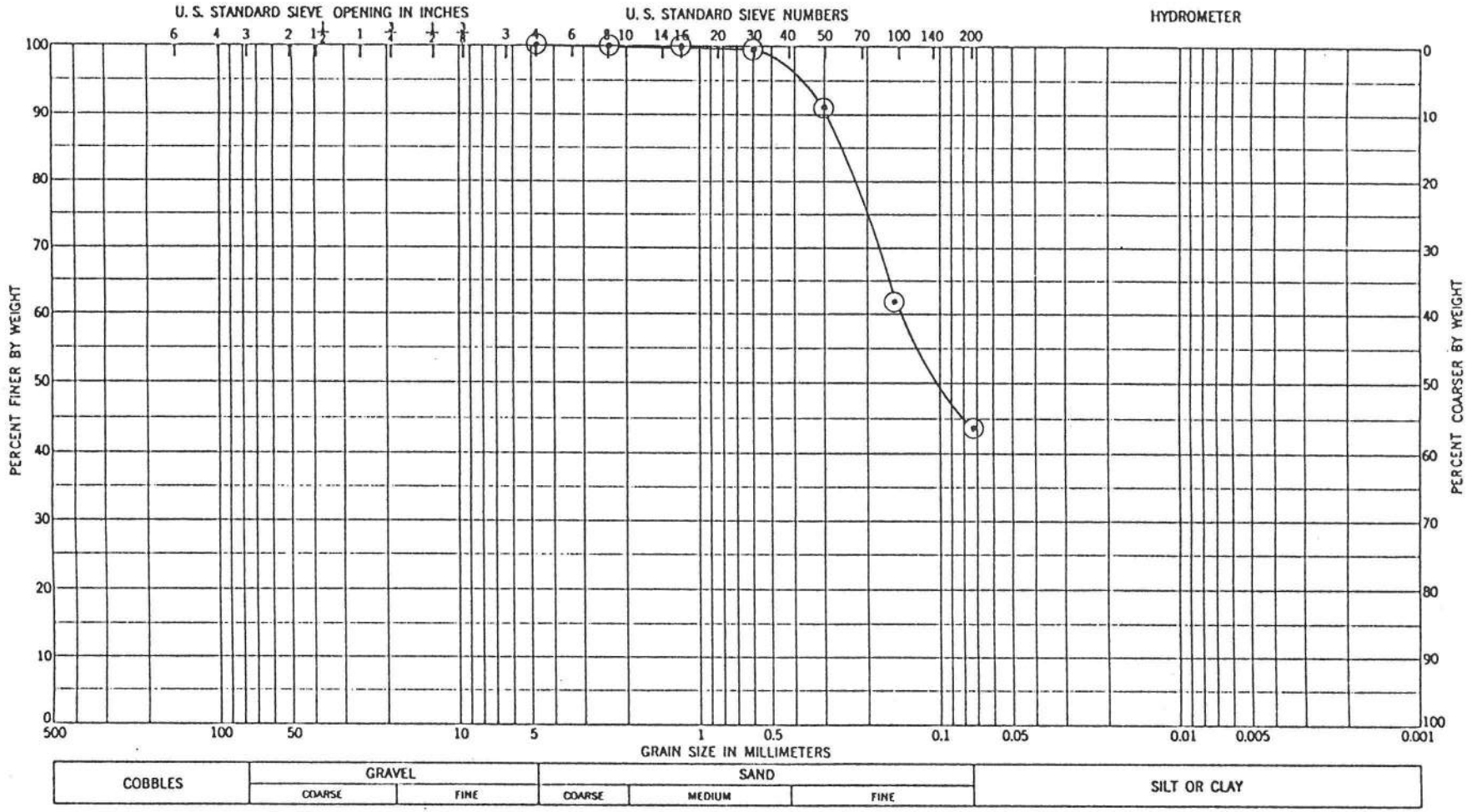


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-4 | 26.0'-28.0' | Gray clayey fine sand and | 17.7 | | | | |
| SS-14 | | silt | | | | | |
| | | SC | | | | | |
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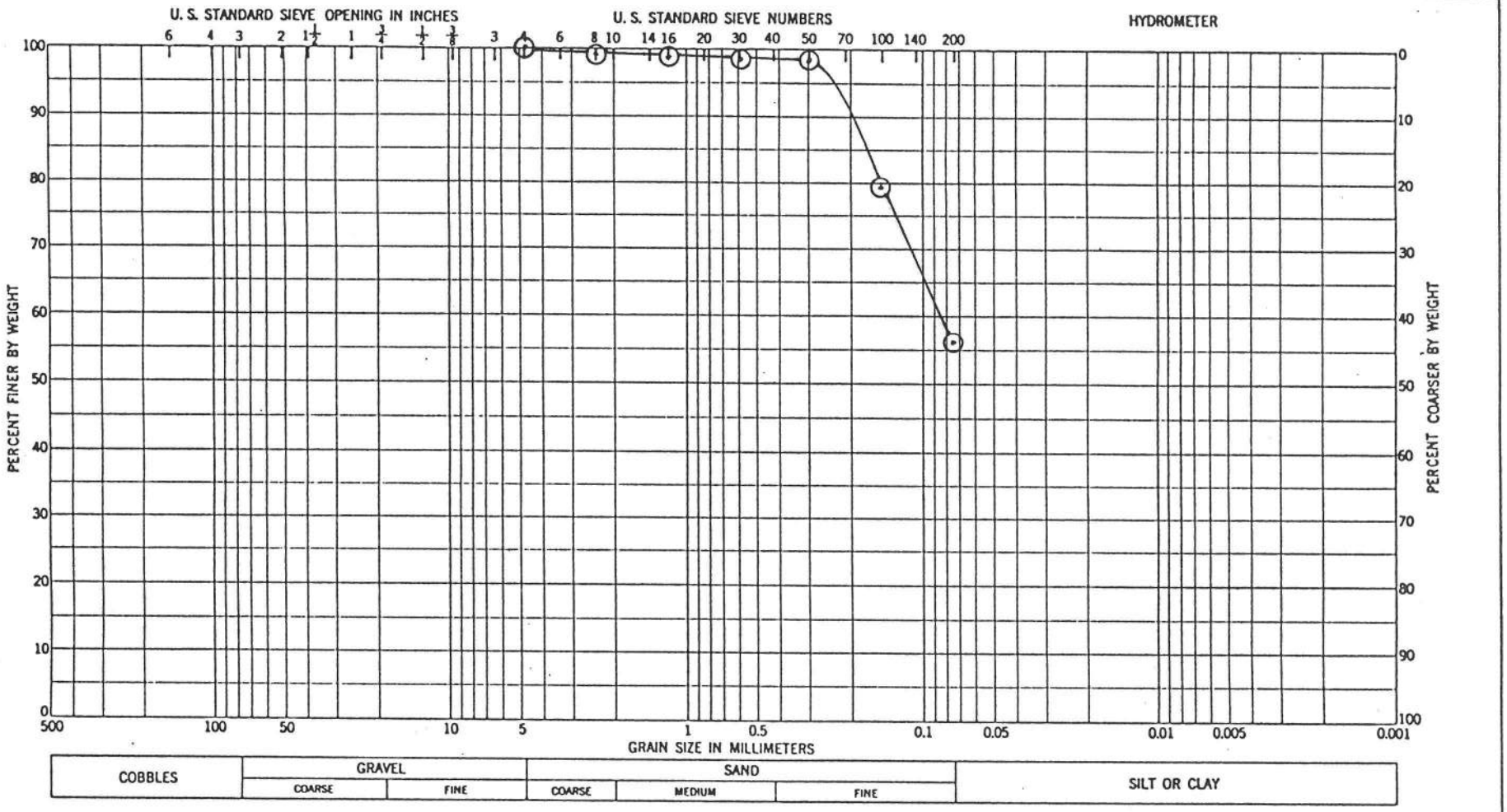


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-6 | 26.0'-28.0' | Gray clayey silt to clayey | 24.6 | | | | |
| SS-14 | | sand | | | | | |
| | | CL-ML/SC | | | | | |
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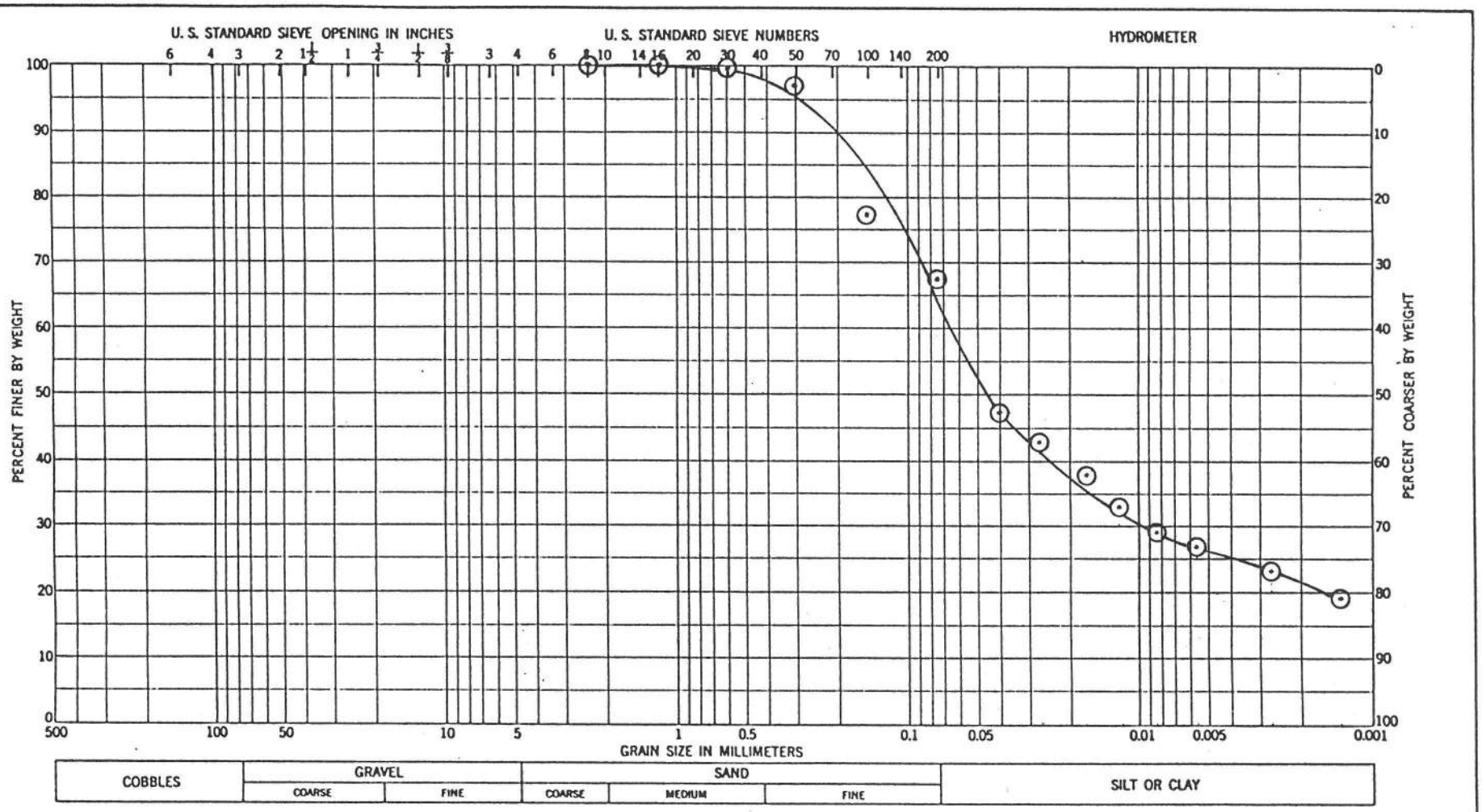


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-7 | 6.0'-8.0' | Gray silty clay and | 24.4 | | | | |
| SS-4 | | medium to fine sand | | | | | |
| | | CL | | | | | |
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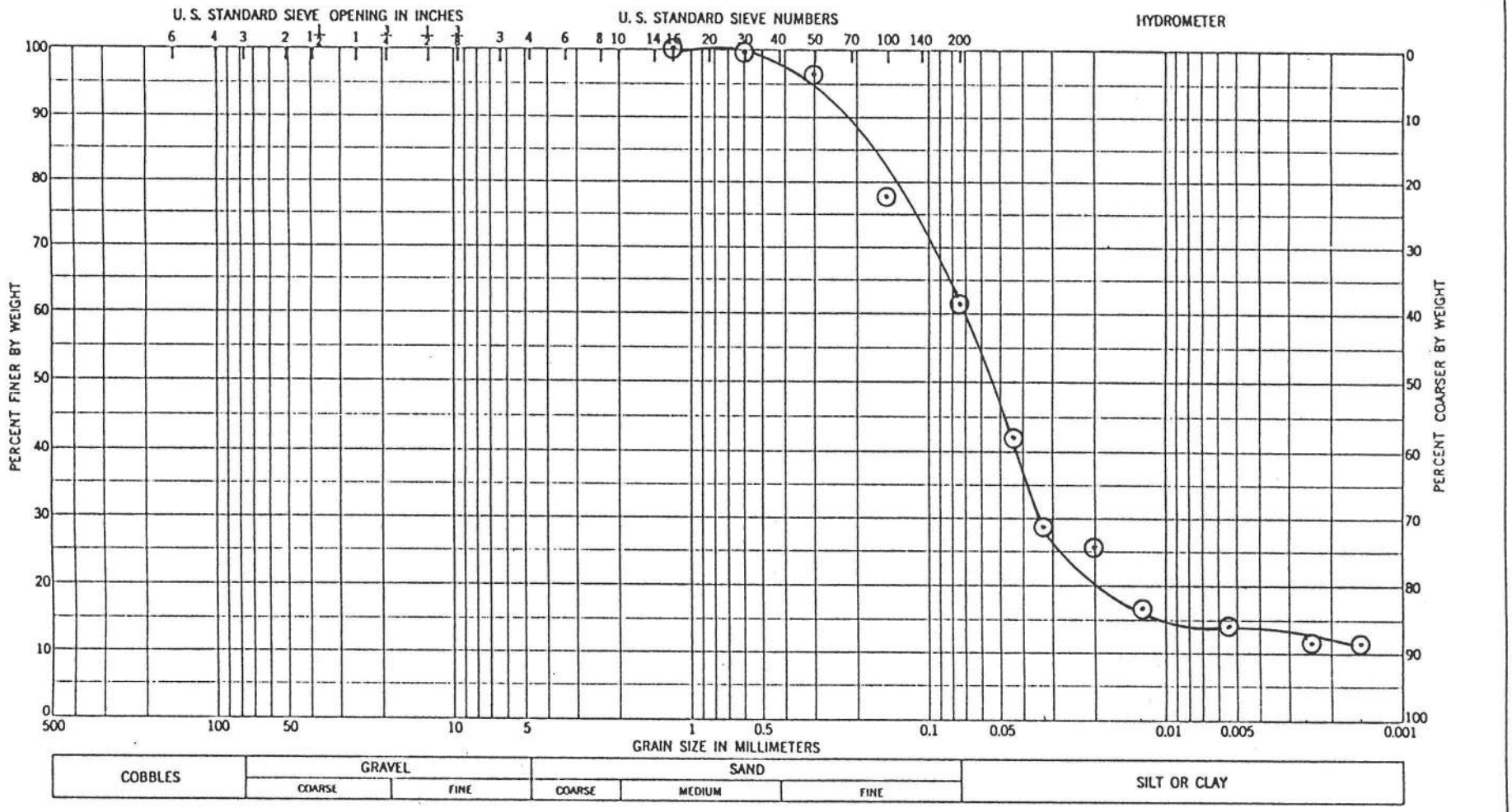


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-7 | 16.0'-18.0' | Gray clayey silt and fine | 18.2 | | | | |
| SS-9 | | sand | | | | | |
| | | CL-ML | | | | | |
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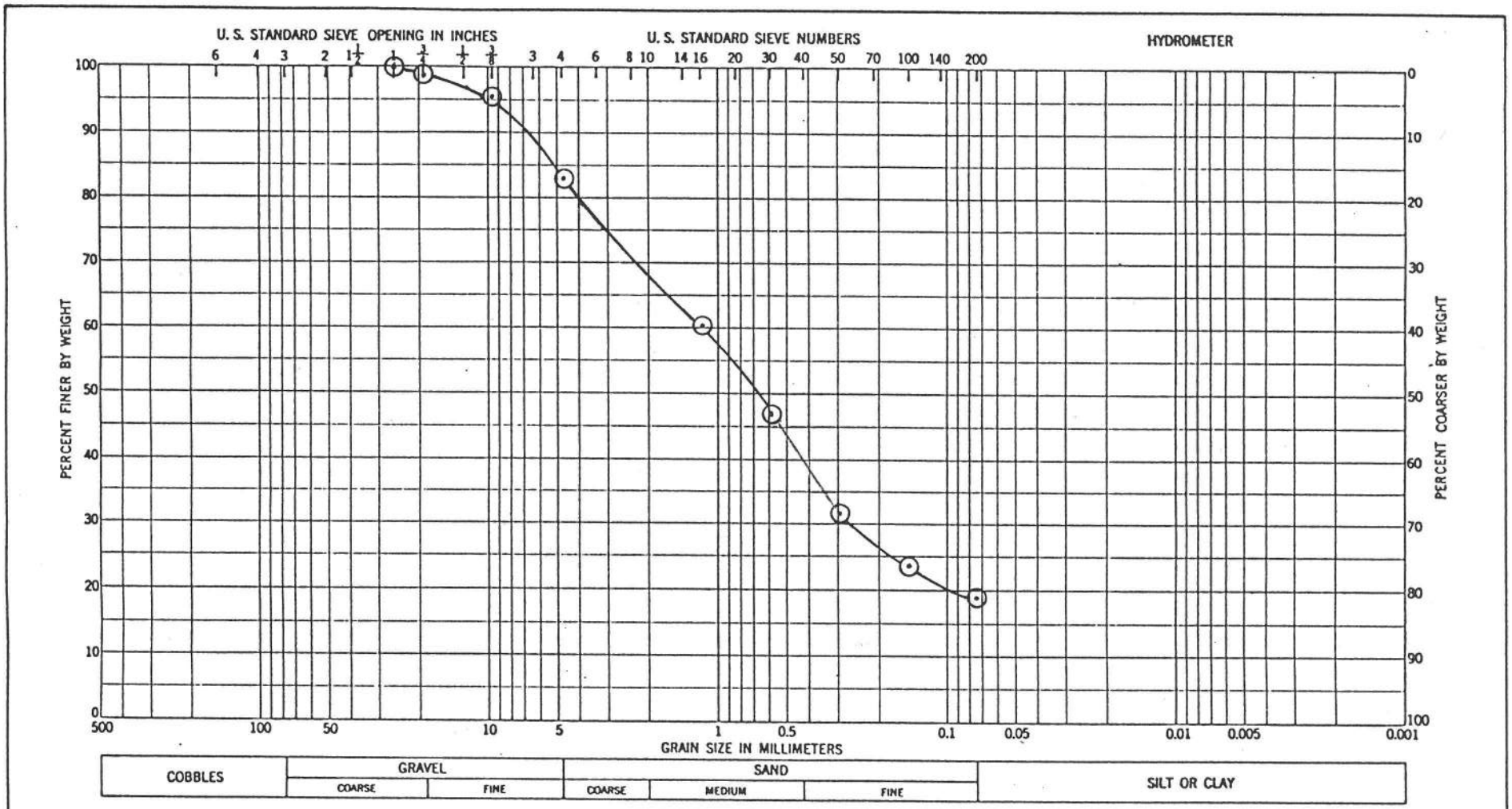


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| B-13 | 26.0'-28.0' | Gray coarse to fine sand, | 14.3 | | | | |
| SS-14 | | little fine gravel, little | | | | | |
| | | silt | | | | | |
| | | SM | | | | | |
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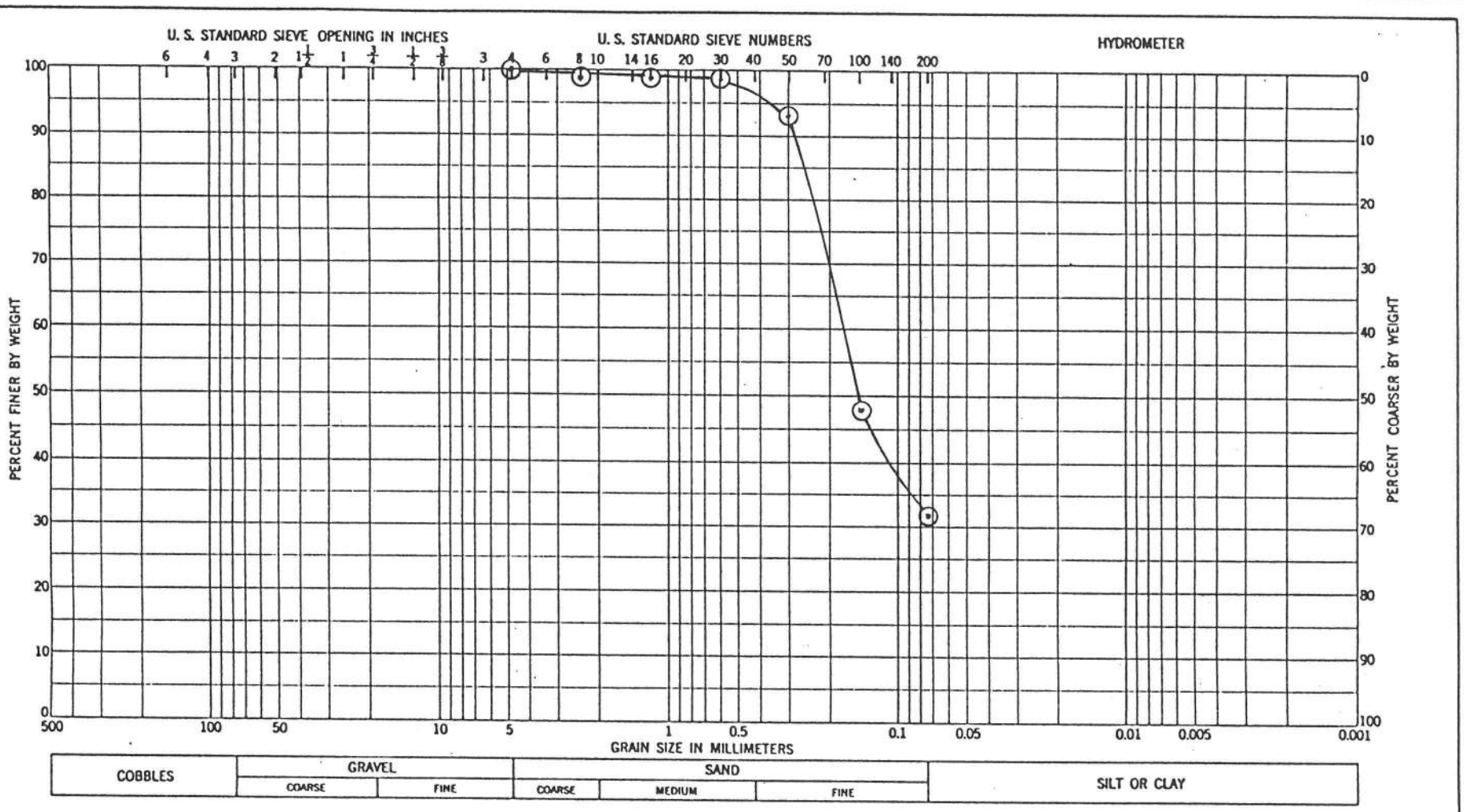


| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| CB-1 | 24.0'-26.0' | Gray medium to fine sand | 21.1 | | | | |
| SS-13 | | and clayey silt | | | | | |
| | | SM | | | | | |
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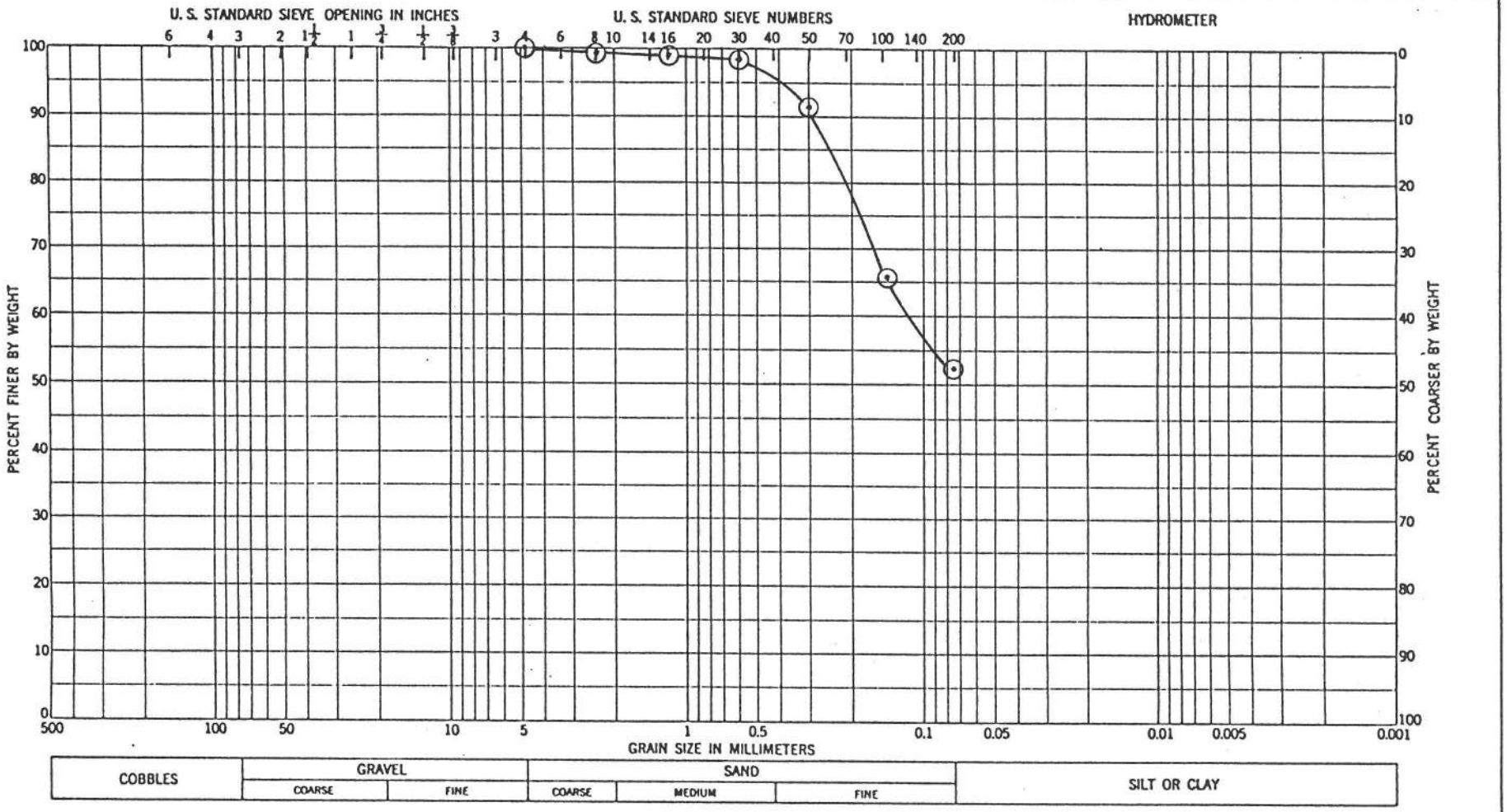


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| CB-3 | 6.0'-8.0' | Brown and tan clayey silt | 20.5 | | | | |
| SS-4 | | and fine sand | | | | | |
| | | CL-ML | | | | | |
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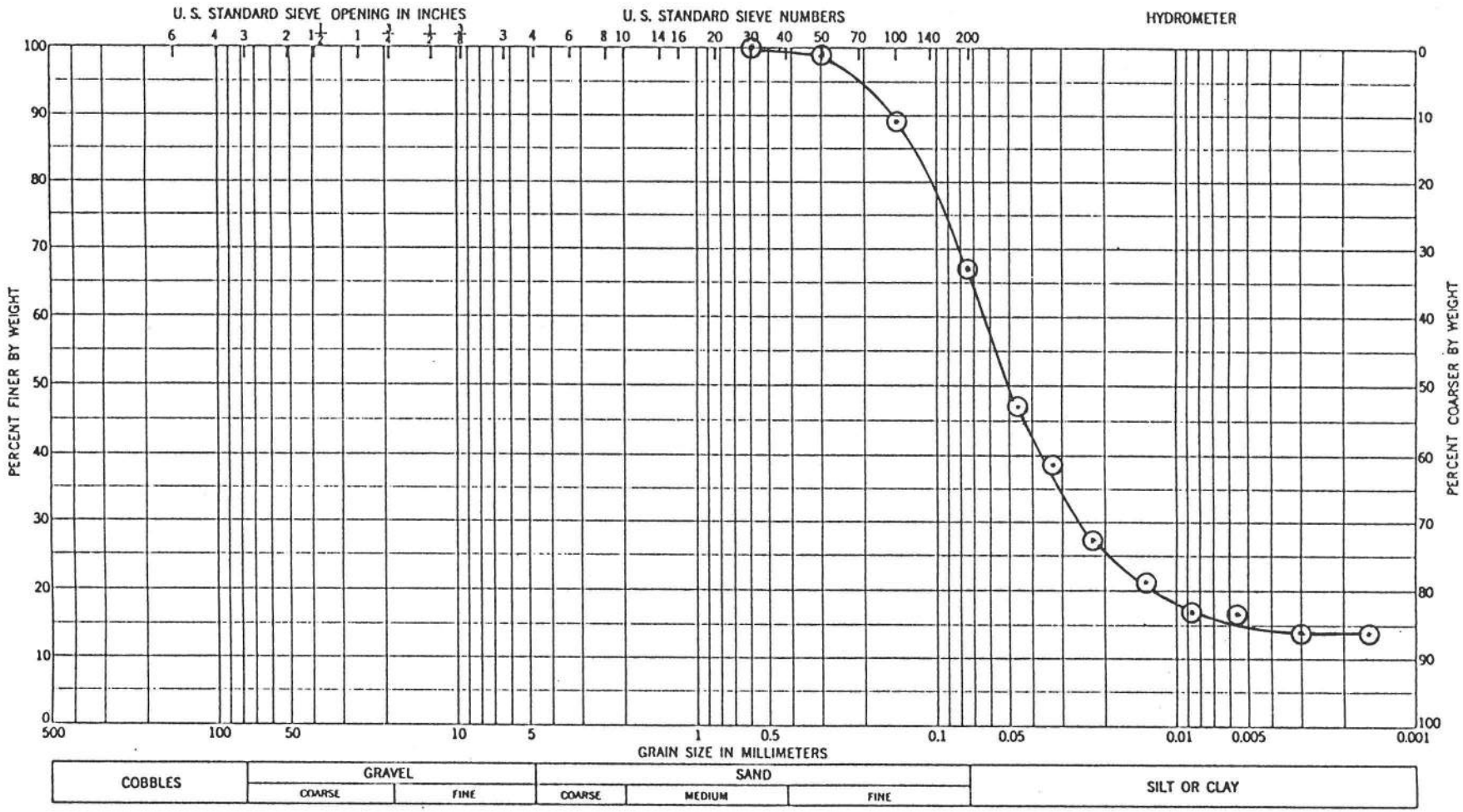


| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| CB-3 | 16.0'-18.0' | Gray clayey silt and fine | 22.6 | | | | |
| SS-9 | | sand | | | | | |
| | | CL-ML | | | | | |
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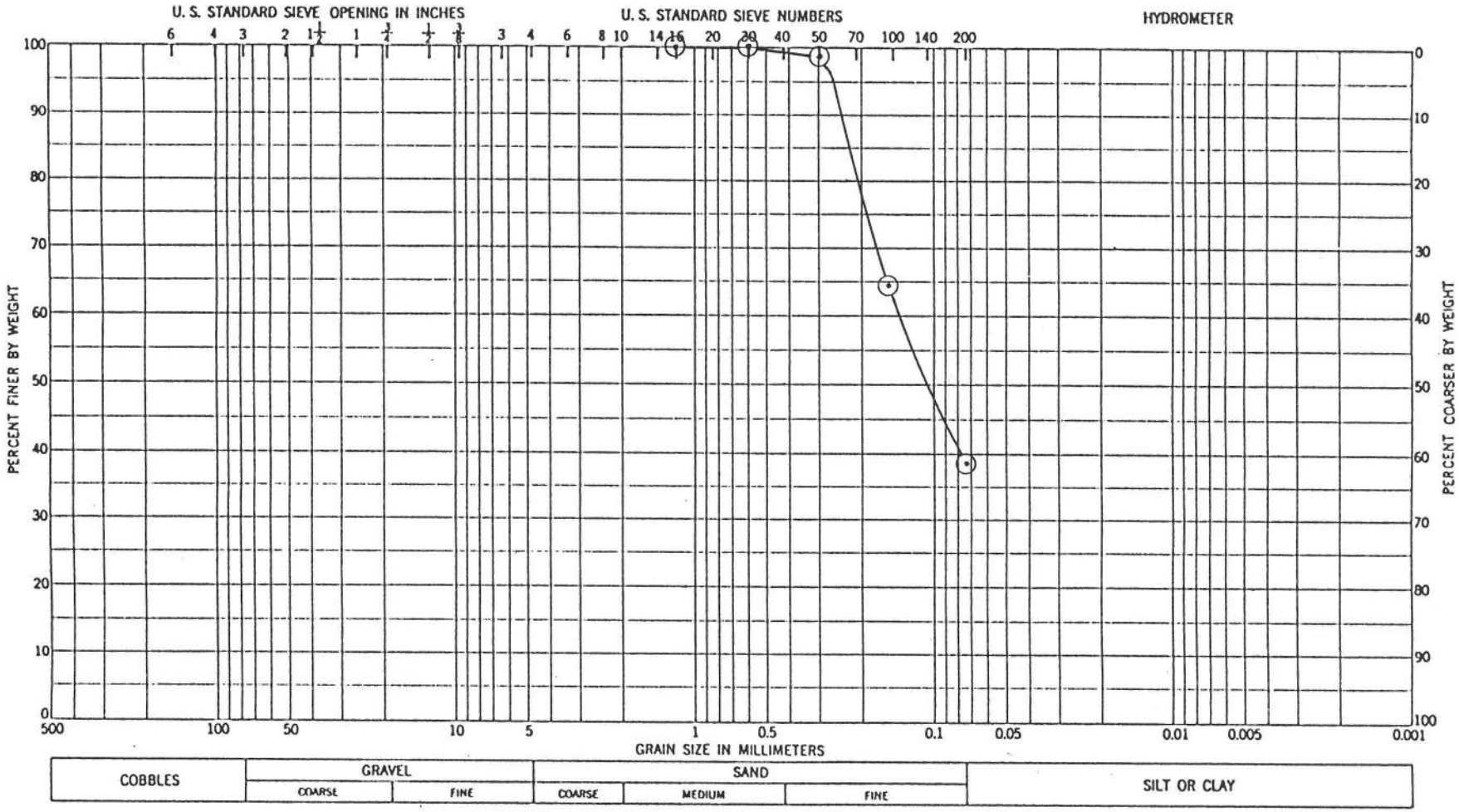


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| CB-6 | 26.0'-28.0' | Gray clayey fine sand and | 26.1 | | | | |
| SS-14 | | silt | | | | | |
| | | SC | | | | | |
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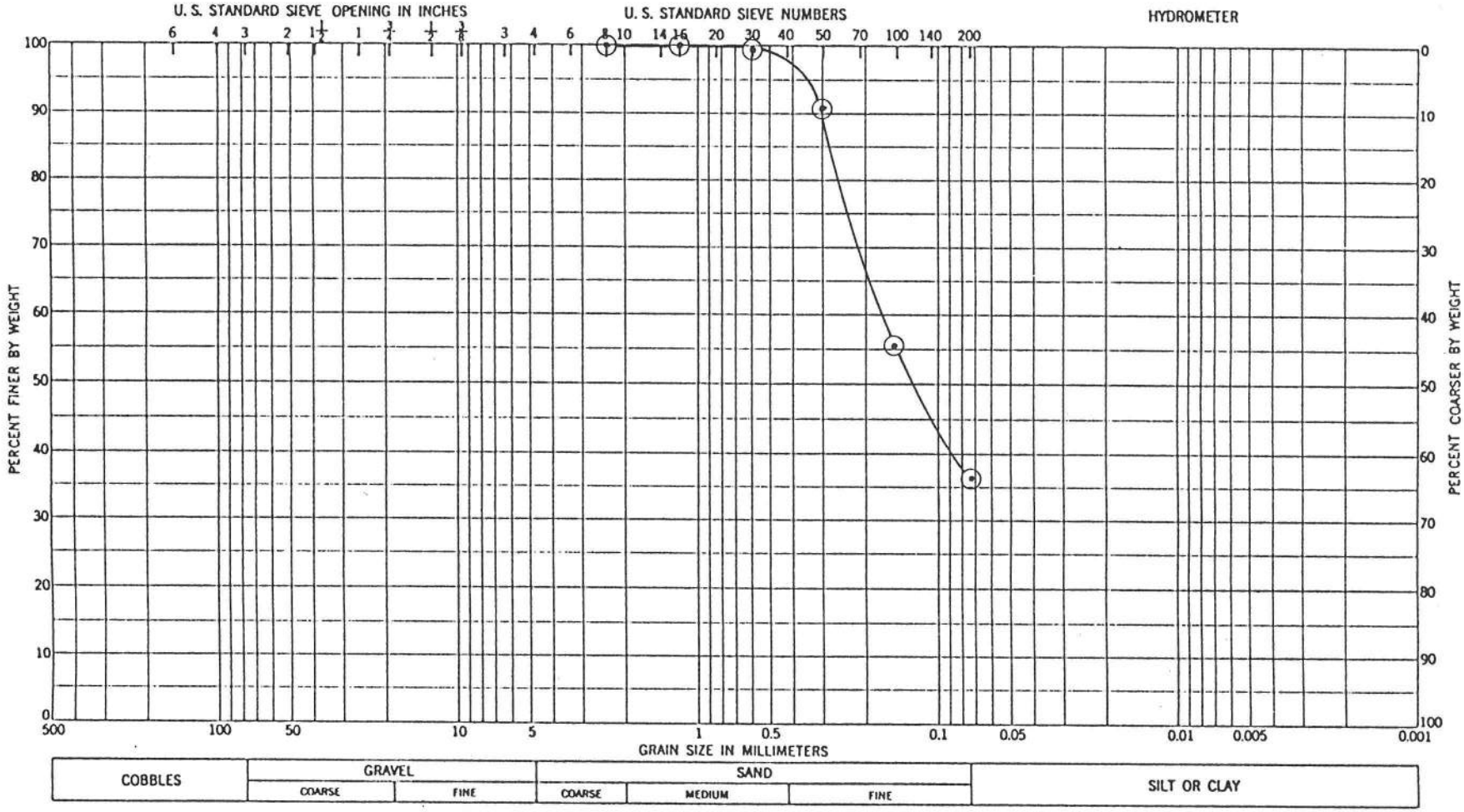


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-1D | 48.0'-50.0' | Gray clayey fine sand | 20.8 | | | | |
| SS-25B | | and silt | | | | | |
| | | SC | | | | | |
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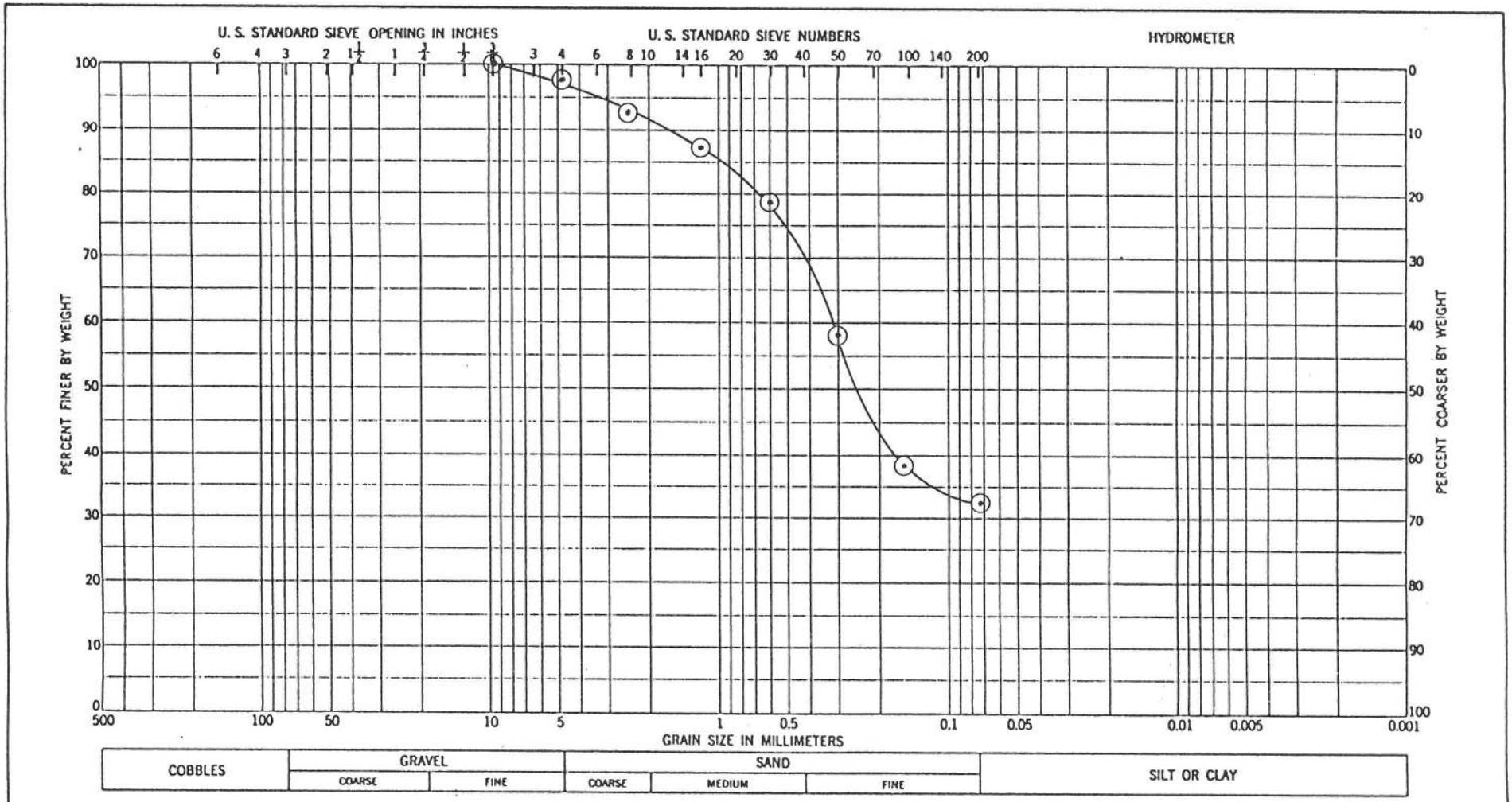
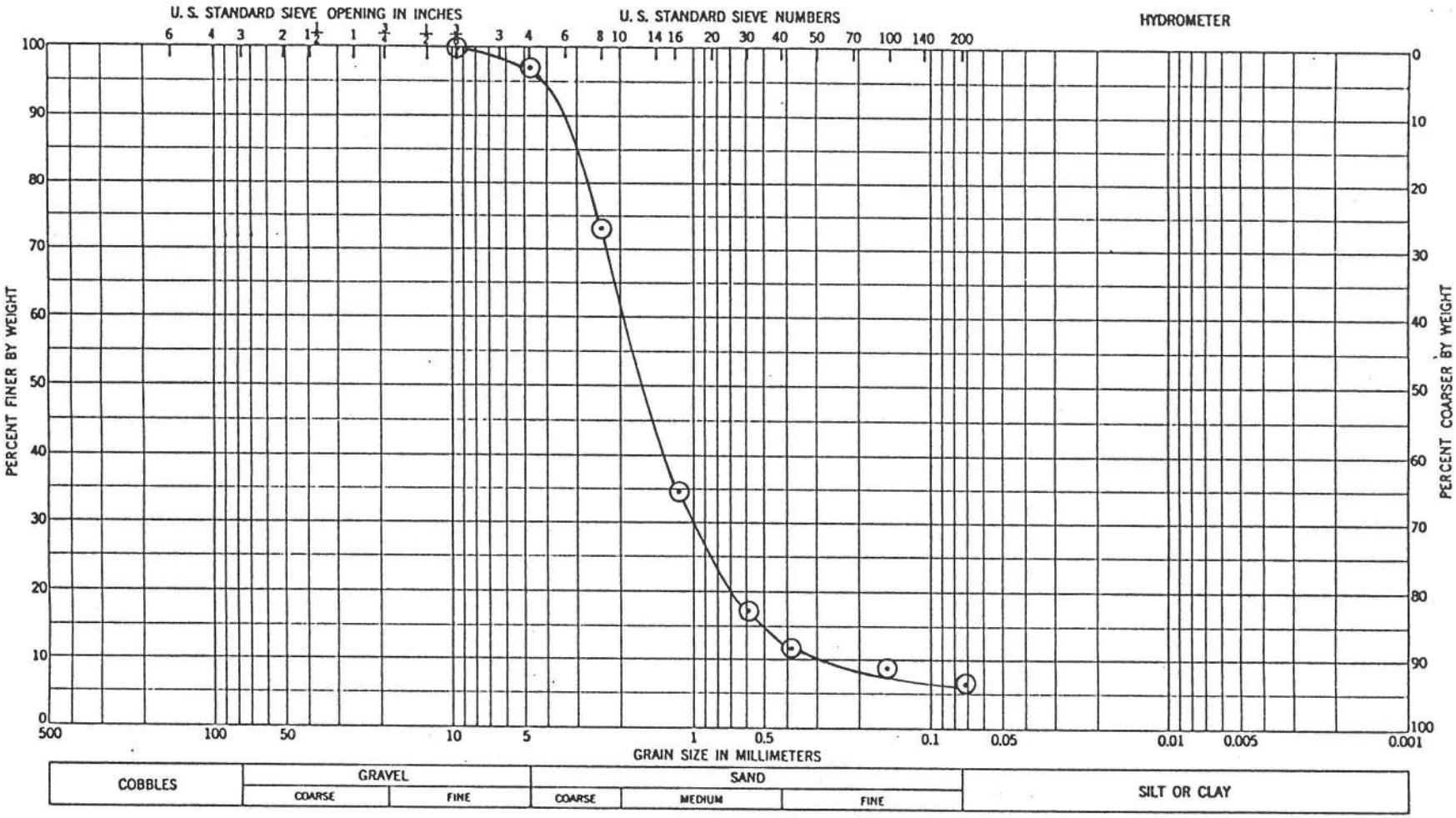



| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-1S | 38.0'-40.0' | Gray coarse to fine sand | 18.7 | | | | |
| SS-2A | | and silt, trace fine | | | | | |
| | | gravel | | | | | |
| | | SC | | | | | |
| | | | | | | | |

CWLP FGDS Landfill
City of Springfield
PEI Project No. 496B

**PATRICK ENGINEERING INC.**

**PARTICLE SIZE DISTRIBUTION**




| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-2D | 54.0'-54.5' | Gray coarse to fine sand, | 16.2 | | | | |
| SS-28A | | trace fine gravel, trace | | | | | |
| | | silt | | | | | |
| | | SP-SM | | | | | |
| | | | | | | | |

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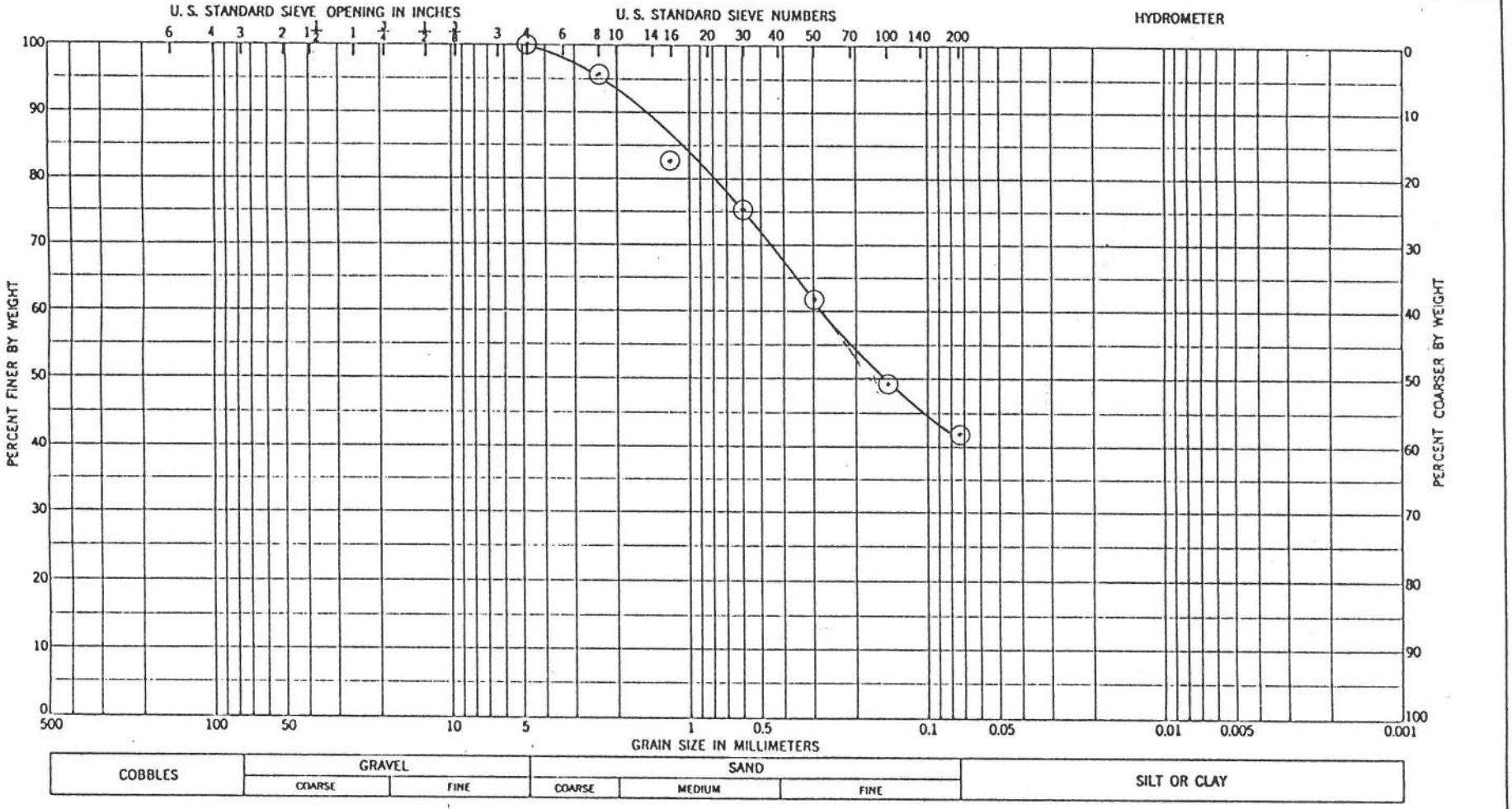


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-3D | 32.0-34.0 | Gray coarse to fine sand | 17.9 | | | | |
| SS-17B | | and silt. | | | | | |
| | | SM | | | | | |
| | | | | | | | |
| | | | | | | | |

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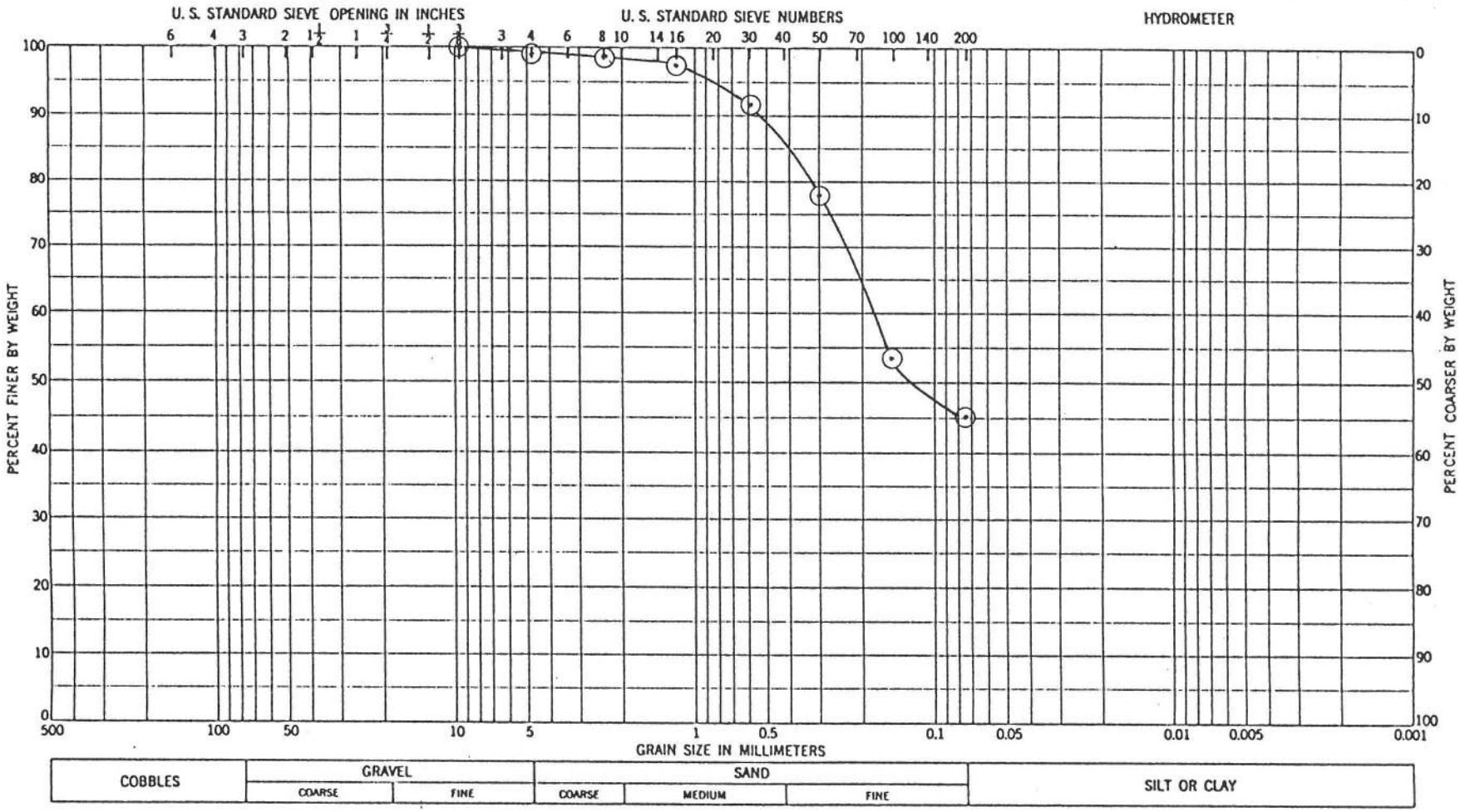


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-3S | 10.0'-12.0' | Dark gray medium to fine | | | | | |
| SS-3 | | sand and silt, trace | | | | | |
| | | coarse sand. | | | | | |
| | | SM | | | | | |
| | | | | | | | |

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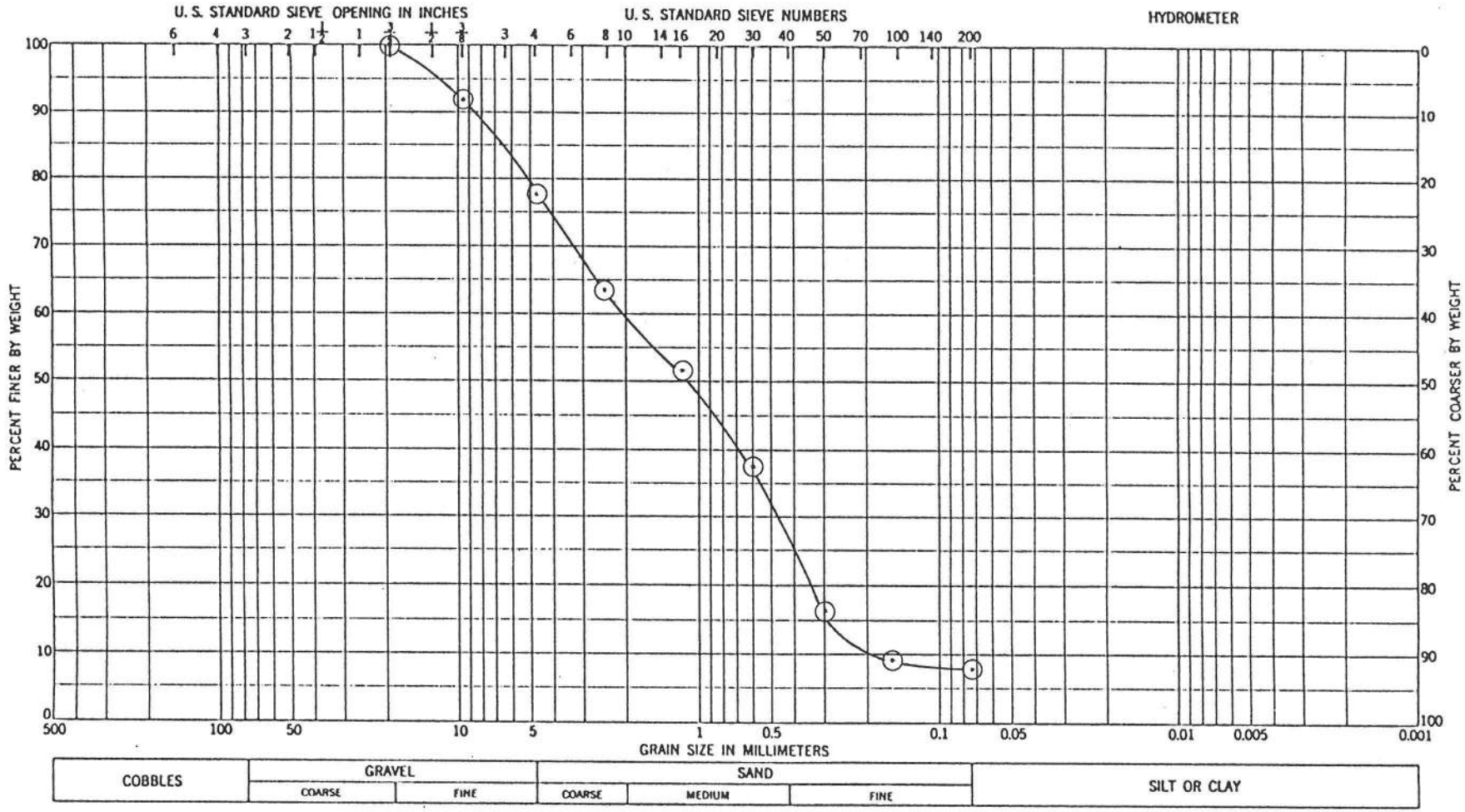


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-4 | 36.0'-38.0' | Gray coarse to fine | | | | | |
| SS-19 | | sand, some fine gravel, | | | | | |
| | | trace silt | | | | | |
| | | SW-SM | | | | | |
| | | | | | | | |

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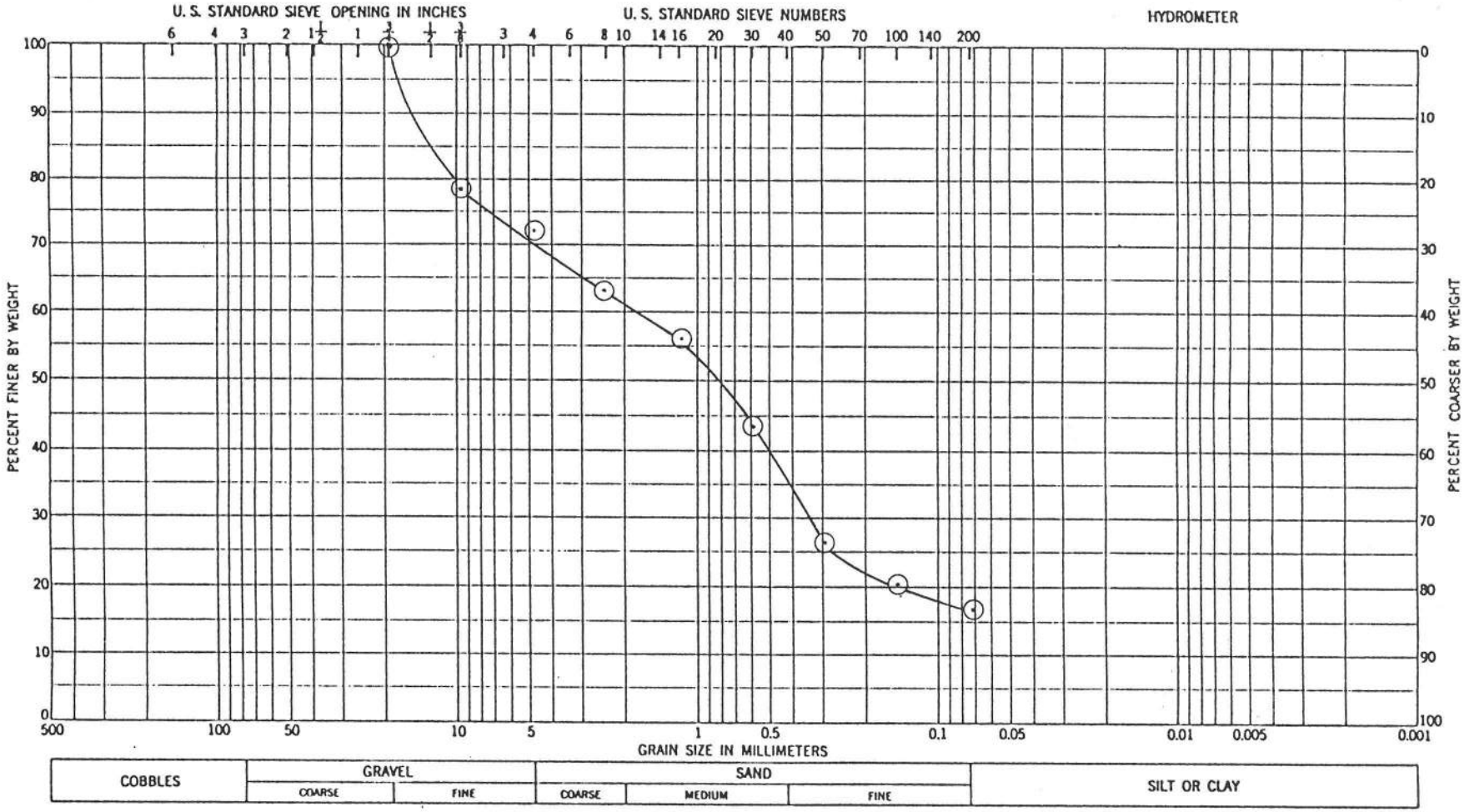


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-5D | 26.0'-28.0' | Gray coarse to fine sand | | | | | |
| SS-14A | | some fine gravel, | | | | | |
| | | little silt. | | | | | |
| | | SM | | | | | |
| | | | | | | | |

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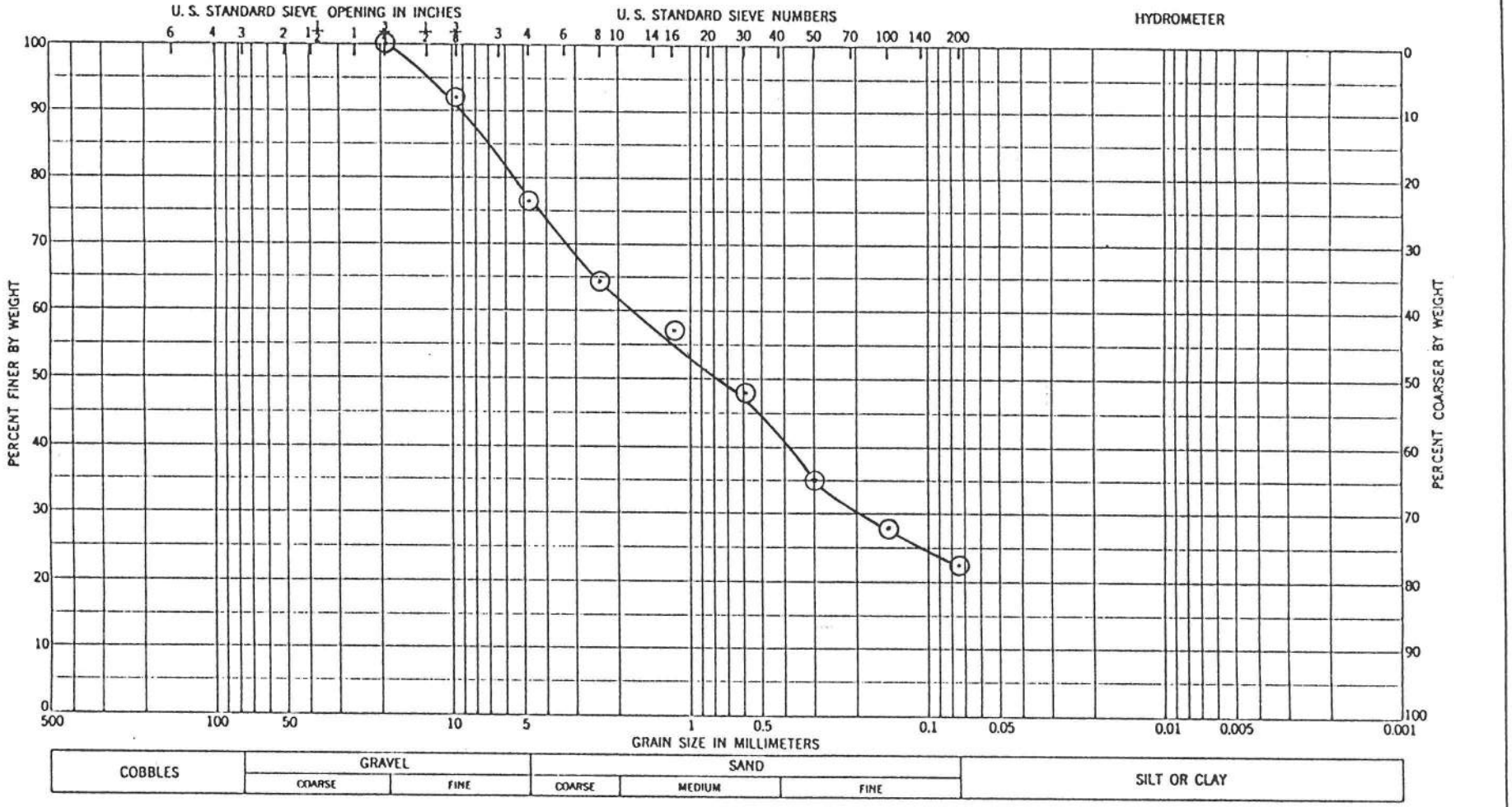


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-6D | 28.0'-30.0' | Gray Coarse to fine | 14.6 | | | | |
| SS-15 | | sand, some fine gravel, | | | | | |
| | | some silt | | | | | |
| | | SM | | | | | |
| | | | | | | | |

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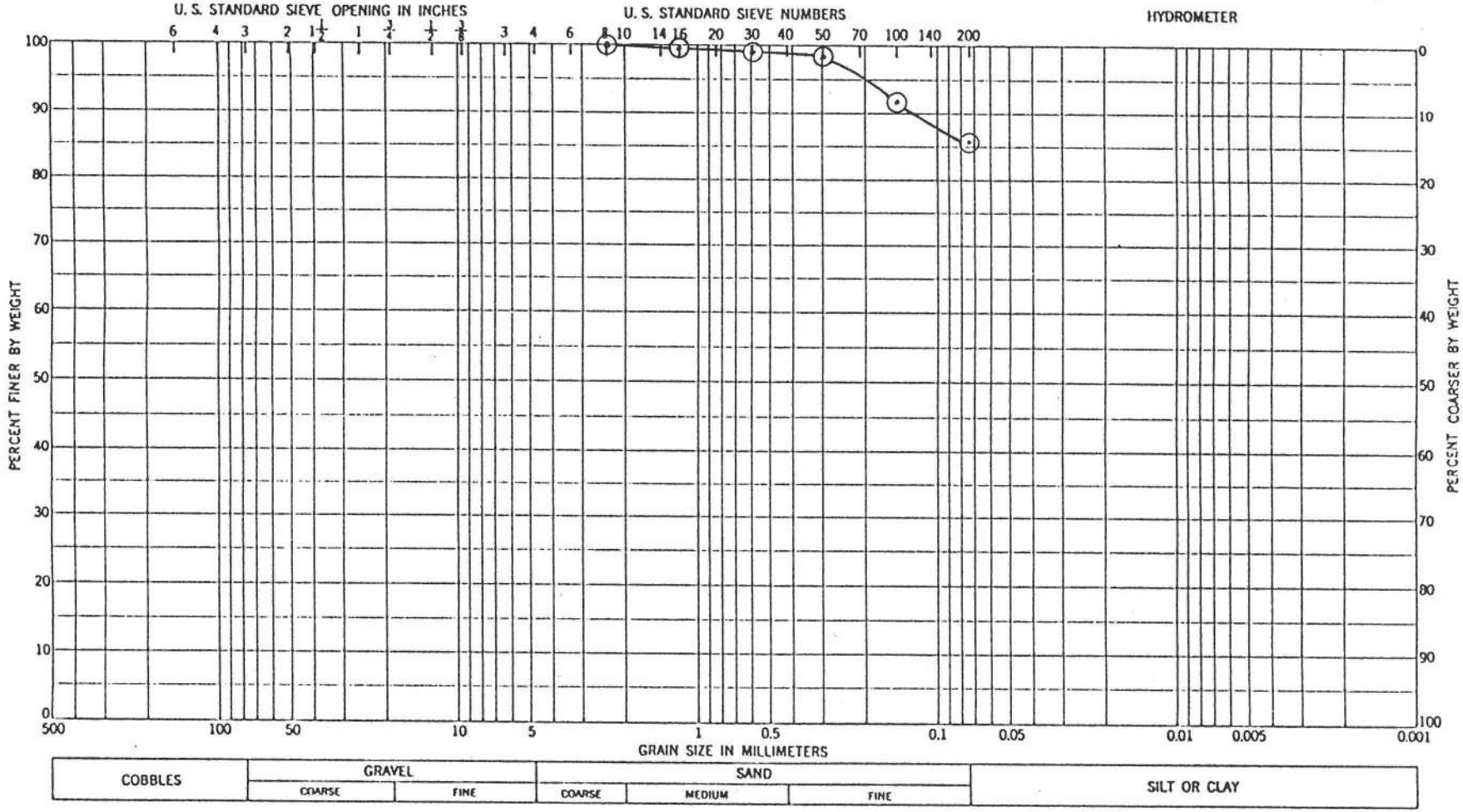


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-6S | 6.0'-8.0' | Brown silty clay, little | 23.4 | | | | |
| SS-2A | | fine sand | | | | | |
| | | CL | | | | | |
| | | | | | | | |
| | | | | | | | |

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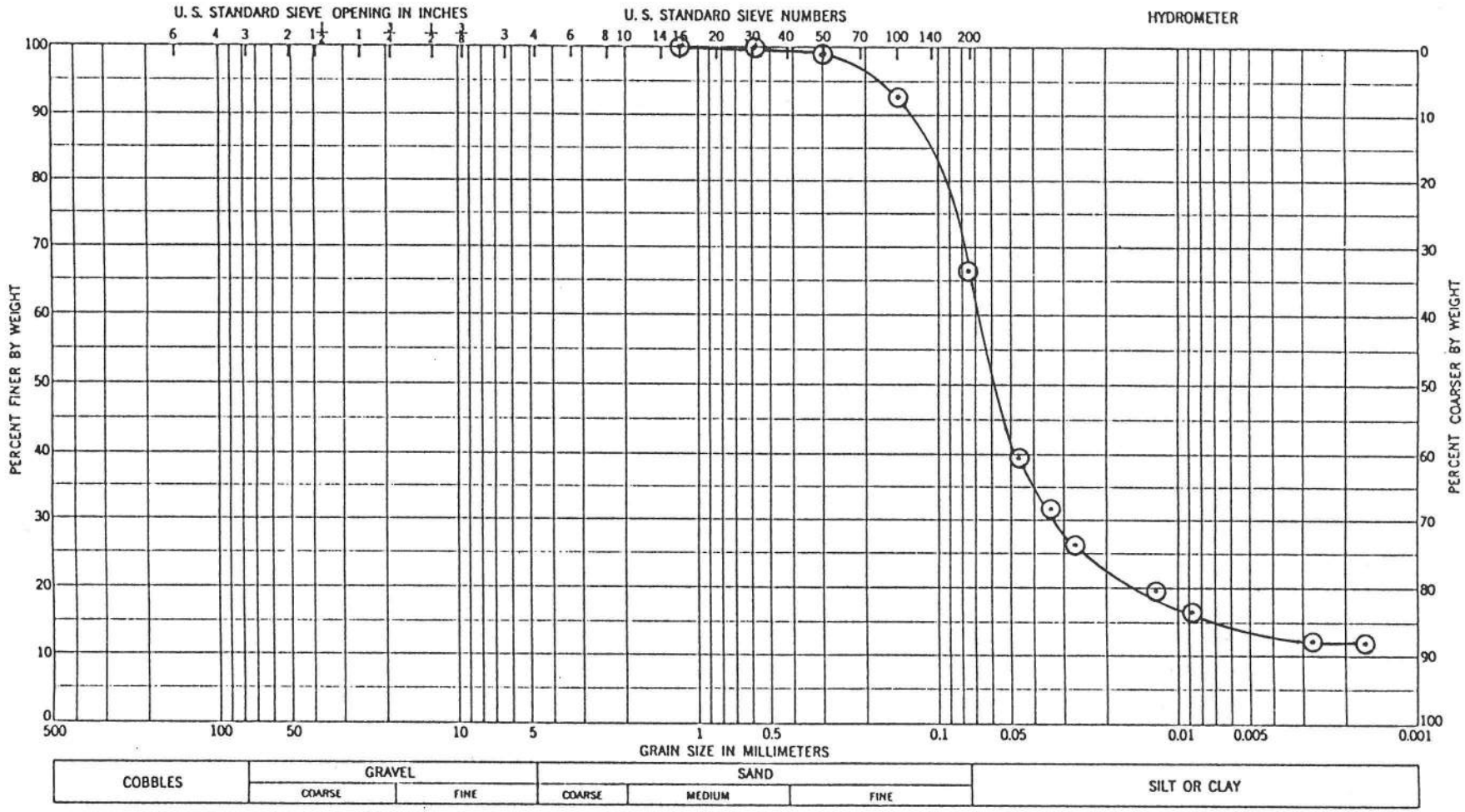


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-7D | 24.0'-26.0' | Gray clayey silt and fine | 24.3 | | | | |
| SS-13 | | sand | | | | | |
| | | CL-ML | | | | | |
| | | | | | | | |
| | | | | | | | |

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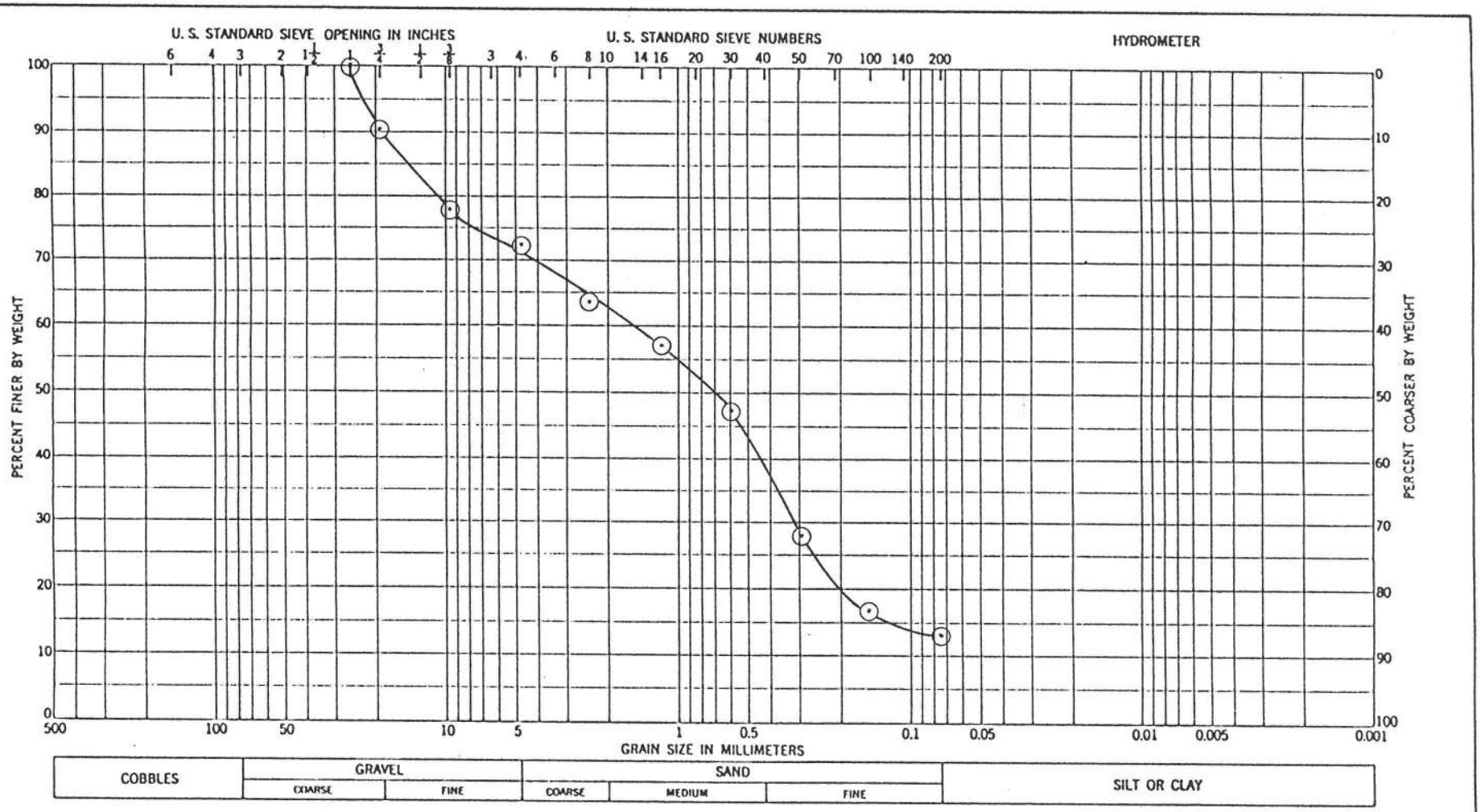


| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-7D | 28.0'-30.0' | Gray coarse to fine | 10.9 | | | | |
| SS-15 | | sand, some coarse to | | | | | |
| | | fine gravel, little silt. | | | | | |
| | | SW-SM | | | | | |
| | | | | | | | |

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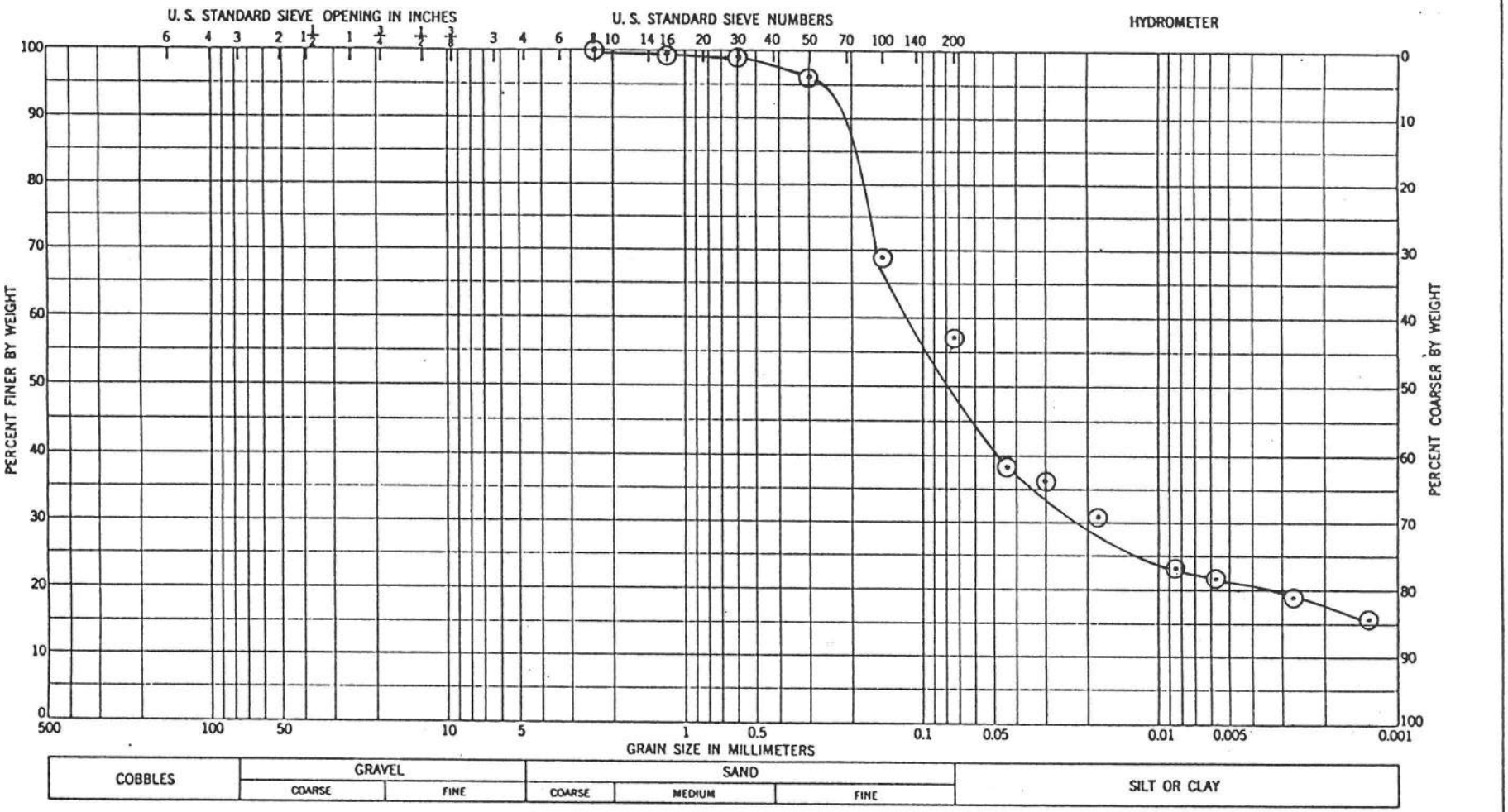


| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-7S | 10.5'-11.0' | Gray clayey silt to | | | | | |
| SS-1B | | clayey sand | | | | | |
| | | SC/ML | | | | | |
| | | | | | | | |
| | | | | | | | |

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PEI Project No. 496B

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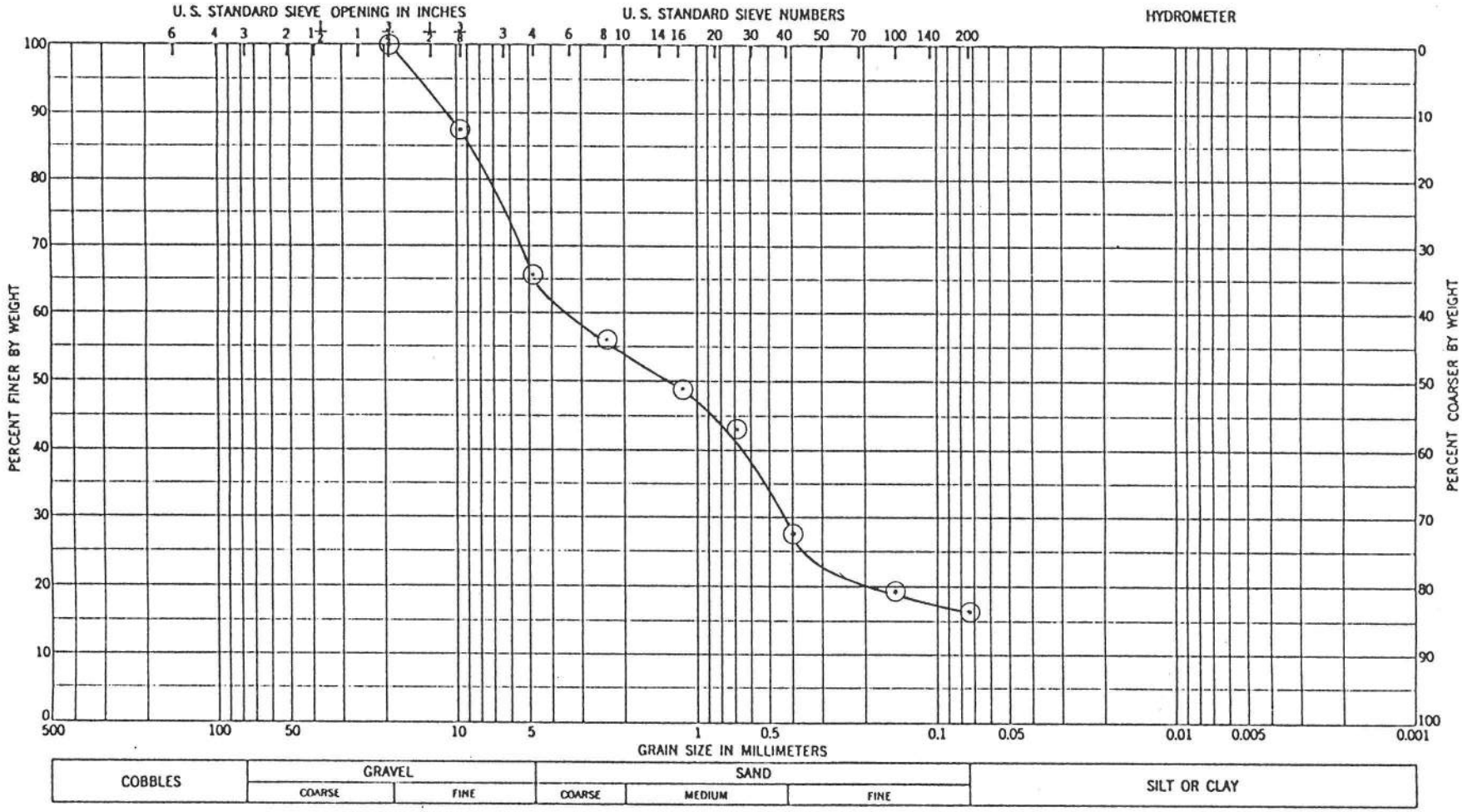


| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-8D SS-13A | 24.0'-26.0' | Gray coarse to fine sand and fine gravel, little silt SM | | | | | |

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PEI Project No. 496B

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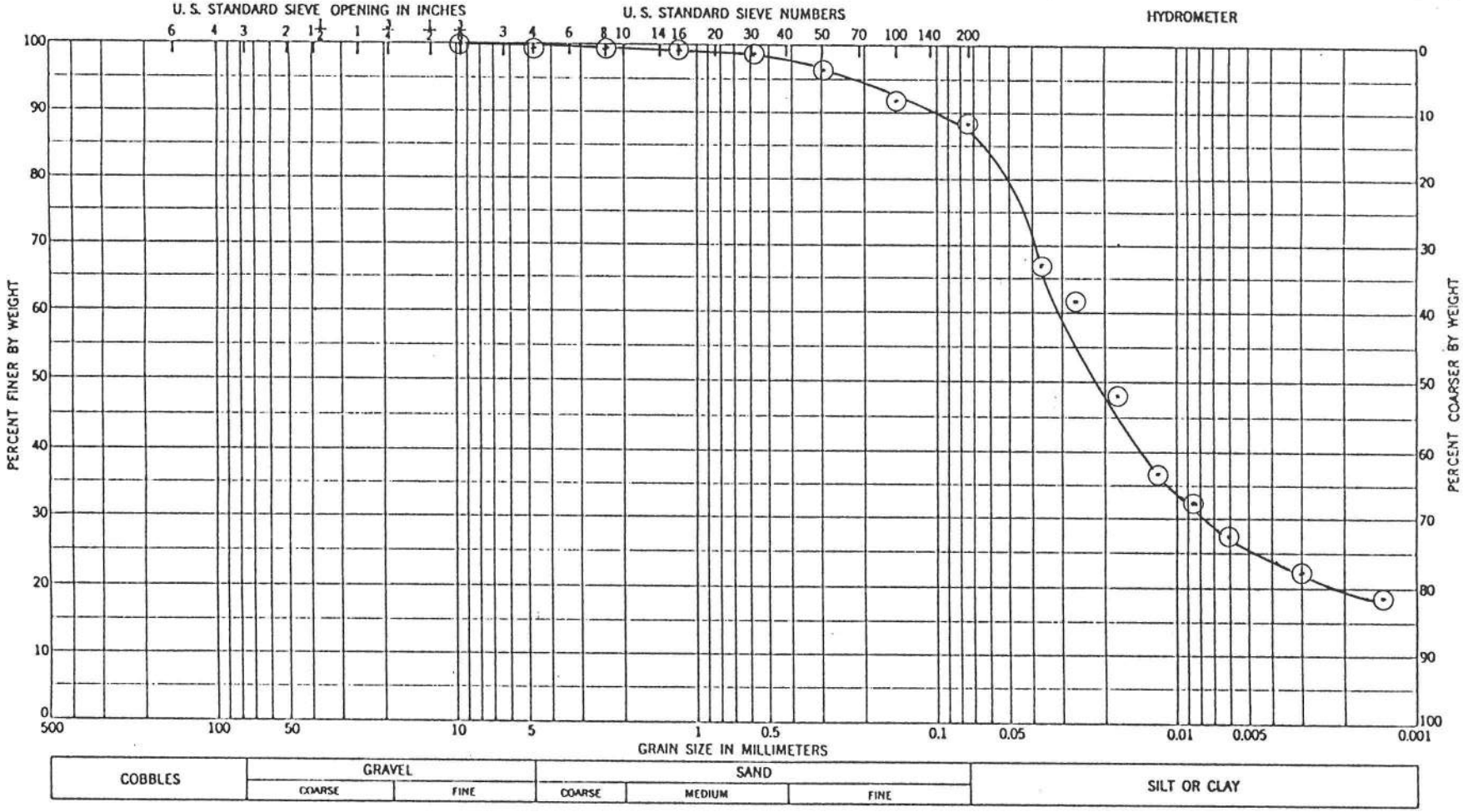


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-8S | 10.0'-12.0' | Dark gray to black | 41.0 | | | | |
| SS-3 | | organic silty clay, | | | | | |
| | | little coarse to fine | | | | | |
| | | sand, wood present | | | | | |
| | | OL | | | | | |

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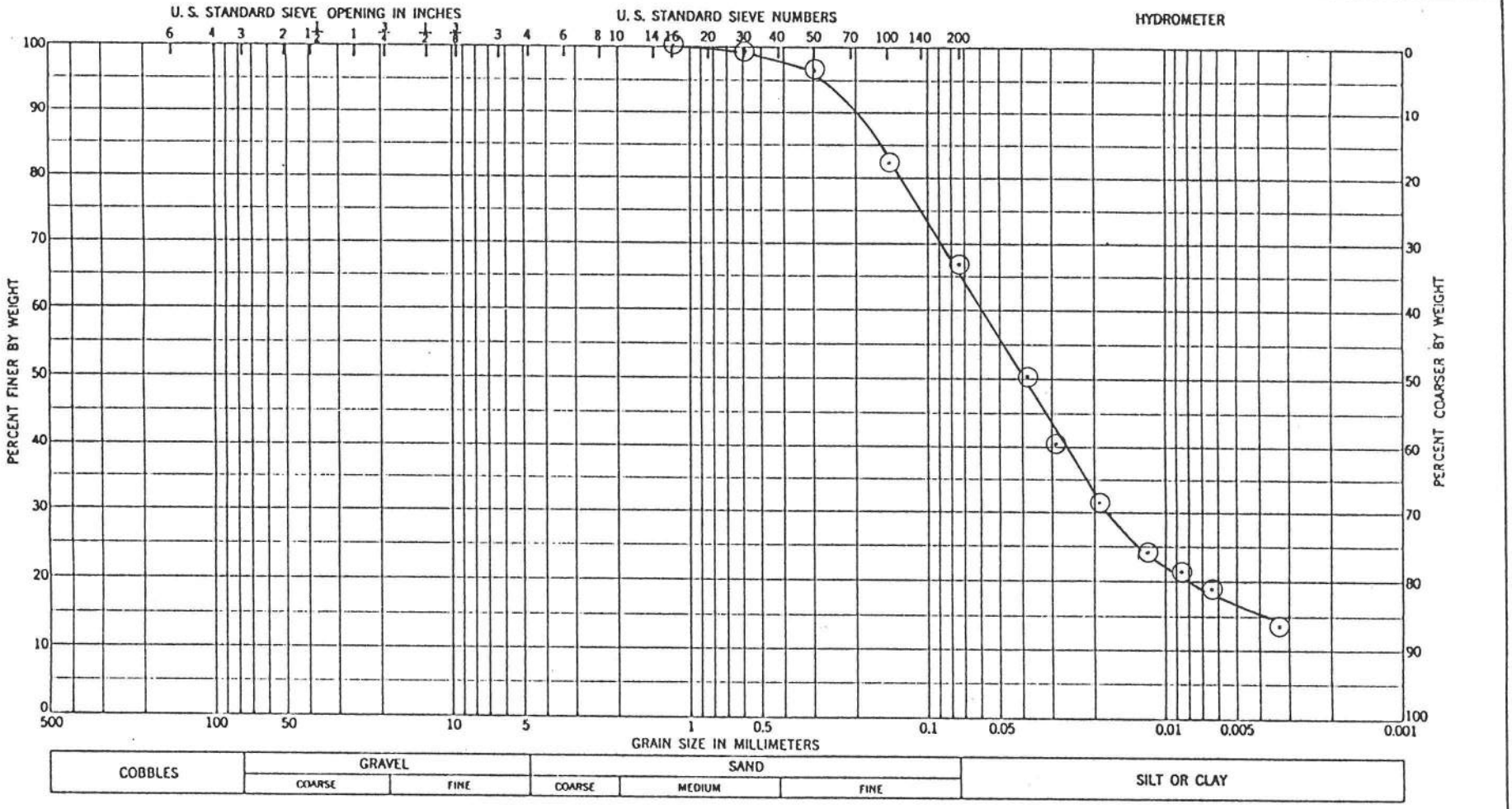


| Sample No. | Elev. or Depth | Classification | Nat w% | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-9D | 50.0'-52.0' | Gray clayey silt and | 20.7 | | | | |
| SS-26 | | medium to fine sand | | | | | |
| | | CL-ML | | | | | |
| | | | | | | | |
| | | | | | | | |

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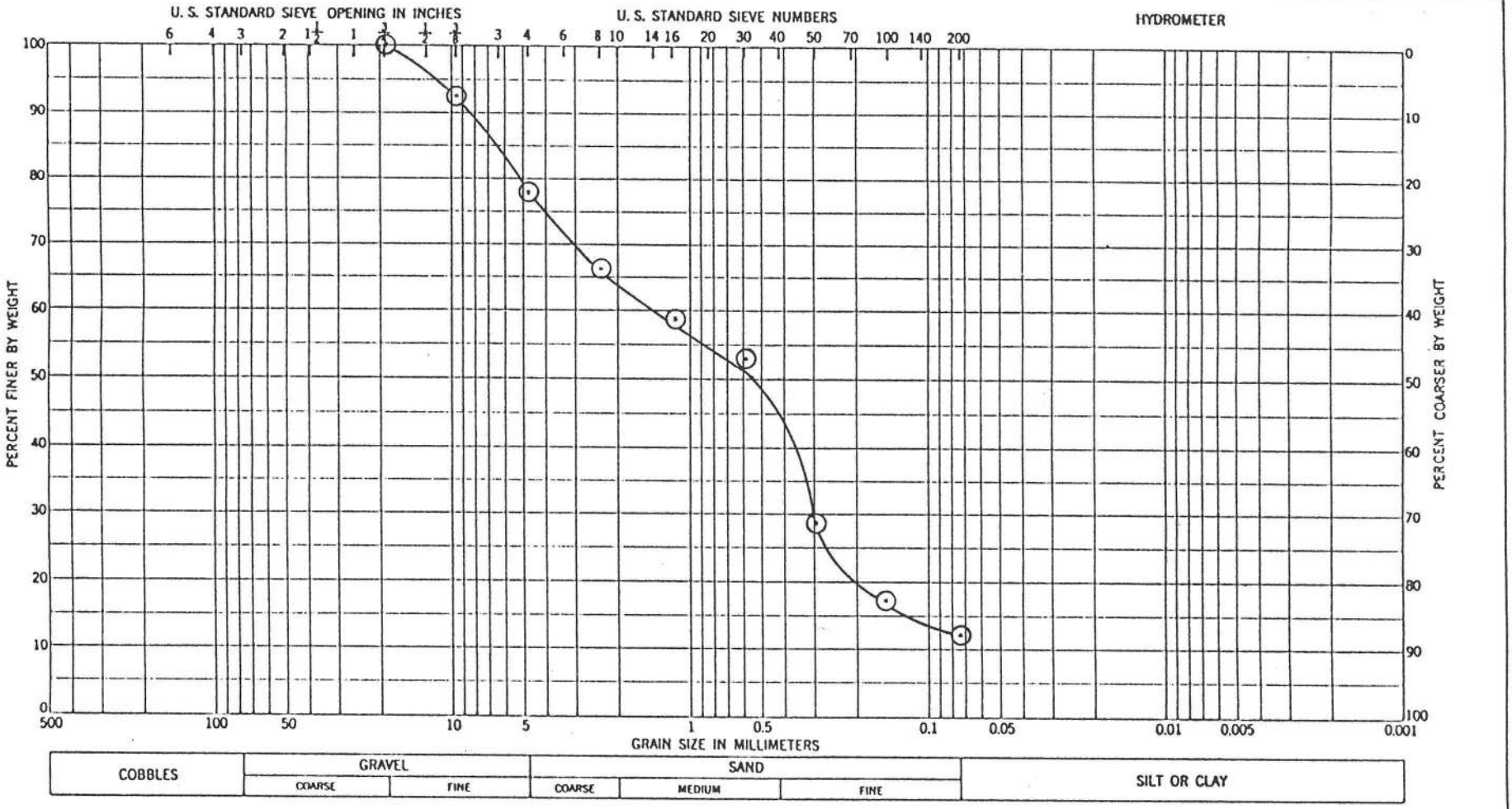



| Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Remarks |
|---|---|---|---|---|---|---|---|
| P-9D | 56.0'-58.0' | Gray coarse to fine sand, | | | | | |
| SS-29A | | some fine gravel, little | | | | | |
| | | silt | | | | | |
| | | SM | | | | | |
| | | | | | | | |

CWLP FGDS Landfill
City of Springfield
PEI Project No. 496B

**PATRICK ENGINEERING INC.**

**PARTICLE SIZE DISTRIBUTION**

# UNCONFINED COMPRESSIVE STRENGTHS

# UNCONFINED COMPRESSION TEST

Job No. 496B Client: City of Springfield (CWLP)

Sample: CB-1 3T-5 8.0'-10.0'

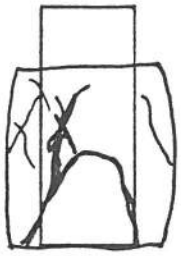
Sample Height: 5.8 in dia.: 2.8 in

Moisture content 29.4%

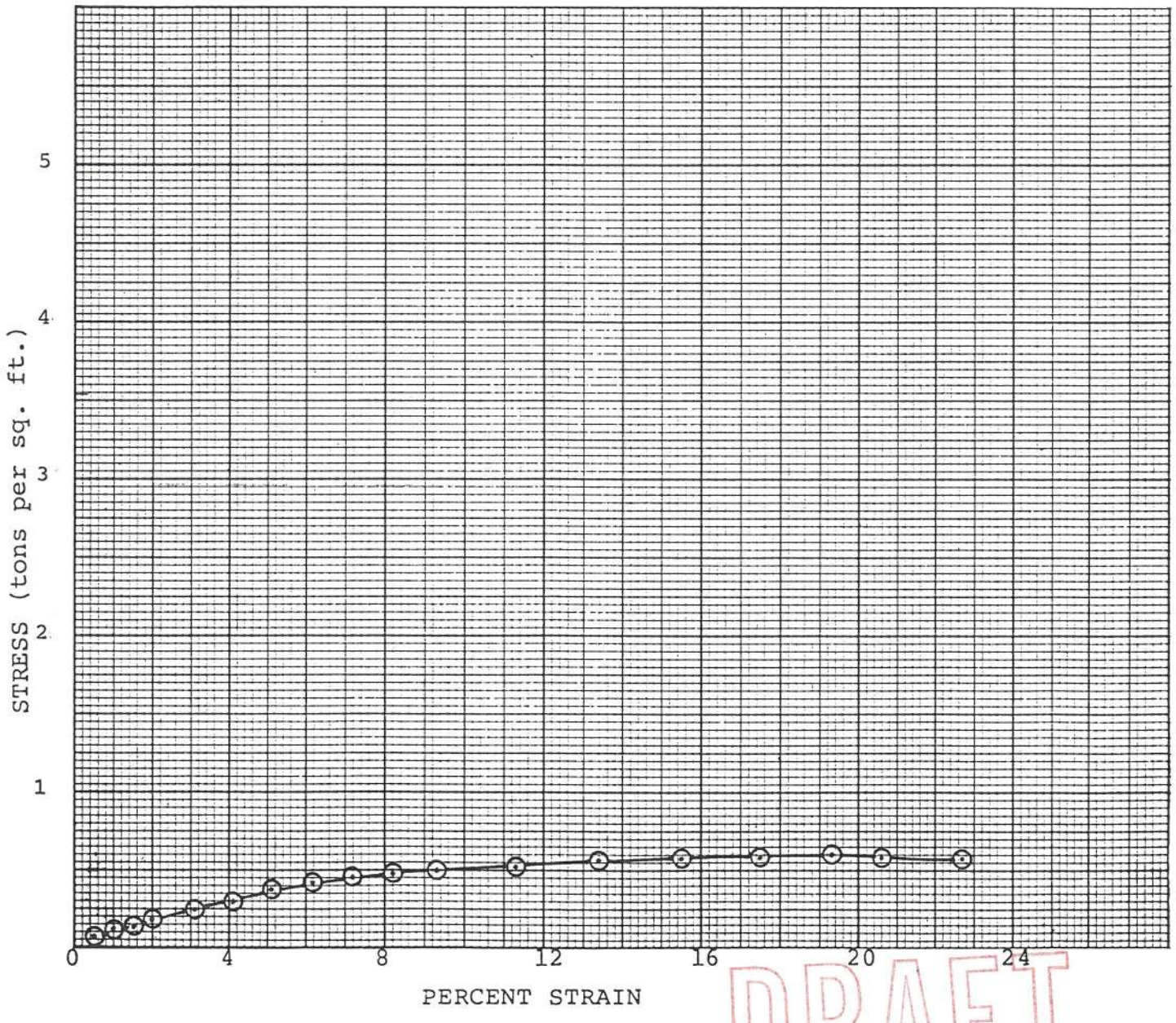
Dry density: 94.4 pcf

Max. compr. stress: 0.6 tsf @ 15.0 % strain

Remarks:



FAILURE SKETCH

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# UNCONFINED COMPRESSION TEST

Job No. 496B Client: City of Springfield (CWLP)

Sample: CB-6, 3T-7 12.0'-14.0'

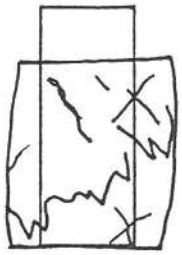
Sample Height: 5.9 in dia.: 2.8 in

Moisture content 26.4%

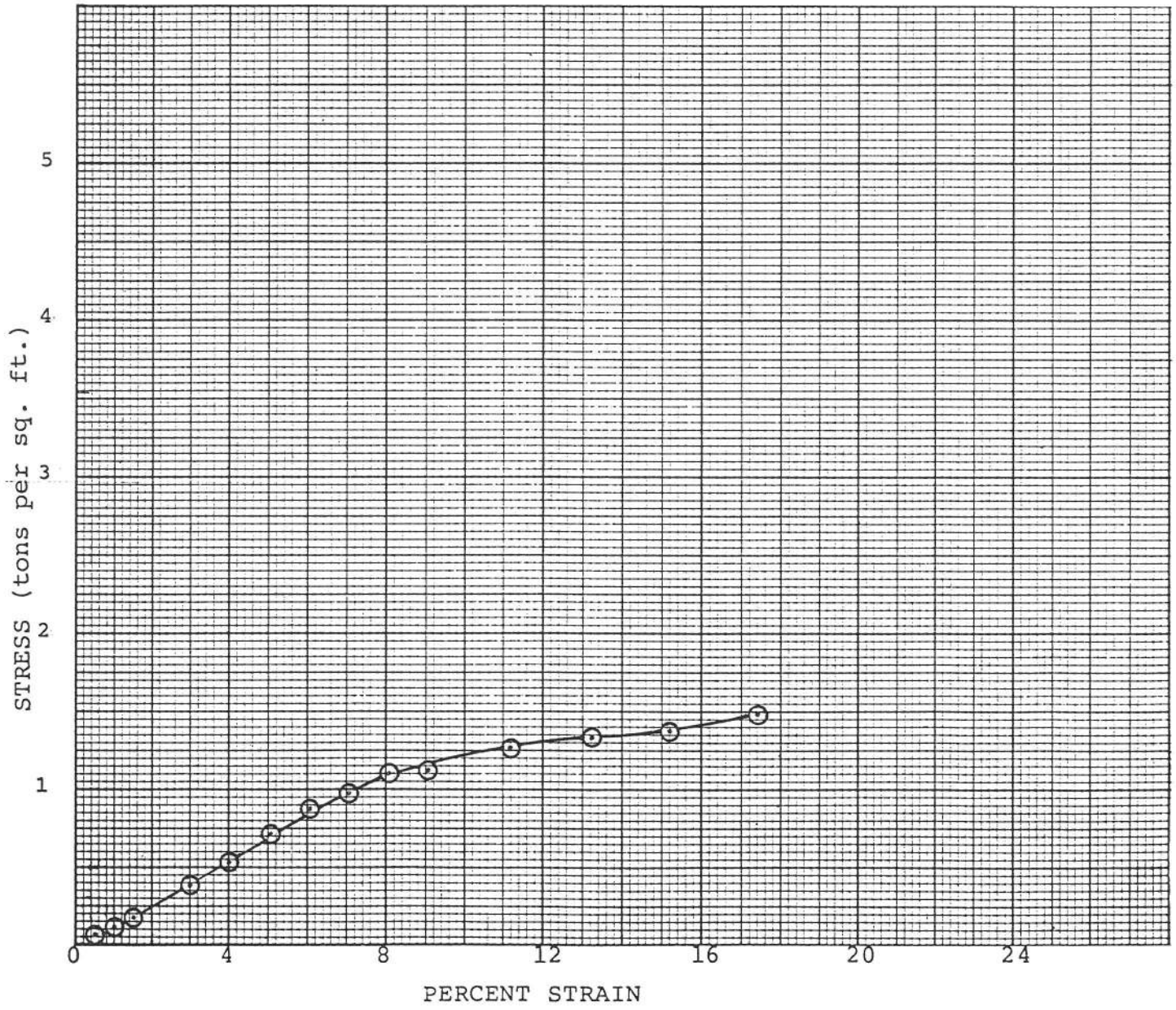
Dry density: 99.0 pcf

Max. compr. stress: 1.4 tsf @ 15.0 % strain

Remarks:



FAILURE SKETCH




PATRICK ENGINEERING INC.

# TRIAXIAL HYDRAULIC CONDUCTIVITY TEST RESULTS

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | B-3 | Tare no. | 136 | 131 |
| Sample No. | 3T-20 | Tare wt. (g) | 21.41 | 21.1 |
| Description: | GRAY CL-ML | Wt. wet soil & tare (g) | 182.00 | 100.55 |
| | | Wt. dry soil & tare (g) | 150.26 | 85.82 |
| | | Moisture Content (%) | 24.63 | 22.76 |
| | Diameter (cm) | 7.07 | | |
| | Height (cm) | 15.02 | | |
| | Volume (cm3) | 589.7 | | |
| | Wet Wt. (g) | 1226.70 | | |
| | Dry Density (pcf) | 104.2 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 0.618 | | |
| | Saturation (%) | 108 | | |

DRAFT
FOR REVIEW

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 4.7 | Bottom: 3.60 | |
| Volume change (cm3): | 15.0 | | |
| Consolidated volume (cm3): | 574.6 | | |
| Dry weight of sample (g): | 984.25 | | |
| % change each dimension: | 0.00849 | | |
| Consolidated diameter (cm): | 7.01 | 2.76 | in. |
| Consolidated height (cm): | 14.89 | 5.86 | in. |
| Consolidated area (cm2): | 38.6 | 5.98 | in2 |
| Consolidated dry density (pcf): | 106.9 | | |
| Consolidated void ratio: | 0.576 | | |
| Consolidated % saturation: | 107 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 69.7 | 69.7 | | | |
| Top pressure (psi): | 58.2 | 58.2 | | | |
| Bottom pressure (psi): | 61.3 | 61.2 | | | |
| Gradient: | 15 | 14 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.95 | 10 | *Error* | *Error* | *Error* |
| Date initial reading: | 10/27/92 | 10/28/92 | | | |
| Time initial reading: | 4:53 PM | 5:07 PM | | | |
| Date final reading: | 10/28/92 | 10/29/92 | | | |
| Time final reading: | 8:57 AM | 8:41 AM | | | |
| Initial man. rdg. (in) Top= | 66.05 | 68.3 | | | |
| Bottom= | 66.1 | 64 | | | |
| Final man. rdg. (in) Top= | 67.55 | 69.6 | | | |
| Bottom= | 64.7 | 62.7 | | | |
| Δ Top (in.) | 1.5 | 1.3 | 0 | 0 | 0 |
| Δ Bottom (in.) | 1.40 | 1.3 | 0 | 0 | 0 |
| Δ Time (hrs.) | 16.07 | 15.57 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 8.9E-08 | 8.2E-08 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 8.3E-08 | 8.2E-08 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 8.2E-08  Conf. Pres. (psi) = 10

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PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | B-4 | Tare no. | log | 201 |
| Sample No. | 3T-4 | Tare wt. (g) | 20.41 | 21.03 |
| Description: | | Wt. wet soil & tare (g) | 103.90 | 154.45 |
| | | Wt. dry soil & tare (g) | 85.66 | 126.65 |
| | | Moisture Content (%) | 27.95 | 26.32 |
| | Diameter (cm) | 7.25 | | |
| | Height (cm) | 12.92 | | |
| | Volume (cm3) | 533.4 | | |
| | Wet Wt. (g) | 1079.07 | | |
| | Dry Density (pcf) | 98.7 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 0.708 | | |
| | Saturation (%) | 107 | | |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 0.8 | Bottom: 1.10 | |
| Volume change (cm3): | 3.4 | | |
| Consolidated volume (cm3): | 529.9 | | |
| Dry weight of sample (g): | 843.33 | | |
| % change each dimension: | 0.00215 | | |
| Consolidated diameter (cm): | 7.23 | 2.85 | in. |
| Consolidated height (cm): | 12.89 | 5.08 | in. |
| Consolidated area (cm2): | 41.1 | 6.37 | in2 |
| Consolidated dry density (pcf): | 99.3 | | |
| Consolidated void ratio: | 0.697 | | |
| Consolidated % saturation: | 102 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 60 | 60.1 | | | |
| Top pressure (psi): | 47.6 | 47.8 | | | |
| Bottom pressure (psi): | 51.4 | 51.4 | | | |
| Gradient: | 21 | 20 | 0 | 0 | 0 |
| Confining Pressure (psi): | 10.5 | 10.5 | *Error* | *Error* | *Error* |
| Date initial reading: | 8/28/92 | 8/28/92 | | | |
| Time initial reading: | 9:04 AM | 10:02 PM | | | |
| Date final reading: | 8/28/92 | 8/29/92 | | | |
| Time final reading: | 1:44 PM | 8:43 PM | | | |
| Initial man. rdg. (in) Top= | 64.75 | 66 | | | |
| Bottom= | 71 | 69.8 | | | |
| Final man. rdg. (in) Top= | 65.25 | 67.6 | | | |
| Bottom= | 70.5 | 68.2 | | | |
| Δ Top (in.) | 0.50 | 1.60 | 0 | 0 | 0 |
| Δ Bottom (in.) | 0.50 | 1.60 | 0 | 0 | 0 |
| Δ Time (hrs.) | 4.67 | 22.68 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 6.8E-08 | 4.7E-08 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 6.8E-08 | 4.7E-08 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 4.7E-08  Conf. Pres. (psi) = 10.5

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | CB-1 | Tare no. | log | 225 |
| Sample No. | 3T-5 | Tare wt. (g) | 20.56 | 20.89 |
| Description: | Vry Dk Gr Silty Clay | Wt. wet soil & tare (g) | 124.71 | 118.38 |
| | | Wt. dry soil & tare (g) | 102.32 | 97.34 |
| | | Moisture Content (%) | 27.39 | 27.52 |
| | Diameter (cm) | 7.20 | | |
| | Height (cm) | 14.17 | | |
| | Volume (cm3) | 576.9 | | |
| | Wet Wt. (g) | 1124.63 | | |
| | Dry Density (pcf) | 95.5 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 0.764 | | |
| | Saturation (%) | 97 | | |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 6.7 | Bottom: 4.30 | |
| Volume change (cm3): | 19.9 | | |
| Consolidated volume (cm3): | 557.0 | | |
| Dry weight of sample (g): | 882.86 | | |
| % change each dimension: | 0.01150 | | |
| Consolidated diameter (cm): | 7.12 | 2.80 | in. |
| Consolidated height (cm): | 14.01 | 5.51 | in. |
| Consolidated area (cm2): | 39.8 | 6.17 | in2 |
| Consolidated dry density (pcf): | 98.9 | | |
| Consolidated void ratio: | 0.704 | | |
| Consolidated % saturation: | 106 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 59.4 | 59.4 | | | |
| Top pressure (psi): | 47.4 | 47.4 | | | |
| Bottom pressure (psi): | 51.7 | 51.7 | | | |
| Gradient: | 22 | 22 | 0 | - 0 | 0 |
| Confining Pressure (psi): | 9.85 | 9.85 | *Error* | *Error* | *Error* |
| Date initial reading: | 8/27/92 | 8/27/92 | | | |
| Time initial reading: | 9:26 AM | 1:45 PM | | | |
| Date final reading: | 8/27/92 | 8/27/92 | | | |
| Time final reading: | 1:45 PM | 8:03 PM | | | |
| Initial man. rdg. (in) Top= | 62.65 | 64.2 | | | |
| Bottom= | 68.8 | 67.9 | | | |
| Final man. rdg. (in) Top= | 64.2 | 65.7 | | | |
| Bottom= | 67.9 | 66.7 | | | |
| Δ Top (in.) | 1.55 | 1.5 | 0 | 0 | 0 |
| Δ Bottom (in.) | 0.9 | 1.2 | 0 | 0 | 0 |
| Δ Time (hrs.) | 4.32 | 6.30 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 2.2E-07 | 1.5E-07 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 1.3E-07 | 1.2E-07 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 1.5E-07  Conf. Pres. (psi) = 9.85

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | CB-2 | Tare no. | log | 266 |
| Sample No. | 3T-9 | Tare wt. (g) | 20.98 | 20.61 |
| Description: | | Wt. wet soil & tare (g) | 110.34 | 86.99 |
| | | Wt. dry soil & tare (g) | 85.81 | 69.88 |
| | | Moisture Content (%) | 37.84 | 34.73 |

| | |
|---|---|
| Diameter (cm) | 7.15 |
| Height (cm) | 7.11 |
| Volume (cm3) | 285.5 |
| Wet Wt. (g) | 501.73 |
| Dry Density (pcf) | 79.6 |
| Specific Gravity | 2.70 |
| Void Ratio | 1.118 |
| Saturation (%) | 91 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: | 3.4 | Bottom: | 4.25 |
| Volume change (cm3): | | 13.8 | | |
| Consolidated volume (cm3): | | 271.6 | | |
| Dry weight of sample (g): | | 364.00 | | |
| % change each dimension: | | 0.01616 | | |
| Consolidated diameter (cm): | | 7.03 | 2.77 | in. |
| Consolidated height (cm): | | 7.00 | 2.75 | in. |
| Consolidated area (cm2): | | 38.9 | 6.02 | in2 |
| Consolidated dry density (pcf): | | 83.6 | | |
| Consolidated void ratio: | | 1.015 | | |
| Consolidated % saturation: | | 92 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 50.1 | 50.1 | | | |
| Top pressure (psi): | 38.8 | 38.8 | | | |
| Bottom pressure (psi): | 40.6 | 40.6 | | | |
| Gradient: | 18 | 18 | 0 | 0 | 0 |
| Confining Pressure (psi): | 10.4 | 10.4 | *Error* | *Error* | *Error* |
| Date initial reading: | 8/27/92 | 8/27/92 | | | |
| Time initial reading: | 9:25 AM | 1:40 AM | | | |
| Date final reading: | 8/27/92 | 8/27/92 | | | |
| Time final reading: | 1:40 PM | 7:46 AM | | | |
| Initial man. rdg. (in) Top= | 65.4 | 66.9 | | | |
| Bottom= | 72.85 | 71.6 | | | |
| Final man. rdg. (in) Top= | 66.9 | 68.8 | | | |
| Bottom= | 71.6 | 69.9 | | | |
| Δ Top (in.) | 1.5 | 1.9 | 0 | 0 | 0 |
| Δ Bottom (in.) | 1.25 | 1.7 | 0 | 0 | 0 |
| Δ Time (hrs.) | 4.25 | 6.10 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 2.7E-07 | 2.4E-07 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 2.2E-07 | 2.1E-07 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 2.4E-07  Conf. Pres. (psi) = 10.4

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet | Tech. - JCV | Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | CB-4 | Tare no. | log | 228 |
| Sample No. | 3T-9 | Tare wt. (g) | 20.60 | 20.84 |
| Description: | Dk Gr Silt | Wt. wet soil & tare (g) | 111.80 | 75.91 |
| | | Wt. dry soil & tare (g) | 94.24 | 65.37 |
| | | Moisture Content (%) | 23.85 | 23.67 |

| | |
|---|---|
| Diameter (cm) | 7.20 |
| Height (cm) | 14.75 |
| Volume (cm3) | 600.5 |
| Wet Wt. (g) | 1231.78 |
| Dry Density (pcf) | 103.3 |
| Specific Gravity | 2.70 |
| Void Ratio | 0.630 |
| Saturation (%) | 102 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 6.2 | Bottom: 5.10 | |
| Volume change (cm3): | 20.4 | | |
| Consolidated volume (cm3): | 580.1 | | |
| Dry weight of sample (g): | 994.61 | | |
| % change each dimension: | 0.01135 | | |
| Consolidated diameter (cm): | 7.12 | 2.80 | in. |
| Consolidated height (cm): | 14.58 | 5.74 | in. |
| Consolidated area (cm2): | 39.8 | 6.17 | in2 |
| Consolidated dry density (pcf): | 107.0 | | |
| Consolidated void ratio: | 0.575 | | |
| Consolidated % saturation: | 111 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 40.1 | 40.1 | 40.1 | | |
| Top pressure (psi): | 28.2 | 28.4 | 28.2 | | |
| Bottom pressure (psi): | 31.6 | 31.4 | 31.6 | | |
| Gradient: | 16 | 14 | 16 | 0 | 0 |
| Confining Pressure (psi): | 10.2 | 10.2 | 10.2 | *Error* | *Error* |
| Date initial reading: | 8/26/92 | 8/26/92 | 8/26/92 | | |
| Time initial reading: | 7:52 AM | 9:58 PM | 11:19 AM | | |
| Date final reading: | 8/26/92 | 8/27/92 | 8/26/92 | | |
| Time final reading: | 9:58 PM | 8:36 AM | 9:58 PM | | |
| Initial man. rdg. (in) Top= | 59.2 | 66.9 | 61.35 | | |
| Bottom= | 70.05 | 63 | 68.3 | | |
| Final man. rdg. (in) Top= | 66.9 | 71.75 | 66.9 | | |
| Bottom= | 63 | 58.15 | 63 | | |
| Δ Top (in.) | 7.7 | 4.85 | 5.55 | 0 | 0 |
| Δ Bottom (in.) | 7.05 | 4.85 | 5.3 | 0 | 0 |
| Δ Time (hrs.) | 14.10 | 10.63 | 10.65 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 4.5E-07 | 4.3E-07 | 4.3E-07 | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 4.1E-07 | 4.3E-07 | 4.1E-07 | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 4.3E-07 Conf. Pres. (psi) = 10.2

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | CB-6 | Tare no. | log | 200 |
| Sample No. | 3T-7 | Tare wt. (g) | 20.94 | 20.45 |
| Description: | Gr. Silty Clay | Wt. wet soil & tare (g) | 124.57 | 149.79 |
| | | Wt. dry soil & tare (g) | 100.75 | 121.98 |
| | | Moisture Content (%) | 29.85 | 27.39 |

| | |
|---|---|
| Diameter (cm) | 7.10 |
| Height (cm) | 9.09 |
| Volume (cm3) | 359.9 |
| Wet Wt. (g) | 713.69 |
| Dry Density (pcf) | 95.3 |
| Specific Gravity | 2.70 |
| Void Ratio | 0.768 |
| Saturation (%) | 105 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: | 4.7 | Bottom: | 2.65 |
| Volume change (cm3): | | 13.3 | | |
| Consolidated volume (cm3): | | 346.6 | | |
| Dry weight of sample (g): | | 549.64 | | |
| % change each dimension: | | 0.01232 | | |
| Consolidated diameter (cm): | | 7.01 | 2.76 | in. |
| Consolidated height (cm): | | 8.98 | 3.53 | in. |
| Consolidated area (cm2): | | 38.6 | 5.99 | in2 |
| Consolidated dry density (pcf): | | 99.0 | | |
| Consolidated void ratio: | | 0.703 | | |
| Consolidated % saturation: | | 105 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 50.2 | 50.4 | 50.2 | | |
| Top pressure (psi): | 38.5 | 38.9 | 38.5 | | |
| Bottom pressure (psi): | 41.3 | 41.4 | 41.3 | | |
| Gradient: | 22 | 20 | 22 | 0 | 0 |
| Confining Pressure (psi): | 10.3 | 10.25 | 10.3 | *Error* | *Error* |
| Date initial reading: | 8/28/92 | 8/28/92 | 8/28/92 | | |
| Time initial reading: | 1:43 PM | 3:33 PM | 1:43 PM | | |
| Date final reading: | 8/28/92 | 8/28/92 | 8/28/92 | | |
| Time final reading: | 3:33 PM | 10:01 PM | 10:01 PM | | |
| Initial man. rdg. (in) Top= | 62 | 63.9 | 62 | | |
| Bottom= | 67.3 | 66 | 67.3 | | |
| Final man. rdg. (in) Top= | 63.9 | 68.7 | 68.7 | | |
| Bottom= | 66 | 61.55 | 61.55 | | |
| Δ Top (in.) | 1.9 | 4.8 | 6.7 | 0 | 0 |
| Δ Bottom (in.) | 1.3 | 4.45 | 5.75 | 0 | 0 |
| Δ Time (hrs.) | 1.83 | 6.47 | 8.30 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 6.6E-07 | 5.3E-07 | 5.1E-07 | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 4.5E-07 | 4.9E-07 | 4.4E-07 | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 5.3E-07  Conf. Pres. (psi) = 10.25

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV | Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P-2D | Tare no. | 105 | 248 |
| Sample No. | 3T-15 | Tare wt. (g) | 21.99 | 20.32 |
| Description: | Brown CL-ML | Wt. wet soil & tare (g) | 153.04 | 116.65 |
| | | Wt. dry soil & tare (g) | 126.07 | 97.23 |
| | | Moisture Content (%) | 25.91 | 25.25 |
| | Diameter (cm) | 7.24 | | |
| | Height (cm) | 15.28 | | |
| | Volume (cm3) | 629.1 | | |
| | Wet Wt. (g) | 1257.45 | | |
| | Dry Density (pcf) | 99.1 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 0.701 | | |
| | Saturation (%) | 100 | | |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: | 4.00 | Bottom: | 2.00 |
| Volume change (cm3): | | 10.9 | | |
| Consolidated volume (cm3): | | 618.2 | | |
| Dry weight of sample (g): | | 998.67 | | |
| % change each dimension: | | 0.00575 | | |
| Consolidated diameter (cm): | | 7.20 | 2.83 | in. |
| Consolidated height (cm): | | 15.19 | 5.98 | in. |
| Consolidated area (cm2): | | 40.7 | 6.31 | in2 |
| Consolidated dry density (pcf): | | 100.8 | | |
| Consolidated void ratio: | | 0.671 | | |
| Consolidated % saturation: | | 102 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 59.7 | 59.7 | | | |
| Top pressure (psi): | 48 | 47.3 | | | |
| Bottom pressure (psi): | 51.7 | 51.1 | | | |
| Gradient: | 17 | 18 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.85 | 10.5 | *Error* | *Error* | *Error* |
| Date initial reading: | 8/3/92 | 8/3/92 | | | |
| Time initial reading: | 8:49 AM | 2:39 PM | | | |
| Date final reading: | 8/3/92 | 8/3/92 | | | |
| Time final reading: | 2:16 PM | 4:27 PM | | | |
| Initial man. rdg. (in) Top= | 63.5 | 68.7 | | | |
| Bottom= | 68 | 63.05 | | | |
| Final man. rdg. (in) Top= | 68.7 | 70.4 | | | |
| Bottom= | 63.1 | 61.45 | | | |
| Δ Top (in.) | 5.2 | 1.7 | 0 | 0 | 0 |
| Δ Bottom (in.) | 4.9 | 1.6 | 0 | 0 | 0 |
| Δ Time (hrs.) | 5.45 | 1.80 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 7.4E-07 | 7.1E-07 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 6.9E-07 | 6.7E-07 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 7.3E-07* Conf. Pres. (psi) = 10.2

*percentage of "k" values for trials 1 and 2 added for weighted composite value for 7.25 hours.

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P-3D | Tare no. | 213 | 213 |
| Sample No. | 3T-9 | Tare wt. (g) | 20.63 | 20.63 |
| Description: | Olive gray CL w/ silt | Wt. wet soil & tare (g) | 98.59 | 111.47 |
| | | Wt. dry soil & tare (g) | 78.58 | 89.49 |
| | | Moisture Content (%) | 34.53 | 31.92 |

| | |
|---|---|
| Diameter (cm) | 7.20 |
| Height (cm) | 14.78 |
| Volume (cm3) | 601.8 |
| Wet Wt. (g) | 1157.82 |
| Dry Density (pcf) | 89.2 |
| Specific Gravity | 2.70 |
| Void Ratio | 0.888 |
| Saturation (%) | 105 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 2.1 | Bottom: 2.25 | |
| Volume change (cm3): | 7.9 | | |
| Consolidated volume (cm3): | 593.9 | | |
| Dry weight of sample (g): | 860.64 | | |
| % change each dimension: | 0.00436 | | |
| Consolidated diameter (cm): | 7.17 | 2.82 | in. |
| Consolidated height (cm): | 14.72 | 5.79 | in. |
| Consolidated area (cm2): | 40.4 | 6.26 | in2 |
| Consolidated dry density (pcf): | 90.4 | | |
| Consolidated void ratio: | 0.863 | | |
| Consolidated % saturation: | 100 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 69.3 | 69.3 | | | |
| Top pressure (psi): | 57.8 | 57.8 | | | |
| Bottom pressure (psi): | 61.2 | 61.2 | | | |
| Gradient: | 16 | 16 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.8 | 9.8 | *Error* | *Error* | *Error* |
| Date initial reading: | 11/3/92 | 11/2/92 | | | |
| Time initial reading: | 4:25 PM | 5:07 PM | | | |
| Date final reading: | 11/4/92 | 11/3/92 | | | |
| Time final reading: | 8:25 AM | 8:26 AM | | | |
| Initial man. rdg. (in) Top= | 65.05 | 64.7 | | | |
| Bottom= | 63.75 | 64.1 | | | |
| Final man. rdg. (in) Top= | 65.3 | 65 | | | |
| Bottom= | 63.5 | 63.9 | | | |
| Δ Top (in.) | 0.25 | 0.30 | 0.00 | 0.00 | 0.00 |
| Δ Bottom (in.) | 0.25 | 0.20 | 0.00 | 0.00 | 0.00 |
| Δ Time (hrs.) | 16.00 | 15.32 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 1.3E-08 | 1.6E-08 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 1.3E-08 | 1.1E-08 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 1.3E-08  Conf. Pres. (psi) = 9.8

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P-4 | Tare no. | LOG | 114 |
| Sample No. | 3T-11 | Tare wt. (g) | | 21.27 |
| Description: | GRAY CH | Wt. wet soil & tare (g) | | 91.69 |
| | | Wt. dry soil & tare (g) | | 68.22 |
| | | Moisture Content (%) | 40.88 | 49.99 |
| | Diameter (cm) | 7.26 | | |
| | Height (cm) | 14.13 | | |
| | Volume (cm3) | 584.9 | | |
| | Wet Wt. (g) | 1032.84 | | |
| | Dry Density (pcf) | 78.2 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 1.154 | | |
| | Saturation (%) | 96 | | |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: 3.1 | | Bottom: 2.95 | |
| Volume change (cm3): | | 10.9 | | |
| Consolidated volume (cm3): | | 574.0 | | |
| Dry weight of sample (g): | | 733.13 | | |
| % change each dimension: | | 0.00624 | | |
| Consolidated diameter (cm): | | 7.21 | 2.84 | in. |
| Consolidated height (cm): | | 14.04 | 5.53 | in. |
| Consolidated area (cm2): | | 40.9 | 6.34 | in2 |
| Consolidated dry density (pcf): | | 79.7 | | |
| Consolidated void ratio: | | 1.114 | | |
| Consolidated % saturation: | | 121 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 130.9 | 130.5 | 130.9 | | |
| Top pressure (psi): | 119.1 | 119.1 | 119.4 | | |
| Bottom pressure (psi): | 122.6 | 122.5 | 122.7 | | |
| Gradient: | 18 | 17 | 17 | 0 | 0 |
| Confining Pressure (psi): | 10.05 | 9.7 | 9.85 | *Error* | *Error* |
| Date initial reading: | 11/4/92 | 11/4/92 | 11/5/92 | | |
| Time initial reading: | 8:42 AM | 5:18 PM | 8:55 AM | | |
| Date final reading: | 11/4/92 | 11/5/92 | 11/5/92 | | |
| Time final reading: | 5:18 PM | 8:55 AM | 5:16 PM | | |
| Initial man. rdg. (in) Top= | 60.8 | 61.1 | 61.3 | | |
| Bottom= | 61.4 | 61.05 | 60.6 | | |
| Final man. rdg. (in) Top= | 61.1 | 61.3 | 61.5 | | |
| Bottom= | 61.05 | 60.6 | 60.3 | | |
| Δ Top (in.) | 0.30 | 0.20 | 0.20 | 0.00 | 0.00 |
| Δ Bottom (in.) | 0.35 | 0.45 | 0.30 | 0.00 | 0.00 |
| Δ Time (hrs.) | 8.60 | 15.62 | 8.35 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 2.6E-08 | 9.9E-09 | 1.9E-08 | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 3.1E-08 | 2.2E-08 | 2.9E-08 | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 2.9E-08  Conf. Pres. (psi) = 9.85

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet | Tech. - JCV | Check -

| | | | | |
|---|---|---|---|---|
| Job No. | 496B | | Initial WC% | Final W% |
| Boring Number: | P-5S | Tare no. | LOG | 254 |
| Sample No. | 3T-2 | Tare wt. (g) | | 20.75 |
| Description: | VERY DK. GRAY CL | Wt. wet soil & tare (g) | | 96.87 |
| | | Wt. dry soil & tare (g) | | 81.8 |
| | | Moisture Content (%) | 26.30 | 24.68 |
| | Diameter (cm) | 7.10 | | |
| | Height (cm) | 12.81 | | |
| | Volume (cm3) | 507.2 | | |
| | Wet Wt. (g) | 982.85 | | |
| | Dry Density (pcf) | 95.7 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 0.760 | | |
| | Saturation (%) | 93 | | |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: | 1.9 | Bottom: | -1.05 |
| Volume change (cm3): | | 1.5 | | |
| Consolidated volume (cm3): | | 505.6 | | |
| Dry weight of sample (g): | | 778.19 | | |
| % change each dimension: | | 0.00101 | | |
| Consolidated diameter (cm): | | 7.09 | 2.79 | in. |
| Consolidated height (cm): | | 12.80 | 5.04 | in. |
| Consolidated area (cm2): | | 39.5 | 6.12 | in2 |
| Consolidated dry density (pcf): | | 96.0 | | |
| Consolidated void ratio: | | 0.754 | | |
| Consolidated % saturation: | | 88 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 89.9 | 90 | | | |
| Top pressure (psi): | 78.6 | 78.9 | | | |
| Bottom pressure (psi): | 81.6 | 81.5 | | | |
| Gradient: | 16 | 14 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.8 | 9.8 | *Error* | *Error* | *Error* |
| Date initial reading: | 11/4/92 | 11/4/92 | | | |
| Time initial reading: | 8:42 AM | 5:17 PM | | | |
| Date final reading: | 11/4/92 | 11/5/92 | | | |
| Time final reading: | 5:17 PM | 8:56 AM | | | |
| Initial man. rdg. (in) Top= | 64.25 | 65 | | | |
| Bottom= | 68.8 | 68 | | | |
| Final man. rdg. (in) Top= | 65 | 66.15 | | | |
| Bottom= | 68 | 66.75 | | | |
| Δ Top (in.) | 0.75 | 1.15 | 0.00 | 0.00 | 0.00 |
| Δ Bottom (in.) | 0.80 | 1.25 | 0.00 | 0.00 | 0.00 |
| Δ Time (hrs.) | 8.58 | 15.65 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 7.2E-08 | 7.0E-08 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 7.7E-08 | 7.6E-08 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 7.6E-08 Conf. Pres. (psi) = 9.8

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P7D | Tare no. | log | 203 |
| Sample No. | 3T-5 | Tare wt. (g) | 20.46 | 20.6 |
| Description: | | Wt. wet soil & tare (g) | 116.29 | 136.53 |
| | | Wt. dry soil & tare (g) | 98.60 | 115.96 |
| | | Moisture Content (%) | 22.64 | 21.57 |

| | |
|---|---|
| Diameter (cm) | 7.23 |
| Height (cm) | 14.13 |
| Volume (cm3) | 580.1 |
| Wet Wt. (g) | 1153.85 |
| Dry Density (pcf) | 101.2 |
| Specific Gravity | 2.70 |
| Void Ratio | 0.665 |
| Saturation (%) | 92 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 3.5 | Bottom: 3.25 | |
| Volume change (cm3): | 12.2 | | |
| Consolidated volume (cm3): | 567.9 | | |
| Dry weight of sample (g): | 940.85 | | |
| % change each dimension: | 0.00702 | | |
| Consolidated diameter (cm): | 7.18 | 2.83 | in. |
| Consolidated height (cm): | 14.03 | 5.52 | in. |
| Consolidated area (cm2): | 40.5 | 6.27 | in2 |
| Consolidated dry density (pcf): | 103.4 | | |
| Consolidated void ratio: | 0.630 | | |
| Consolidated % saturation: | 92 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 79.6 | 79.6 | | | |
| Top pressure (psi): | 68 | 68 | | | |
| Bottom pressure (psi): | 71.7 | 71.7 | | | |
| Gradient: | 19 | 19 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.75 | 9.75 | *Error* | *Error* | *Error* |
| Date initial reading: | 8/31/92 | 8/31/92 | | | |
| Time initial reading: | 9:16 AM | 9:16 AM | | | |
| Date final reading: | 8/31/92 | 8/31/92 | | | |
| Time final reading: | 12:14 PM | 5:00 PM | | | |
| Initial man. rdg. (in) Top= | 66.5 | 66.5 | | | |
| Bottom= | 69.4 | 69.4 | | | |
| Final man. rdg. (in) Top= | 67.35 | 68.7 | | | |
| Bottom= | 68.55 | 67.2 | | | |
| Δ Top (in.) | 0.85 | 2.2 | 0 | 0 | 0 |
| Δ Bottom (in.) | 0.85 | 2.2 | 0 | 0 | 0 |
| Δ Time (hrs.) | 2.97 | 7.73 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 2.1E-07 | 2.0E-07 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 2.1E-07 | 2.0E-07 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 2.0E-07  Conf. Pres. (psi) = 9.75

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P-7M | Tare no. | log | 265 |
| Sample No. | 3T-2 | Tare wt. (g) | 20.65 | 20.65 |
| Description: | | Wt. wet soil & tare (g) | 126.92 | 182.16 |
| | | Wt. dry soil & tare (g) | 107.43 | 154.42 |
| | | Moisture Content (%) | 22.46 | 20.74 |

| | |
|---|---|
| Diameter (cm) | 7.35 |
| Height (cm) | 14.04 |
| Volume (cm3) | 595.7 |
| Wet Wt. (g) | 1185.50 |
| Dry Density (pcf) | 101.4 |
| Specific Gravity | 2.70 |
| Void Ratio | 0.661 |
| Saturation (%) | 92 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | |
|---|---|---|---|
| Manometer change (in)= | Top: 6.6 | Bottom: 3.15 | |
| Volume change (cm3): | 17.6 | | |
| Consolidated volume (cm3): | 578.1 | | |
| Dry weight of sample (g): | 968.08 | | |
| % change each dimension: | 0.00987 | | |
| Consolidated diameter (cm): | 7.28 | 2.87 | in. |
| Consolidated height (cm): | 13.90 | 5.47 | in. |
| Consolidated area (cm2): | 41.6 | 6.45 | in2 |
| Consolidated dry density (pcf): | 104.5 | | |
| Consolidated void ratio: | 0.612 | | |
| Consolidated % saturation: | 91 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 49.9 | 49.9 | | | |
| Top pressure (psi): | 38.4 | 38.4 | | | |
| Bottom pressure (psi): | 41.7 | 41.7 | | | |
| Gradient: | 17 | 17 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.85 | 9.85 | *Error* | *Error* | *Error* |
| Date initial reading: | 8/31/92 | 8/31/92 | | | |
| Time initial reading: | 12:13 PM | 9:14 AM | | | |
| Date final reading: | 8/31/92 | 8/31/92 | | | |
| Time final reading: | 4:54 PM | 4:54 PM | | | |
| Initial man. rdg. (in) Top= | 63.5 | 62.8 | | | |
| Bottom= | 69.35 | 69.8 | | | |
| Final man. rdg. (in) Top= | 64.3 | 64.3 | | | |
| Bottom= | 68.6 | 68.6 | | | |
| Δ Top (in.) | 0.80 | 1.50 | 0 | 0 | 0 |
| Δ Bottom (in.) | 0.75 | 1.20 | 0 | 0 | 0 |
| Δ Time (hrs.) | 4.68 | 7.67 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 1.3E-07 | 1.5E-07 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 1.2E-07 | 1.2E-07 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 1.5E-07  Conf. Pres. (psi) = 9.85

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet

Tech. - JCV  Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P-9D | Tare no. | 140 | 227 |
| Sample No. | 3T-8 | Tare wt. (g) | 21.39 | 20.86 |
| Description: | VERY DK. GR. CL | Wt. wet soil & tare (g) | 157.72 | 67.52 |
| | | Wt. dry soil & tare (g) | 132.45 | 58.86 |
| | | Moisture Content (%) | 22.75 | 22.79 |

| | |
|---|---|
| Diameter (cm) | 7.11 |
| Height (cm) | 14.93 |
| Volume (cm3) | 592.8 |
| Wet Wt. (g) | 1192.37 |
| Dry Density (pcf) | 102.3 |
| Specific Gravity | 2.70 |
| Void Ratio | 0.648 |
| Saturation (%) | 95 |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: | 9.9 | Bottom: | 3.35 |
| Volume change (cm3): | | 24.0 | | |
| Consolidated volume (cm3): | | 568.8 | | |
| Dry weight of sample (g): | | 971.35 | | |
| % change each dimension: | | 0.01348 | | |
| Consolidated diameter (cm): | | 7.01 | 2.76 | in. |
| Consolidated height (cm): | | 14.73 | 5.80 | in. |
| Consolidated area (cm2): | | 38.6 | 5.99 | in2 |
| Consolidated dry density (pcf): | | 106.6 | | |
| Consolidated void ratio: | | 0.581 | | |
| Consolidated % saturation: | | 106 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 110 | 110 | 110.3 | | |
| Top pressure (psi): | 98.3 | 98.3 | 98.6 | | |
| Bottom pressure (psi): | 101.6 | 101.6 | 101.8 | | |
| Gradient: | 16 | 16 | 15 | 0 | 0 |
| Confining Pressure (psi): | 10.05 | 10.05 | 10.1 | *Error* | *Error* |
| Date initial reading: | 11/1/92 | 10/30/92 | 11/3/92 | | |
| Time initial reading: | 12:28 PM | 5:04 PM | 4:27 PM | | |
| Date final reading: | 11/2/92 | 11/1/92 | 11/4/92 | | |
| Time final reading: | 8:25 AM | 12:28 PM | 8:28 AM | | |
| Initial man. rdg. (in) Top= | 66.45 | 63.4 | 68.75 | | |
| Bottom= | 64.35 | 65.85 | 62.7 | | |
| Final man. rdg. (in) Top= | 67.2 | 66.45 | 69.4 | | |
| Bottom= | 63.7 | 64.35 | 62.45 | | |
| Δ Top (in.) | 0.75 | 3.05 | 0.65 | 0 | 0 |
| Δ Bottom (in.) | 0.65 | 1.5 | 0.25 | 0 | 0 |
| Δ Time (hrs.) | 19.95 | 43.40 | 16.02 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 3.3E-08 | 6.2E-08 | 3.7E-08 | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 2.9E-08 | 3.1E-08 | 1.4E-08 | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 3.3E-08  Conf. Pres. (psi) = 10.05

PATRICK ENGINEERING, INC.

Coefficient of Permeability - Calculation Sheet | Tech. - JCV | Check -

| | | | Initial WC% | Final W% |
|---|---|---|---|---|
| Job No. | 496B | | | |
| Boring Number: | P-9S | Tare no. | 112 | 114 |
| Sample No. | 3T-1 | Tare wt. (g) | 21.81 | 21.24 |
| Description: | Gray CL/CL-ML | Wt. wet soil & tare (g) | 162.51 | 147.21 |
| | | Wt. dry soil & tare (g) | 135.17 | 122.17 |
| | | Moisture Content (%) | 24.12 | 24.81 |
| | Diameter (cm) | 7.17 | | |
| | Height (cm) | 14.31 | | |
| | Volume (cm3) | 577.8 | | |
| | Wet Wt. (g) | 1163.11 | | |
| | Dry Density (pcf) | 101.2 | | |
| | Specific Gravity | 2.70 | | |
| | Void Ratio | 0.665 | | |
| | Saturation (%) | 98 | | |

Dimensional Change During Consolidation (assuming isotropic consolidation)

| | | | | |
|---|---|---|---|---|
| Manometer change (in)= | Top: -1 | | Bottom: 5.70 | |
| Volume change (cm3): | | 8.5 | | |
| Consolidated volume (cm3): | | 569.3 | | |
| Dry weight of sample (g): | | 937.10 | | |
| % change each dimension: | | 0.00491 | | |
| Consolidated diameter (cm): | | 7.13 | 2.81 | in. |
| Consolidated height (cm): | | 14.24 | 5.61 | in. |
| Consolidated area (cm2): | | 40.0 | 6.20 | in2 |
| Consolidated dry density (pcf): | | 102.7 | | |
| Consolidated void ratio: | | 0.640 | | |
| Consolidated % saturation: | | 105 | | |

| | TRIAL 1 | TRIAL 2 | TRIAL 3 | TRIAL4 | TRIAL 5 |
|---|---|---|---|---|---|
| Cell pressure (psi): | 69.7 | 69.6 | | | |
| Top pressure (psi): | 58.3 | 58.8 | | | |
| Bottom pressure (psi): | 62.1 | 61.8 | | | |
| Gradient: | 19 | 15 | 0 | 0 | 0 |
| Confining Pressure (psi): | 9.5 | 9.3 | *Error* | *Error* | *Error* |
| Date initial reading: | 10/27/92 | 10/28/92 | | | |
| Time initial reading: | 12:14 PM | 8:58 AM | | | |
| Date final reading: | 10/27/92 | 10/28/92 | | | |
| Time final reading: | 4:51 PM | 5:06 PM | | | |
| Initial man. rdg. (in) Top= | 59.4 | 59.6 | | | |
| Bottom= | 71.6 | 71.4 | | | |
| Final man. rdg. (in) Top= | 67.6 | 71.3 | | | |
| Bottom= | 63.5 | 59.7 | | | |
| Δ Top (in.) | 8.2 | 11.7 | 0 | 0 | 0 |
| Δ Bottom (in.) | 8.1 | 11.7 | 0 | 0 | 0 |
| Δ Time (hrs.) | 4.62 | 8.13 | 0.00 | 0.00 | 0.00 |
| Top "K" value (cm/sec) = | 1.3E-06 | 1.3E-06 | *Error* | *Error* | *Error* |
| Bottom "K" value (cm/sec) = | 1.3E-06 | 1.3E-06 | *Error* | *Error* | *Error* |

PERMEABILITY VALUE (CM/SEC.) = 1.3E-06 Conf. Pres. (psi) = 9.3

NOTE: Root passing 3/4 of length from top.

PATRICK ENGINEERING, INC.

# CATION EXCHANGE CAPACITY TEST RESULTS

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett , IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

# ANALYTICAL REPORT

Mr. Krishna Redby
PATRICK ENGINEERING, INC.
346 Taft Ave.
Glen Ellyn, IL 60137

11/13/1992

NET Job Number: 92.50181

Enclosed are the Analytical Results for the following samples submitted to NET, Inc. Bartlett Division for analysis:

Project Description: 496B; Springfield

| Sample Number | Sample Description | Date Taken | Date Received |
|---|---|---|---|
| 186568 | P-7D; SS-4; Soil | | 11/03/1992 |
| 186569 | B-9; SS-8; Soil | | 11/03/1992 |
| 186570 | CB-9; SS-5; Soil | | 11/03/1992 |

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

Approved By: Darla J. Kalicki

Darla J. Kalicki
Project Manager



OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett , IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

# ANALYTICAL REPORT

Mr. Jim Davis
PATRICK ENGINEERING, INC.
346 Taft Ave.
Glen Ellyn, IL 60137

11/13/1992

Sample No. : 186568

NET Job No.: 92.50181

Sample Description: P-7D; SS-4; Soil
496B; Springfield

Date Taken:
Time Taken:
IEPA Cert. No. 100221

Date Received: 11/03/1992
Time Received: 11:15
WDNR Cert. No. 999447130

| Parameter | Results | Units | Date of Analysis | Analytical Method |
|---|---|---|---|---|
| Solids, Total | 97.3 | % | 11/05/1992 | 2540 (4) |
| Cation Exchange Capacity | 16.5 | meq/100g | 11/12/1992 | 9080 (1) |
| CEC - Calcium | 179. | mg/100g | 11/13/1992 | 9080 (1) |
| CEC - Magnesium | 71. | mg/100g | 11/12/1992 | 9080 (1) |
| CEC - Sodium | 2.6 | mg/100g | 11/12/1992 | 9080 (1) |
| CEC - Potassium | 6.5 | mg/100g | 11/12/1992 | 9080 (1) |



OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett , IL 60103
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Fax: (708) 289-5445

# ANALYTICAL REPORT

Mr. Jim Davis
PATRICK ENGINEERING, INC.
346 Taft Ave.
Glen Ellyn, IL 60137

11/13/1992

Sample No. : 186569

NET Job No.: 92.50181

Sample Description: B-9; SS-8; Soil
496B; Springfield

Date Taken:
Time Taken:
IEPA Cert. No. 100221

Date Received: 11/03/1992
Time Received: 11:15
WDNR Cert. No. 999447130

| Parameter | Results | Units | Date of Analysis | Analytical Method |
|---|---|---|---|---|
| Solids, Total | 98.3 | % | 11/05/1992 | 2540 (4) |
| Cation Exchange Capacity | 10.7 | meq/100g | 11/12/1992 | 9080 (1) |
| CEC - Calcium | 133. | mg/100g | 11/13/1992 | 9080 (1) |
| CEC - Magnesium | 35. | mg/100g | 11/12/1992 | 9080 (1) |
| CEC - Sodium | 1.8 | mg/100g | 11/12/1992 | 9080 (1) |
| CEC - Potassium | 4.8 | mg/100g | 11/12/1992 | 9080 (1) |



OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett , IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

# ANALYTICAL REPORT

Mr. Jim Davis
PATRICK ENGINEERING, INC.
346 Taft Ave.
Glen Ellyn, IL 60137

11/13/1992

Sample No. : 186570

NET Job No.: 92.50181

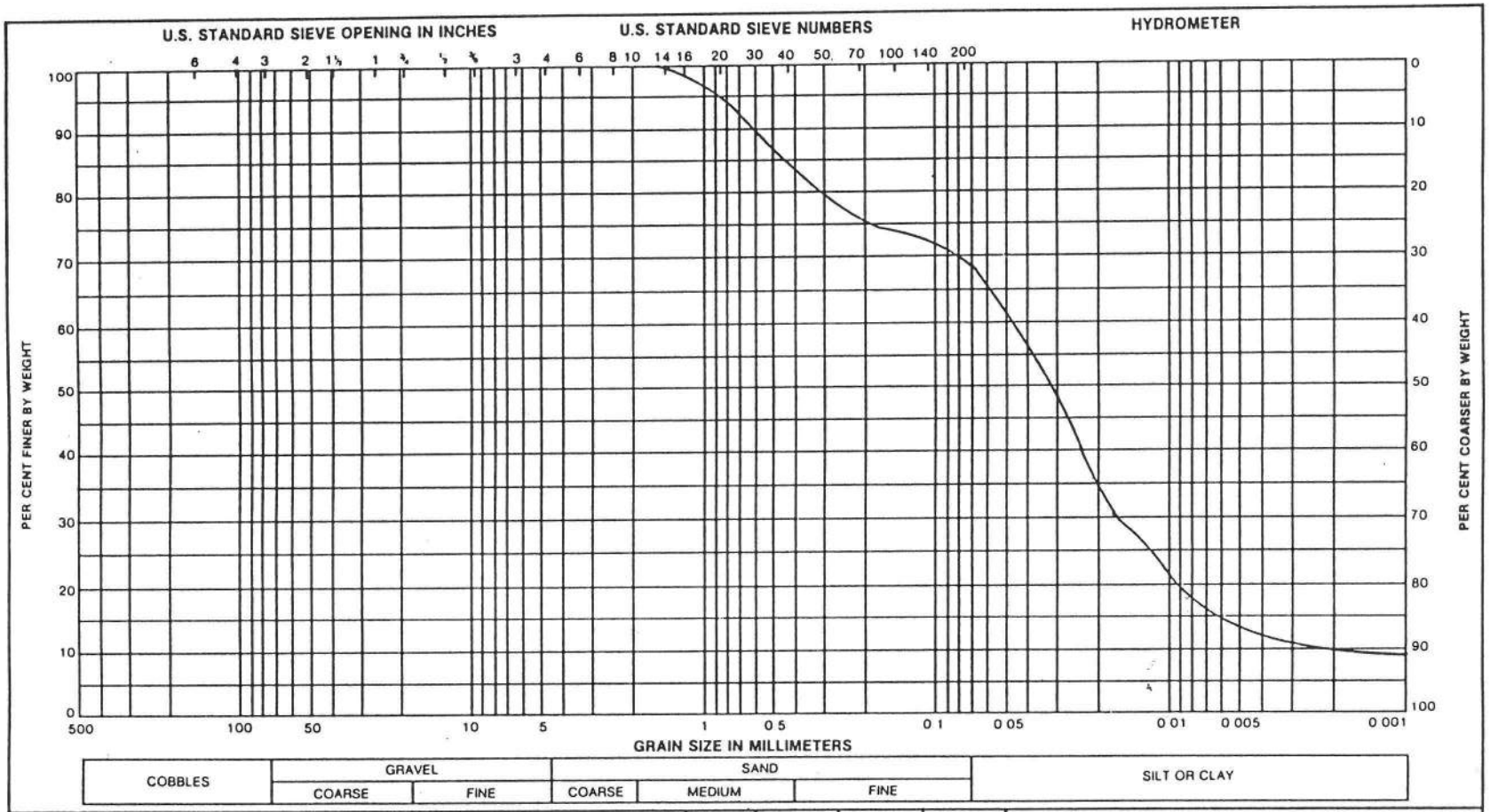
Sample Description: CB-9; SS-5; Soil
496B; Springfield

Date Taken:
Time Taken:
IEPA Cert. No. 100221

Date Received: 11/03/1992
Time Received: 11:15
WDNR Cert. No. 999447130

| Parameter | Results | Units | Date of Analysis | Analytical Method |
|---|---|---|---|---|
| Solids, Total | 97.1 | % | 11/05/1992 | 2540 (4) |
| Cation Exchange Capacity | 18.1 | meq/100g | 11/12/1992 | 9080 (1) |
| CEC - Calcium | 208. | mg/100g | 11/13/1992 | 9080 (1) |
| CEC - Magnesium | 70. | mg/100g | 11/12/1992 | 9080 (1) |
| CEC - Sodium | 3.3 | mg/100g | 11/12/1992 | 9080 (1) |
| CEC - Potassium | 6.7 | mg/100g | 11/12/1992 | 9080 (1) |

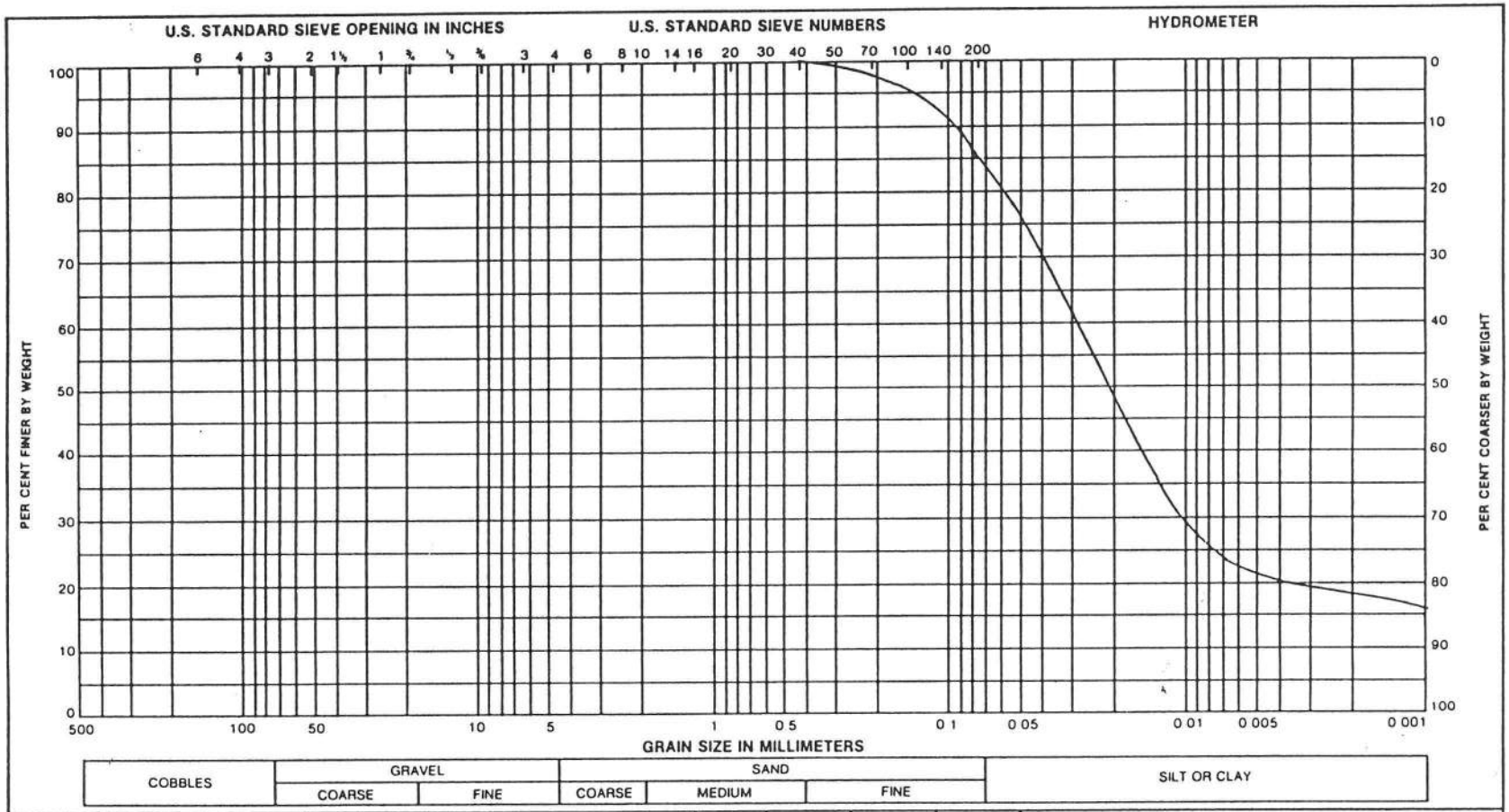
# APPENDIX D-2
# LABORATORY TESTS BY OTHERS




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-2 | 3-ST | 10'-12' | Silty sand, grey, brown | | NOT PLASTIC | | | Subsurface Exploration |
| | | | | | | | | CWLP Ash Disposal Cell |
| | | | | | | | | Springfield, Illinois |
| | | | | | | | | |
| | | | | | | | | |

**REPORT OF SOIL ANALYSIS**

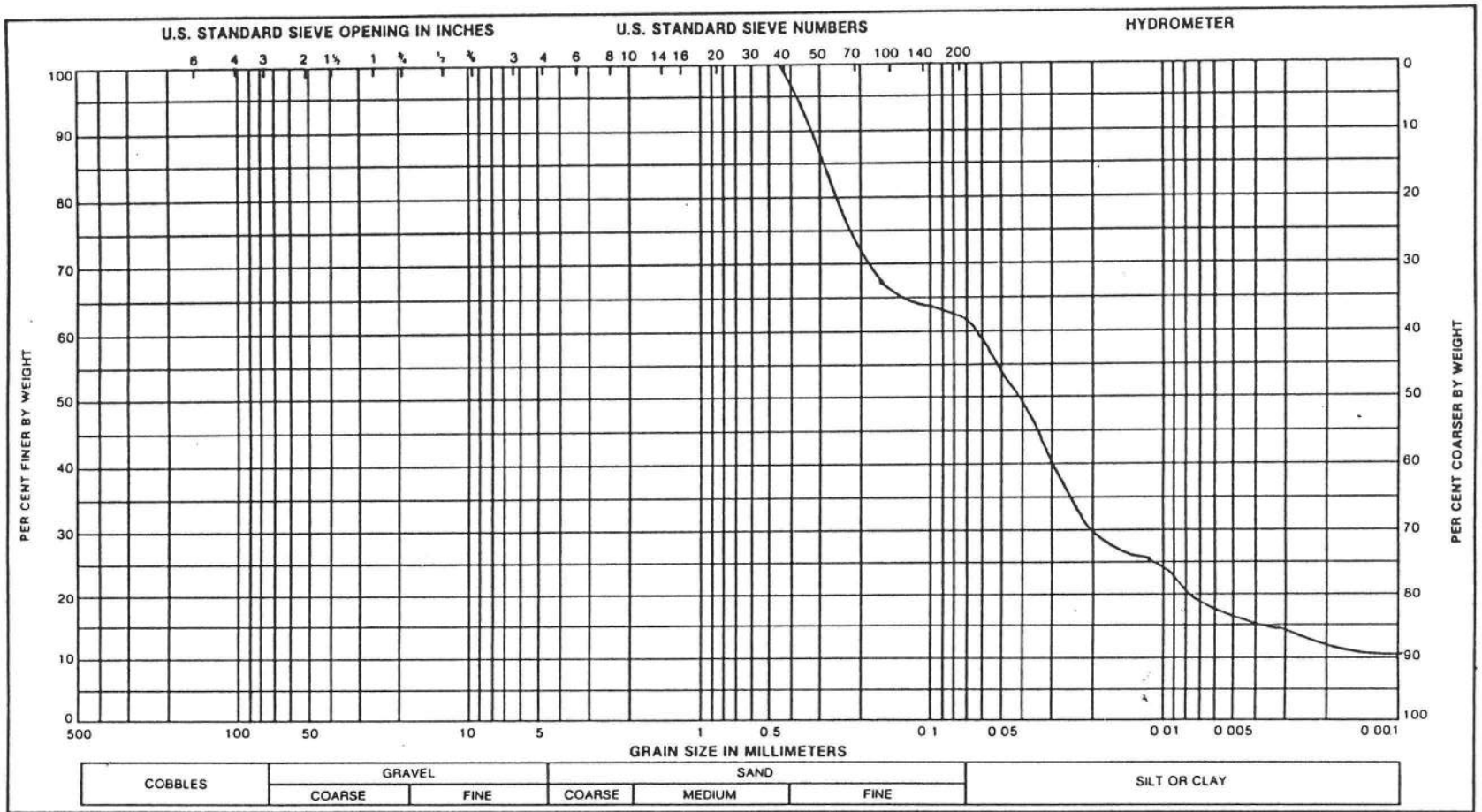
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-2 | 5-ST | 15'-17' | Clayey silt, trace sand, | | 30 | 18 | 12 | Subsurface Exploration |
| | | | grey | | | | | CWLP Ash Disposal Cell |
| | | | | | | | | Springfield, Illinois |
| | | | | | | | | |
| | | | | | | | | |

**REPORT OF SOIL ANALYSIS**

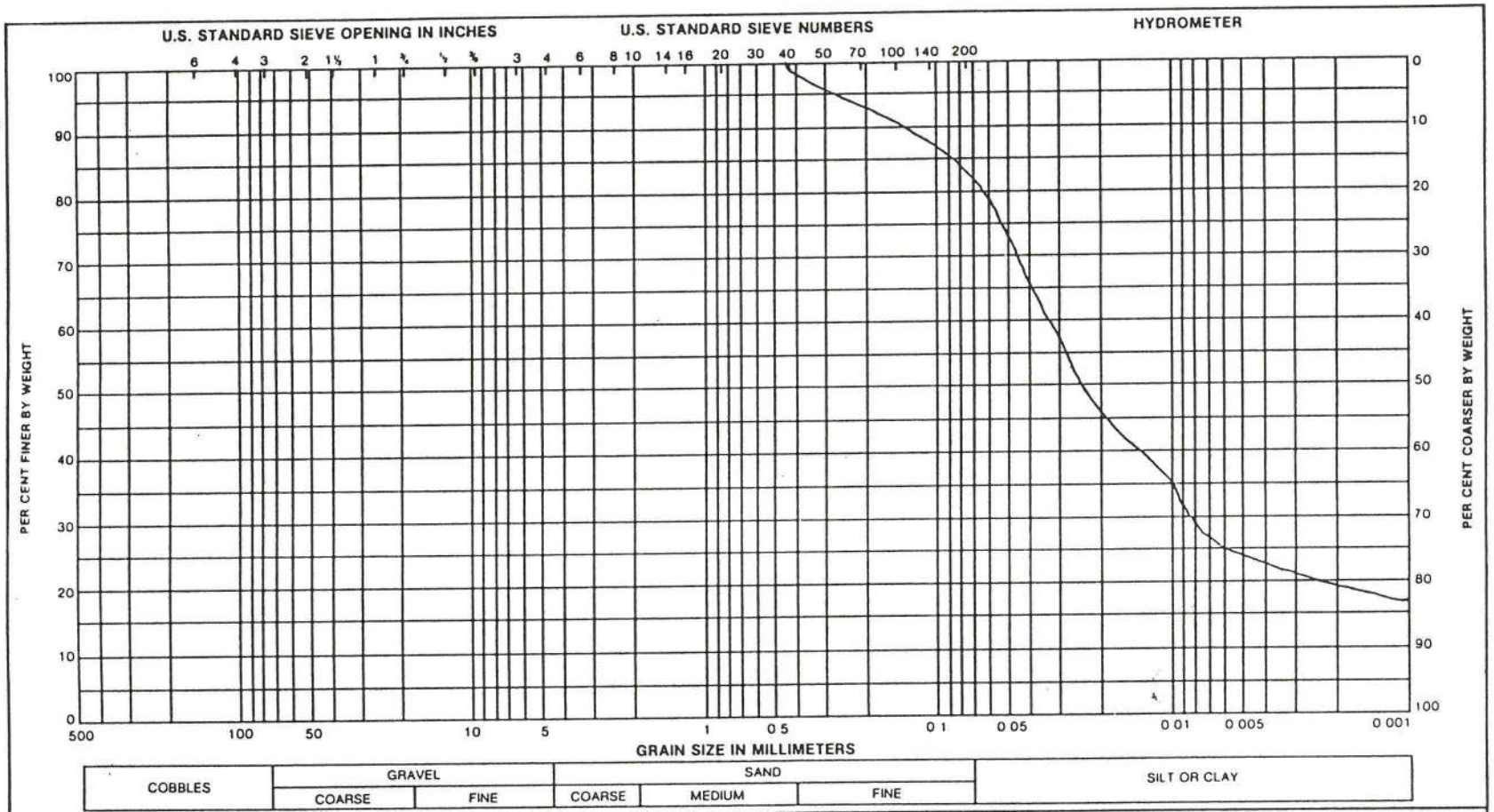
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-2 | 7-ST | 20-22 | Sandy silt, grey | | NOT PLASTIC | | | Subsurface Exploration<br>CWLP Ash Disposal Cell<br>Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

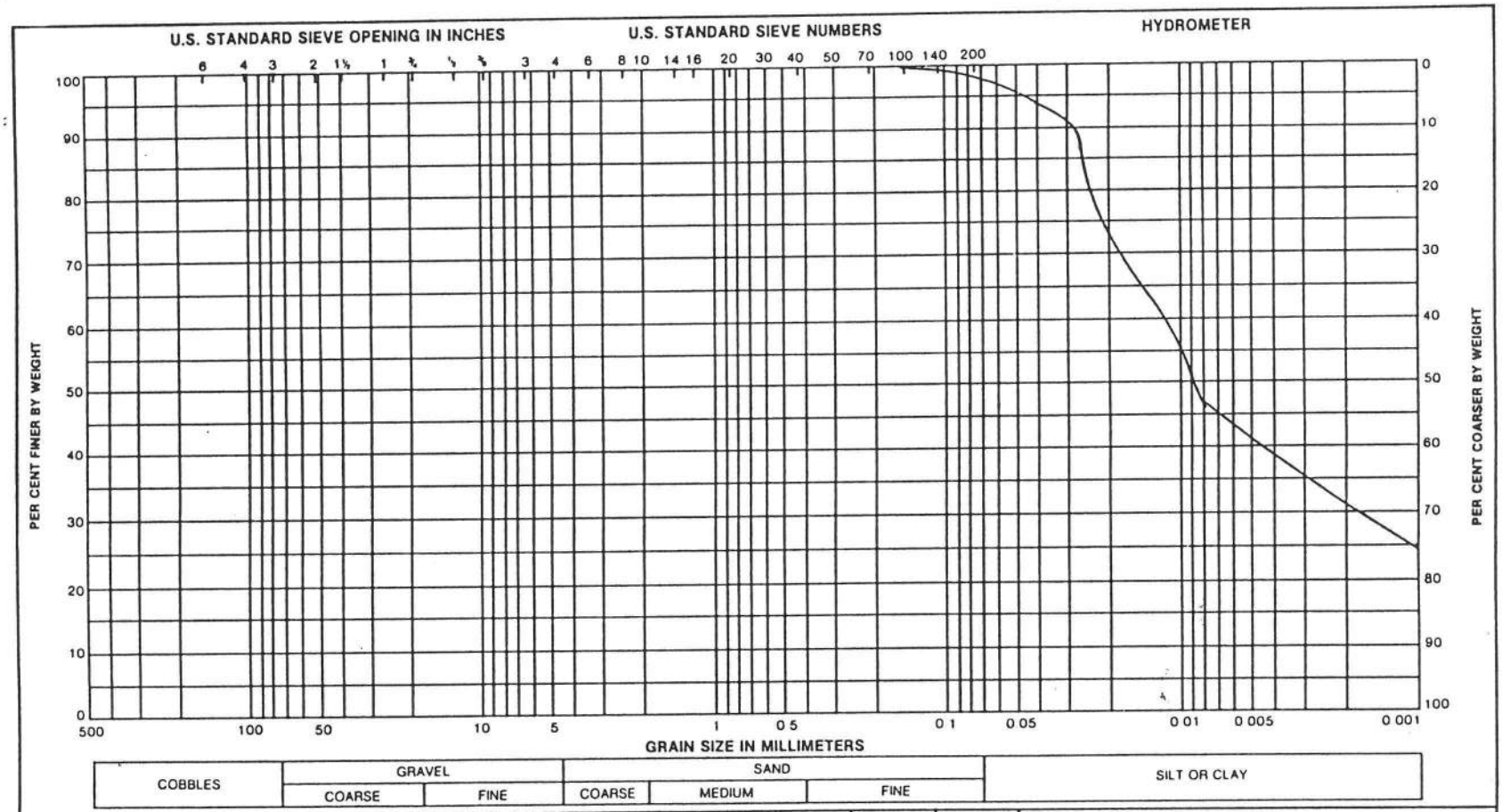
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-5 | 2-ST | 5'-7' | Clayey silt, some sand, brown, mottled grey | -- | 23 | 21 | 2 | Subsurface Exploration<br>CWLP Ash Disposal Cell<br>Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

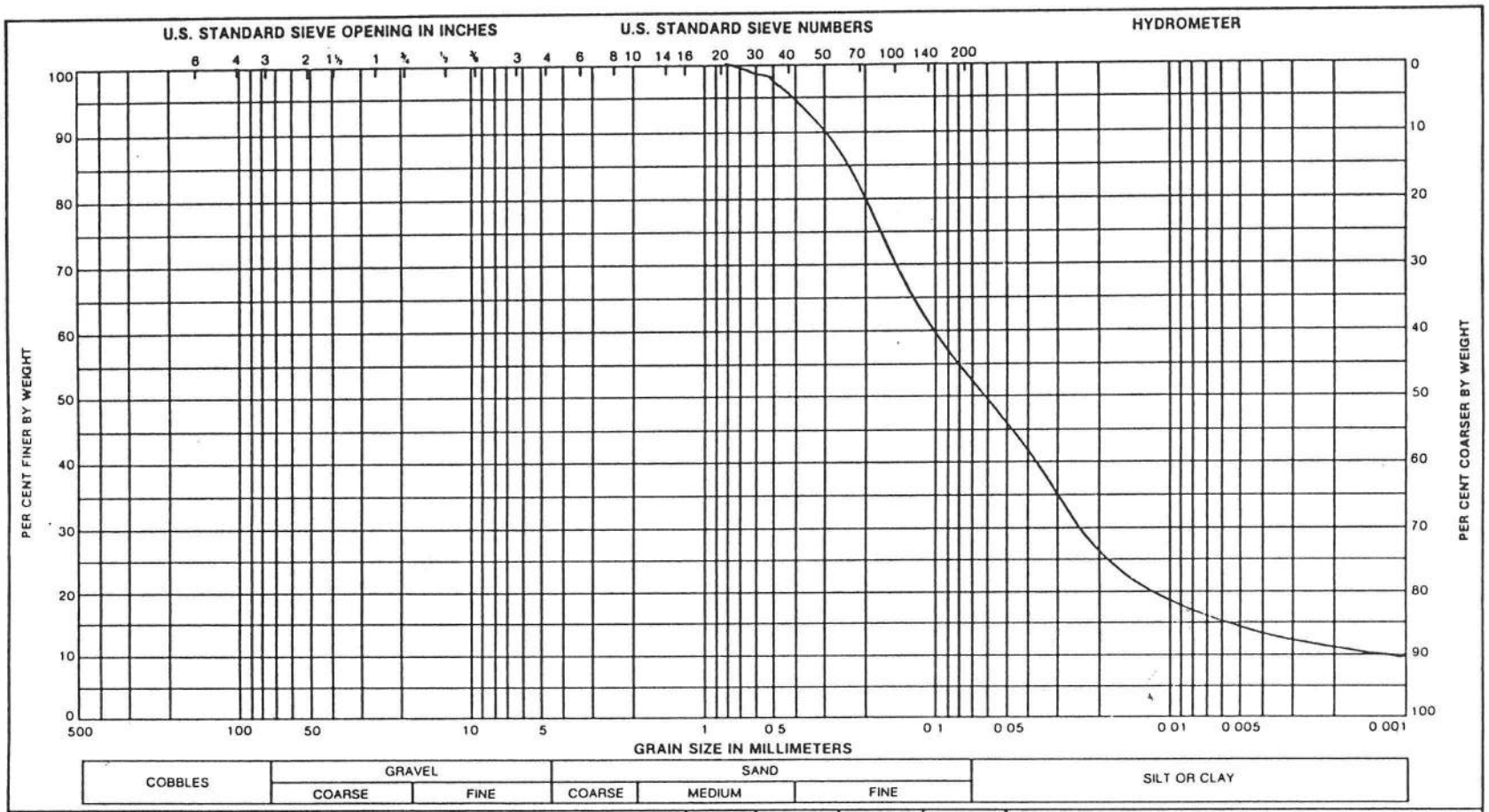
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-13 | 2-ST | 5'-7' | Silty clay, trace sand, grey | | 39 | 23 | 16 | Subsurface Exploration<br>CWLP Ash Disposal Cell<br>Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

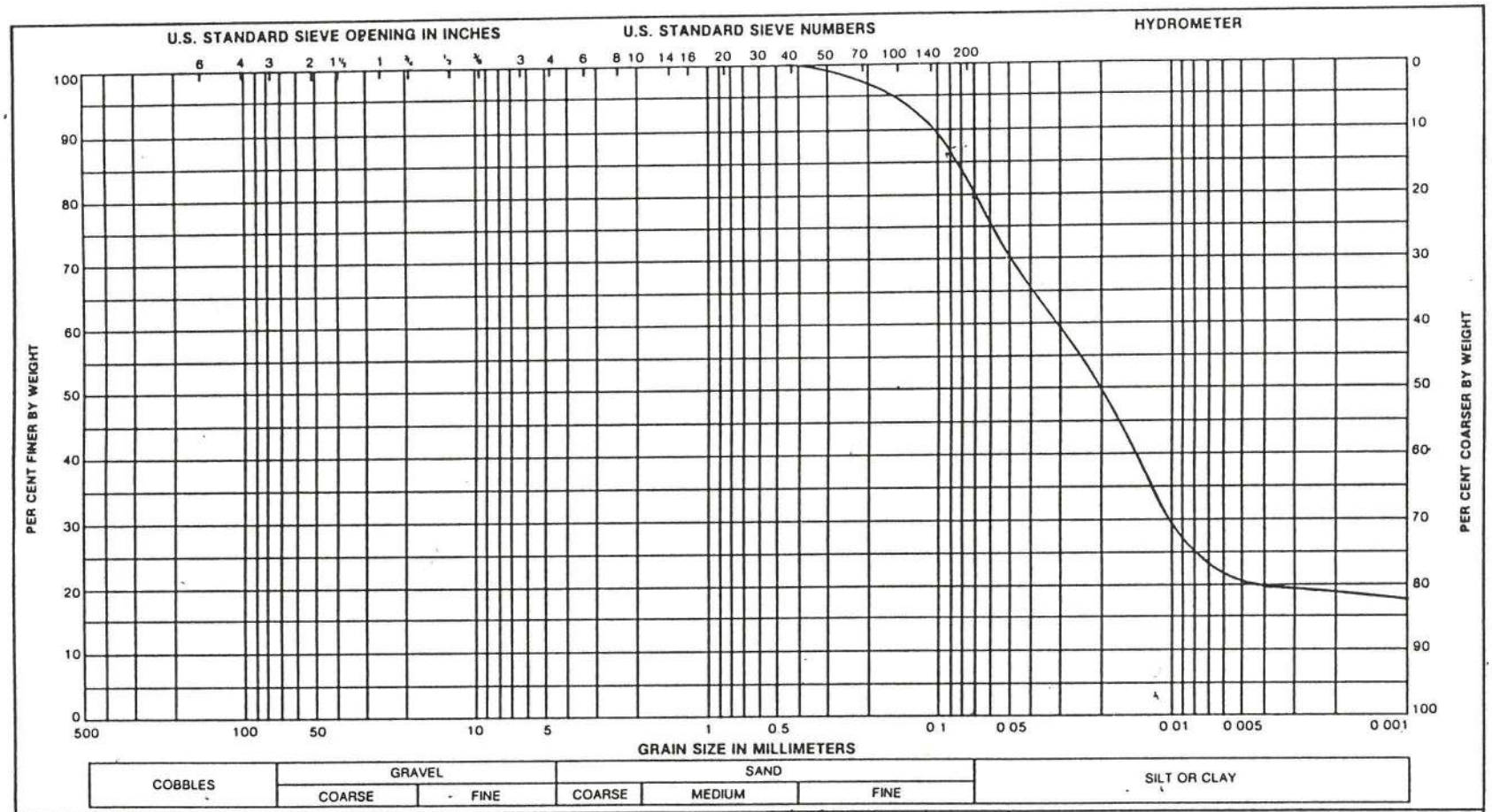
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-13 | 4-ST | 10'-12' | Clayey silt with sand, fine, grey | | NOT PLASTIC | | | Subsurface Exploration CWLP Ash Disposal Cell Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

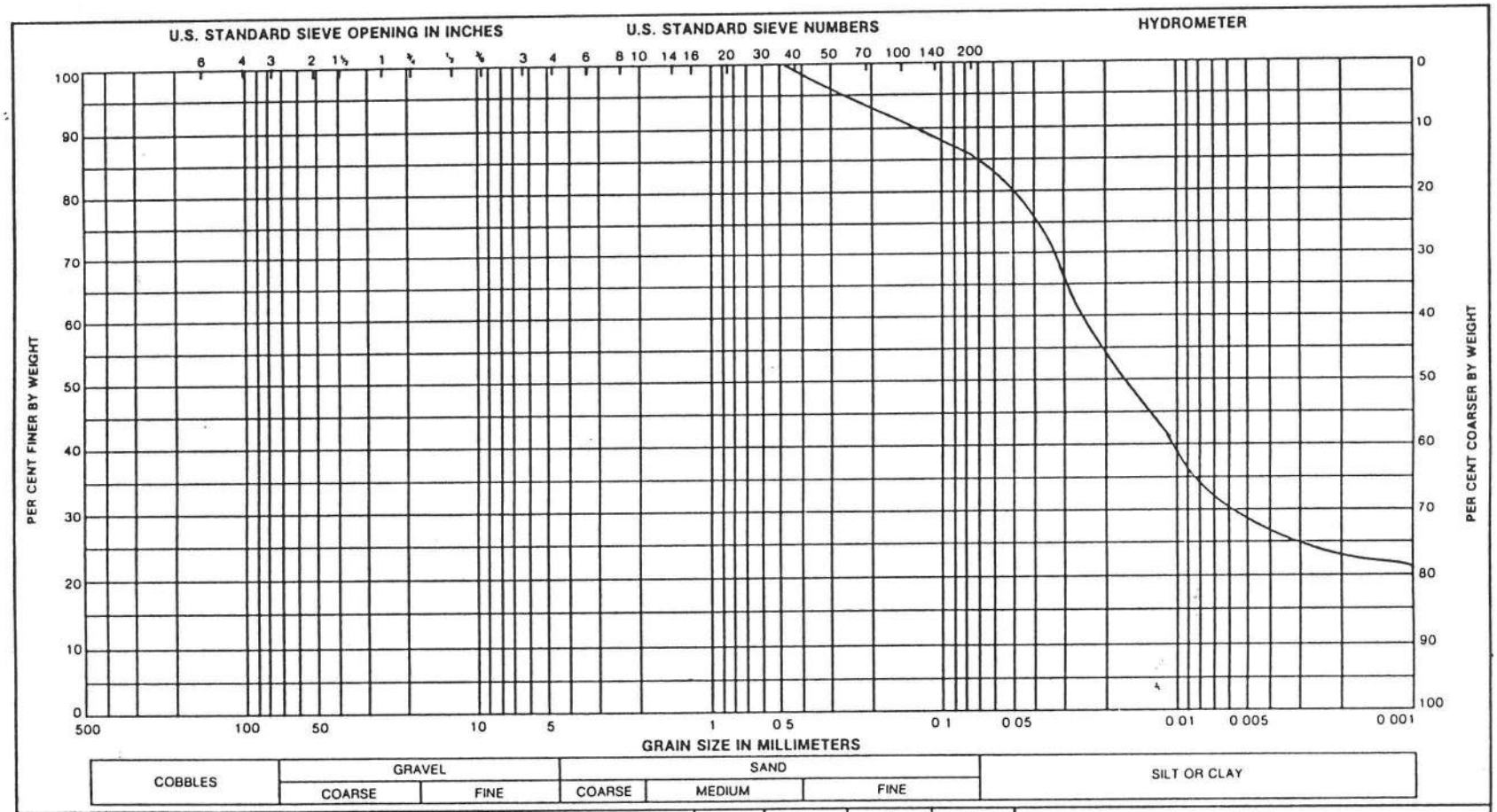
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-13 | 6-ST | 15'-17' | Clayey silt, some sand, grey | | NOT PLASTIC | | | Subsurface Exploration<br>CWLP Ash Disposal Cell<br>Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

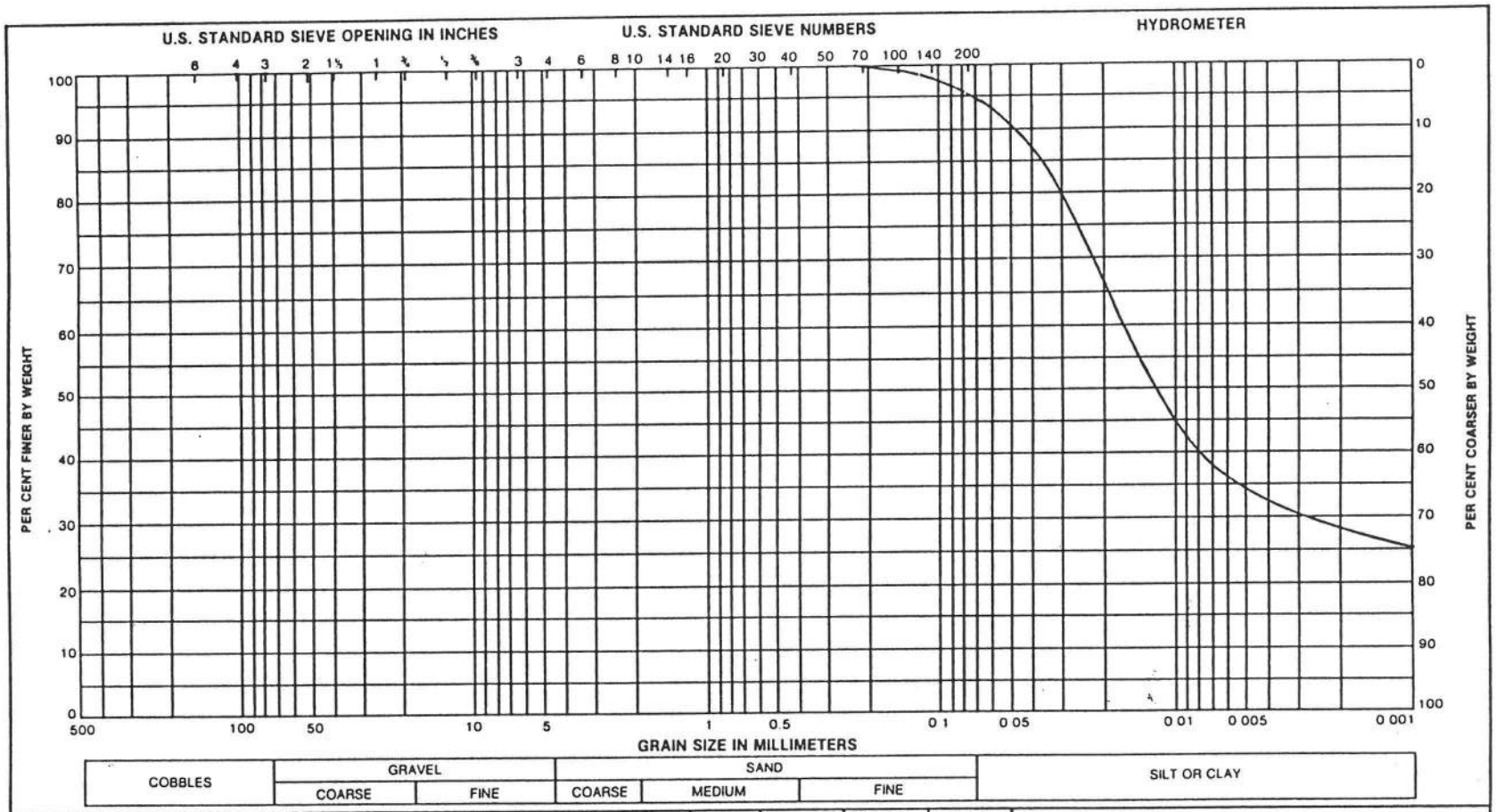
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-15 | 2-ST | 5'-7' | Silty clay, some sand, grey | | 27 | 19 | 8 | Subsurface Exploration |
| | | | | | | | | CWLP Ash Disposal Cell |
| | | | | | | | | Springfield, Illinois |
| | | | | | | | | |
| | | | | | | | | |

**REPORT OF SOIL ANALYSIS**

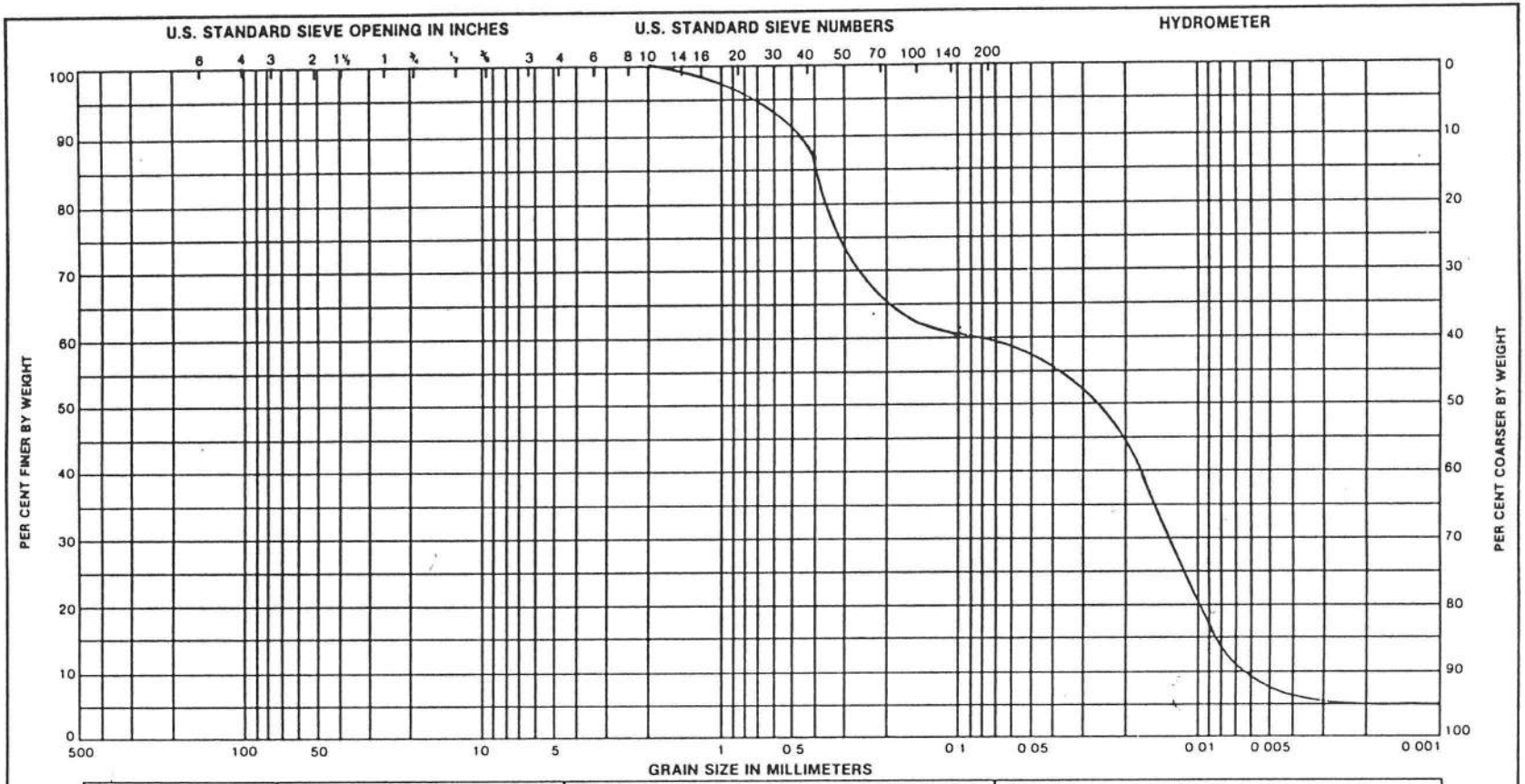
File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-16 | 2-ST | 5'-7' | Silty clay, some sand, dark grey | | 38 | 28 | 10 | Subsurface Exploration CWLP Ash Disposal Cell Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

File No. 020-95039




| Boring No. | Sample No. | Elev. or Depth | Classification | Nat w % | LL | PL | PI | Project |
|---|---|---|---|---|---|---|---|---|
| B-16 | 4-ST | 10'-12' | Clayey silt, some sand, fine, grey | | NOT PLASTIC | | | Subsurface Exploration<br>CWLP Ash Disposal Cell<br>Springfield, Illinois |

**REPORT OF SOIL ANALYSIS**

File No. 020-95039

# APPENDIX E2:
## GEOTECHNICAL INVESTIGATION – 2023/2024

**Job #:**
**23-1071**

## Andrews Engineering
## Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Moisture Content (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.5-3 | 14.5 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Brown, Silty, With Coal |
| 1 | 5-5.5 | 10.1 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Brown, Silty, With Coal |
| 1 | 7.5-8 | 19.8 | | | | | | | | Sandy Lean Clay (CL), Light Brown mottled Yellow Brown, Silty |
| 1 | 10-10.5 | 21.7 | | | | | | | | Sandy Lean Clay (CL), Light Brown/Yellow Brown mottled Gray, Silty |
| 1 | 13-13.5 | 21.3 | | | | | | | | Sandy Lean Clay (CL), Light Brown/Yellow Brown mottled Gray, Silty |
| 1 | 15.5-16 | 24.8 | | | | | | | | Sandy Lean Clay (CL), Light Brown mottled Gray, Silty |
| 1 | 17.5-18 | 47.7 | | | | | | | | Sandy Lean Clay (CL), Light Gray mottled Yellow Brown, Silty |
| 1 | 20.5-21 | 25.6 | | | | | | | | Lean Clay (CL), Gray mottled Greenish Gray, Black Oxidation, Silty |
| 1 | 22.5-23 | 27.1 | | | | | | | | Lean Clay (CL), Gray mottled Light Gray, Silty |
| 1 ST | 24.5-26.5 | 27.9 | 127.7 | 99.8 | 0.49 | 85.70 | 65.7/20.0 | 30 / 17 | $1.23 \times 10^{-6}$ | Lean Clay (CL), Gray, Silty, Trace Sand, Medium, Moist |
| 1 | 28-28.5 | 25.5 | | | | | | | | Fat Clay (CL), Gray, Silty |
| 1 | 32.5-33 | 26.0 | | | | | | | | Sandy Lean Clay (CL), Light Gray/Gray mottled Yellow Brown, Silty |
| | | | | | | | | | | |
| 1L | 2-3.5 | 18.5 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Brown |
| 1L | 4.5-6 | 21.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Brown |
| 1L | 7-8.5 | 21.4 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Brown, Silty |
| 1L | 9.5-11 | 17.7 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown, Silty |
| 1L | 12-13.5 | 23.4 | | | | | | | | Poorly Graded Sand (SP), Dark Brown, Fine to Coarse |
| 1L | 14.5-16 | 19.7 | | | | | | | | Poorly Graded Sand (SP), Dark Brown, Fine to Coarse |
| 1L | 17-18.5 | n/a | | | | | | | | |
| 1L | 19.5-21 | 30.7 | | | | | | | | Sandy Lean Clay (CL), Light Gray mottled Yellow Brown, Silty |
| 1L ST-18 | 22-24 | 30.7 | 118.9 | 91.0 | 0.57 | 97.60 | 63.0/34.6 | 43/21 | $5.84 \times 10^{-6}$ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Stiff, Moist |
| | | | | | | | | | | |
| 1LL | 2-3.5 | 11.7 | | | | | | | | Sandy Lean Clay with Gravel (CL), Yellow Brown mottled Brown, Silty |
| 1LL | 4.5-6 | 13.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 1LL | 7-8.5 | 20.1 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 1LL | 9.5-11 | 17.8 | | | | | | | | Poorly Graded Sand (SP), Yellow Brown, Fine to Medium |
| 1LL | 12-13.5 | 22.1 | | | | | | | | Fat Clay (CH), Gray mottled Light Gray |
| 1LL ST-12 | 14.5-16.5 | 24.7 | 125.2 | 100.4 | 0.26 | 84.40 | 64.5/19.9 | 39/21 | $6.02 \times 10^{-6}$ | Lean Clay with Sand (CL), Gray, Silty, Medium, Moist |
| 1LL | 17-18.5 | 26.2 | | | | | | | | Fat Clay (CH), Light Brown, Silty |
| | | | | | | | | | | |
| 1U | 2-3.5 | 14.6 | | | | | | | | Lean Clay (CL), Brown mottled Light Gray/Reddish Brown, Silty, With Coal |
| 1U | 4.5-6 | 21.0 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown/Light Gray, Silty, Trace Gravel |
| 1U | 7-8.5 | 36.5 | | | | | | | | Silt (ML), Black, Clayey, With Coal |
| 1U | 9.5-11 | 6.1 | | | | | | | | Coal, Black, With Silt |
| 1U | 12-13.5 | 32.2 | | | | | | | | Coal, Black |
| 1U | 14.5-16 | 59.2 | | | | | | | | Silt (ML), Black, Clayey, With Coal |
| 1U | 17-18.5 | 68.6 | | | | | | | | Silt (ML), Black, With Coal and Ash |
| | | | | | | | | | | |
| 1CCR | 2-3.5 | 10.7 | | | | | | | | Cinders, Black |
| 1CCR | 4.5-6 | 11.3 | | | | | | | | Cinders, Black |
| 1CCR | 7-8.5 | 22.2 | | | | | | | | Cinders/Ash Black |
| 1CCR | 9.5-11 | 21.5 | | | | | | | | Cinders/Ash Black |
| 1CCR | 12-13.5 | 20.1 | | | | | | | | Cinders. Black |
| 1CCR | 14.5-16 | 53.5 | | | | | | | | Cinders, Black, With Clayey Silt |
| 1CCR | 17-18.5 | 22.2 | | | | | | | | Cinders, Black |

GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

# Andrews Engineering
# Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2-3.5 | 18.5 | | | | | | | | Fat Clay (CH), Brown mottled Light Gray |
| 2 | 4.5-6 | 22.0 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 2 | 7-8.5 | 27.0 | | | | | | | | Fat Clay (CH), Dark Brown mottled Brown |
| 2 | 9.5-11 | 24.9 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Brown |
| 2 | 12-13.5 | 28.4 | | | | | | | | Fat Clay (CH), Light Gray mottled yellow Brown |
| 2 | 14.5-16 | 25.7 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Trace Sand |
| 2 | 17-18.5 | 27.2 | | | | | | | | Fat Clay (CH), Light Gray mottled Yellow Brown |
| 2 | 19.5-21 | 27.2 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 2 ST | 22-24 | 26.8 | 123.1 | 97.1 | 0.50 | 91.70 | 57.8/33.9 | 57/21 | $6.87x10^{-8}$ | Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist |
| 2 | 24.5-26 | 24.3 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation |
| 2 | 27-27.5 | 21.2 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty |
| 2 | 27.5-28.5 | 22.4 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty |
| | | | | | | | | | | |
| 2L | 2-3.5 | 21.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray/Brown |
| 2L | 4.5-6 | 28.9 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 2L ST 6 | 7-9' | 25.5 | 126.5 | 100.8 | 0.33 | 87.70 | 74.3/13.4 | 27/21 | $8.24x10^{-6}$ | Silty Clay (CL-ML), Yellow Brown mottled Light Gray, Trace Sand, Medium, Moist |
| 2L | 9.5-11 | 22.5 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Light Gray, Silty |
| 2L | 12-13.5 | 22.0 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Brown, Silty |
| 2L | 14.5-16 | 23.6 | | | | | | 20/16 | | Sandy Silty Clay (CL), Yellow Brown mottled Light Gray |
| 2L | 17-18.5 | 21.1 | | | | | | | | Sandy Lean Clay (CL), Light Brown mottled Yellow Brown/Brown, Silty |
| 2L | 19.5-21 | 21.4 | | | | | | | | Poorly Graded Sand (SP), Yellow Brown, Fine, With Clay Seams |
| 2L | 22-23.5 | 29.0 | | | | | | | | Lean Clay (CL), Light Gray, Silty |
| | | | | | | | | | | |
| 2U | 2-3.5 | 8.1 | | | | | | | | Cinders, Dark Brown |
| 2U | 4.5-6 | 8.3 | | | | | | | | Cinders, Dark Brown |
| 2U | 7-8.5 | 20.2 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 2U | 9.5-11 | 11.0 | | | | | | | | Cinders/Silt, Dark Brown |
| 2U | 12-13.5 | 65.7 | | | | | | | | Sandy Silt (ML), Dark Brown |
| 2U | 14.5-16 | 46.3 | | | | | | | | Sandy Silt (ML), Dark Brown |
| 2U | 17-18.5 | 24.6 | | | | | | | | Poorly Graded Sand (SP), Dark Brown, Fine to Coarse |
| 2U | 19.5-21 | 53.1 | | | | | | | | Coal, Dark Gray |
| 2U | 22-23.5 | 31.7 | | | | | | | | Poorly Graded Sand (SP), Dark Gray, Fine to Coarse |
| 2U | 24.5-26 | 27.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| | | | | | | | | | | |
| 2CCR | 2-3.5 | 58.6 | | | | | | | | Lean Clay (CL), Light Gray mottled Yellow Brown/Brown, Silty, Trace Coal |
| 2CCR | 4.5-6 | 23.5 | | | | | | | | Coal, Black over Silt (ML), Light Gray, Clayey |
| 2CCR | 7-8.5 | 238.7 | | | | | | | | Ash, Light Gray |
| 2CCR | 9.5-11 | 107.7 | | | | | | | | Coal/Ash, Black |
| 2CCR | 12-13.5 | 86.4 | | | | | | | | Coal, Black over Silt (ML), Light Gray, Clayey |
| 2CCR | 14.5-16 | 54.5 | | | | | | | | Coal, Black, Clayey, With Organics |
| 2CCR | 17-18.5 | 86.8 | | | | | | | | Coal, Black |
| | | | | | | | | | | |
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GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

## Andrews Engineering
## Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 2-3.5 | 25.9 | | | | | | | | Fat Clay (CH), Brown mottled reddish Brown |
| 3 | 4.5-6 | 20.6 | | | | | | | | Poorly Graded Sand (SP), Brown, Fine to Medium |
| 3 | 7-8.5 | 22.2 | | | | | | | | Lean Clay (CL), Light Brown mottled Brown |
| 3 ST 8 | 9.5-11.5 | 25.8 | 122.9 | 97.7 | 0.67 | 98.10 | 67.6/30.5 | 60/24 | $8.50x10^{-9}$ | Fat Clay (CH), Light Gray mottled Yellow Brown, Black Oxidation, Silty, Stiff, Moist |
| 3 | 12-13.5 | 26.6 | | | | | | | | Fat Clay (CH), Brown mottled Light Gray/Reddish Brown |
| 3 | 14.5-16 | 24.8 | | | | | | | | Fat Clay (CH), Brown, Reddish Oxidation |
| 3 | 17-18.5 | 27.1 | | | | | | | | Fat Clay (CH), Light Gray mottled Yellow Brown/Brown |
| 3 ST16 | 19.5-21.5 | 25.8 | 121.6 | 96.7 | 0.62 | 95.00 | 65.7/29.3 | 43/20 | $4.27x10^{-7}$ | Lean Clay (CL), Gray mottled Yellow Brown, Silty, Stiff, Moist |
| 3 | 22-23.5 | 29.0 | | | | | | | | Fat Clay (CH), Light Gray mottled Yellow Brown, Silty |
| 3 | 24.5-26 | 25.8 | | | | | | | | Lean Clay (CL), Light Brown mottled Yellow Brown, Black Oxidation, Silty |
| 3 | 27-28.5 | 28.9 | | | | | | | | Fat Clay (CH), Light Brown mottled Light Gray |
| | | | | | | | | | | |
| 3U | 2-3.5 | 16.0 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown/Light Brown, Silty, Trace Sand |
| 3U | 4.5-6 | 27.7 | | | | | | | | Ash, Yellow Brown |
| 3U | 7-8.5 | 20.7 | | | | | | | | Lean Clay (CL), Brown mottled Light gray, With Coal |
| 3U ST 8 | 9.5-11.5 | 21.3 | 122.6 | 101.0 | 0.55 | 81.10 | 65.5/15.6 | 38/22 | $1.52x10^{-8}$ | Lean Clay with Sand (CL), Yellow Brown mottled Light Gray/Gray, Silty, Stiff, Moist |
| 3U | 12-13.5 | 37.2 | | | | | | | | Coal, Black |
| 3U | 14.5-16 | 32.0 | | | | | | | | Silt (ML), Brown, Clayey |
| 3U | 17-18.5 | 62.6 | | | | | | | | Silt (ML), Brown, Clayey |
| | | | | | | | | | | |
| 3CCR | 2-3.5 | 22.7 | | | | | | | | Lean Clay (CL), Brown, Silty, Trace Coal |
| 3CCR | 4.5-6 | 91.2 | | | | | | | | Ash, Light Gray, With Clay Seams |
| 3CCR | 7-8.5 | 51.6 | | | | | | | | Ash, Light Gray, With Clay Seams |
| 3CCR | 9.5-11 | 113.5 | | | | | | | | Coal, Black |
| 3CCR | 12-13.5 | 86.9 | | | | | | | | Coal, Black, With Organics/Clay Seams |
| 3CCR | 14.5-16 | 61.1 | | | | | | | | Coal, Black, With Clay Seams |
| 3CCR | 17-18.5 | 65.8 | | | | | | | | Coal, Black, With Clay Seams |
| | | | | | | | | | | |
| 4 | 3-3.5 | 16.5 | | | | | | | | Lean Clay (CL), Light Gray mottled Yellow Brown |
| 4 | 5.5-6 | 18.2 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Brown |
| 4 | 7.5-8 | 23.6 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 4 | 10.5-11 | 26.9 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 4 | 12.5-13 | 26.6 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 4 | 14.5-16 | 26.1 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation, Trace Sand |
| 4 | 17.5-18 | 27.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 4 ST | 19.5-21.5 | 28.3 | 124.0 | 96.7 | 0.95 | 97.20 | 64.8/32.4 | 49/22 | $6.53x10^{-8}$ | Lean Clay (CL/CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist |
| 4 | 22-22.5 | 30.1 | | | | | | | | Fat Clay (CH), Yellow Brown/Light Brown mottled Brown, Silty |
| 4 | 25-25.5 | 33.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Silty |
| 4 | 27-27.5 | 22.7 | | | | | | | | Sandy Lean Clay (CL), Light Gray mottled Yellow Brown, Silty |
| 4 | 30-30.5 | 23.5 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Light Gray, Silty |
| | | | | | | | | | | |
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GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

Job #:
23-1071

# Andrews Engineering
# Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 4L | 2-3.5 | 31.7 | | | | | | | | Lean Clay (CL), Dark Brown, Silty over Fat Clay (CH), Yellow Brown mottled Light Gray, Trace Gravel |
| 4L | 4.5-6 | 27.7 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 4L | 7-8.5 | 27.3 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation |
| 4L | 9.5-11 | 29.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Trace Sand |
| 4L ST10 | 12-14' | 27.4 | 124.2 | 97.5 | 0.42 | 87.90 | 71.7/16.2 | 32/20 | $9.53x10^{-7}$ | Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, Silty, Trace Sand, Medium, Moist |
| 4L | 14.5-16 | 25.7 | | | | | | | | Lean Clay with Sand (CL), Yellow Brown mottled Light gray |
| 4L | 17-18.5 | 27.4 | | | | | | 31/23 | | Lean Clay (CL/ML), Light Gray, Silty |
| | | | | | | | | | | |
| 4U | 2-3.5 | 6.5 | | | | | | | | Cinders, Black |
| 4U | 4.5-6 | 30.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Gray, Silty |
| 4U | 7-8.5 | 23.0 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Gray, Silty, With Cinders |
| 4U | 9.5-11 | 36.4 | | | | | | | | Silt (ML), Black, With Cinders |
| 4U | 12-13.5 | 24.5 | | | | | | | | Cinders, Black |
| 4U | 14.5-16 | 38.0 | | | | | | | | Cinders, Black, Silty |
| 4U | 17-18.5 | 24.8 | | | | | | | | Cinders, Black |
| 4U | 19.5-21 | 18.0 | | | | | | | | Coal, Black |
| 4U | 22-23.5 | 59.2 | | | | | | | | Ash, Light Gray |
| 4U | 24.5-26 | 28.0 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 4U ST22 | 27-29 | 26.9 | 125.3 | 98.7 | 0.53 | 97.10 | 69.6/27.5 | 62/24 | $9.17x10^{-9}$ | Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist |
| | | | | | | | | | | |
| 4CCR | 2-3.5 | 21.0 | | | | | | | | Lean Clay (CL), Yellow Brown, With Brick |
| 4CCR | 4.5-6 | 23.0 | | | | | | | | Silt (ML), Brown, Clayey, With Clay Seams |
| 4CCR | 7-8.5 | 56.0 | | | | | | | | Ash, Light Gray |
| 4CCR | 9.5-11 | 91.3 | | | | | | | | Cinder/Ash, Black |
| 4CCR | 12-13.5 | 83.6 | | | | | | | | Cinder/Ash, Black |
| 4CCR | 14.5-16 | 59.3 | | | | | | | | Cinders/Silt, Black |
| 4CCR | 17-18.5 | 33.0 | | | | | | | | Cinders, Black |
| 4CCR | 19.5-21 | 59.5 | | | | | | | | Ash/Cinders, Black |
| | | | | | | | | | | |
| 5 | 2-3.5 | 14.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Brown, Trace Coal |
| 5 | 4.5-6 | 16.7 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Brown, Trace Coal |
| 5 | 7-8.5 | 13.6 | | | | | | | | Lean Clay with Sand (CL), Yellow Brown mottled Light Gray, |
| 5 | 9.5-11 | 22.1 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Silty |
| 5 | 12-13.5 | 21.0 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 5 | 14.5-16 | 22.8 | | | | | | | | Fat Clay (CH), Brown mottled Yellow Brown |
| 5 | 17-18.5 | 21.2 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown |
| 5 | 19.5-21 | 21.8 | | | | | | | | Fat Clay (CH), Brown, Silty |
| 5 | 22-23.5 | 19.4 | | | | | | | | Sandy Lean Clay (CL), Light Gray mottled Gray/Yellow Brown |
| 5 ST | 24.5-26.5 | 24.3 | 124.0 | 99.8 | 0.25 | 90.20 | 67.3/22.9 | 43/22 | $2.67x10^{-7}$ | Lean Clay (CL), Light Gray mottled Gray/Yellow Brown, Silty, Trace Sand, Medium, Moist |
| 5 | 27-28.5 | 25.6 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray |
| 5 | 29.5-31 | 24.5 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty |
| 5 | 32-33.5 | 24.7 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty |
| 5 | 34.5-36 | 24.6 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty |
| 5 | 37-38.5 | 23.6 | | | | | | | | Sandy Lean Clay (CL), Gray, Silty |
| | | | | | | | | | | |
| | | | | | | | | | | |

GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

## Andrews Engineering
## Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 5L | 3-3.5 | 18.9 | | | | | | | | Fat Clay (CH), Brown mottled Light Brown |
| 5L | 5-6' | 23.1 | | | | | | | | Fat Clay (CH), Brown mottled Yellow Brown |
| 5L | 8-8.5 | 22.5 | | | | | | | | Fat Clay (CH), Brown mottled Light Gray |
| 5L ST | 9.5-11 | 28.8 | 119.9 | 93.1 | 0.51 | 94.60 | 73.2/21.4 | 46/24 | $5.18x10^{-7}$ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist |
| 5L | 13-13.5 | 30.1 | | | | | | | | Fat Clay (CH), Brown mottled Light Gray, Silty |
| 5L | 15.5-16 | 30.9 | | | | | | | | Fat Clay (CH), Brown mottled Light Gray, Silty |
| 5L | 17-17.5 | 28.3 | | | | | | 39/22 | | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty |
| | | | | | | | | | | |
| 5CCR | 3-3.5 | 24.6 | | | | | | | | Silt with Sand (ML), Light Gray |
| 5CCR | 5.5-6 | 24.2 | | | | | | | | Sandy Lean Clay (CL), Gray, Silty |
| 5CCR | 7-7.5 | 27.8 | | | | | | | | Sandy Silt (ML), Gray |
| 5CCR | 9.5-10 | 13.5 | | | | | | | | Silty Sand (SM), Dark Brown, Trace Gravel |
| 5CCR | 15-15.5 | 9.8 | | | | | | | | Coal, Black |
| 5CCR | 17.5-18 | 13.9 | | | | | | | | Coal, Black |
| | | | | | | | | | | |
| 6 | 0-2 | 7.3 | | | | | | | | Clayey Sand with Gravel (SC), Brown |
| 6 | 2-4' | 21.3 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown, Trace Sand, Fat Seams |
| 6 | 5-7.5 | 24.0 | | | | | | | | Lean Clay (CL), Brown mottled Gray, Trace Sand, Fat Seams |
| 6 | 7.5-9 | 20.5 | | | | | | | | Lean Clay (CL), Gray mottled Light Brown, Trace Sand/Coal |
| 6 | 10-11.5 | 20.5 | | | | | | | | Fat Clay (CH/CL), Light Gray mottled Gray/Light Brown, |
| 6 | 12.5-14 | 20.9 | | | | | | | | Lean Clay (CL), Brown, Silty |
| 6 | 15-16.5 | 19.9 | | | | | | | | Lean Clay (CL), Light Gray mottled Light Brown, Silty |
| 6 ST | 17-19 | 21.9 | 128.6 | 105.5 | 0.95 | 90.20 | 61.9/28.3 | 34/19 | $4.25x10^{-8}$ | Lean Clay (CL), Gray/Greenish Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist |
| 6 | 19-21 | n/a | | | | | | | | Lean Clay (CL), Brown, Silty, With Organics |
| 6 | 21-23 | 22.0 | | | | | | | | Lean Clay (CL), Brown/Gray, Silty |
| 6 | 23-25 | 20.6 | | | | | | | | Lean Clay with Sand (CL), Gray mottled Brown, With Coal |
| 6 | 25-27 | 31.3 | | | | | | | | Lean Clay (CL), Gray, Silty |
| 6 | 27-29 | 27.1 | | | | | | | | Sandy Silt (ML), Gray, Clayey |
| 6 | 29-31 | 29.9 | | | | | | | | Silt (ML), Gray, Clayey |
| 6 | 31-33 | n/a | | | | | | | | |
| 6 | 33-35 | 28.2 | | | | | | | | Lean Clay (CL), Gray mottled Yellow Brown, Silty |
| 6 | 35-37 | 27.1 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown, Trace Sand, Fat Seams |
| 6 | 37-39 | 21.0 | | | | | | | | Sandy Silt (ML), Light Gray mottled Yellow Brown, Clayey |
| | | | | | | | | | | |
| 6L | 2.5-4 | 17.8 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown, Silty |
| 6L | 5-6.5 | 21.5 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 6L ST1 | 7.5-9 | 26.6 | 121.9 | 96.3 | 0.44 | 91.60 | 74.1/17.5 | 41/23 | $5.47x10^{-7}$ | Lean Clay (CL), Light Gray mottled Reddish Brown, Silty, Trace Sand, Medium, Moist |
| 6L | 10-11.5 | 27.5 | | | | | | | | Lean Clay with Sand (CL), Brown, Silty |
| 6L | 12.5-14 | 23.5 | | | | | | | | Silty Clayey Sand (SC-SM), Light Gray mottled Yellow Brown |
| 6L | 15-16.5 | 24.9 | | | | | | | | Clayey Sand (SC), Yellow Brown mottled Light Gray |
| 6L | 17.5-19 | 35.9 | | | | | | 31/19 | | Lean Clay (CL), Gray, Trace Organics |
| 6L | 20-21.5 | 21.1 | | | | | | | | Silty Clayey Sand (SC-SM), Gray |
| 6L | 22.5-24 | 24.0 | | | | | | | | Silty Clayey Sand (SC-SM), Light Gray mottled Light Brown |
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GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

Job #:
23-1071

# Andrews Engineering
# Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 6CCR | 2-3.5 | 15.5 | | | | | | | | Ash/Cinders, Black, Clayey |
| 6CCR | 4.5-6 | 13.3 | | | | | | | | Ash/Cinders/Coal, Black, Clayey |
| 6CCR | 7-8.5 | 29.4 | | | | | | | | Ash, Gray |
| 6CCR | 9.5-11 | 39.1 | | | | | | | | Silt (ML), Brown mottled Light Gray |
| 6CCR | 12-13.5 | 44.4 | | | | | | | | Silt (ML), Light gray |
| 6CCR | 14.5-16 | 51.6 | | | | | | | | Silt (ML), Light Gray mottled Brown |
| 6CCR | 17-18.5 | 87.7 | | | | | | | | Silt (ML), Dark Brown mottled Light Brown |
| 6CCR | 19.5-21 | 106.5 | | | | | | | | Silt (ML), Dark Brown |
| 6CCR | 22-23.5 | 97.4 | | | | | | | | Silt (ML), Dark Brown mottled Brown |
| | | | | | | | | | | |
| 7 | 2.5-3 | 15.1 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Light Gray |
| 7 | 4.5-5 | 21.8 | | | | | | | | Lean Clay (CL), Light Brown/Brown mottled Yellow Brown, With Fat Clay Seams |
| 7 | 7.5-8 | 21.1 | | | | | | | | Fat Clay (CH), Light Brown mottled Light Gray, Silty, With Lean Clay Seams |
| 7 | 10-10.5 | 21.3 | | | | | | | | Lean Clay (CL), Light Brown mottled Brown/Light Gray, Silty |
| 7 | 12-12.5 | 24.7 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown, Silty |
| 7 | 15-15.5 | 21.1 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, With Organics |
| 7 | 17.5-18 | 19.5 | | | | | | | | Sandy Lean Clay (CL), Brown mottled Light Gray |
| 7 ST | 19.5-21.5 | 25.8 | 120.2 | 95.5 | 0.55 | 97.70 | 62.2/35.5 | 63/20 | $1.71x10^{-8}$ | Fat Clay (CH), Brown/ Yellow Brown mottled Light Gray, Silty, Stiff, Moist |
| 7 | 23-23.5 | 24.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray, Black Oxidation |
| 7 | 25-25.5 | 26.1 | | | | | | | | Fat Clay (CH/CL), Light Gray mottled Yellow Brown |
| 7 | 27.5-28 | 28.6 | | | | | | | | Silty Clayey Sand (SC-SM), Brown mottled Yellow Brown |
| 7 | 30-30.5 | 30.7 | | | | | | | | Sandy Silt (ML), Light Brown, With Fat Clay Seams |
| 7 | 32.5-33 | 38.1 | | | | | | | | Fat Clay (CH), Light Gray, With Silty Sand Seams |
| 7 | 35-36.5 | 32.4 | | | | | | | | Silt (ML), Gray, Clayey |
| 7 | 37-37.5 | 39.2 | | | | | | | | Silt (ML), Brown, Clayey |
| | | | | | | | | | | |
| 7CCR | 2-3.5 | 26.5 | | | | | | | | Silt (ML), Brown, Clayey |
| 7CCR | 4.5-6 | 46.8 | | | | | | | | Silt (ML), Brown, Clayey, With Cinders |
| 7CCR | 7-8.5 | 54.9 | | | | | | | | Silt (ML), Brown, Clayey |
| 7CCR | 9.5-11 | 55.5 | | | | | | | | Sandy Silt (ML), Light Gray |
| 7CCR | 12-13.5 | 42.7 | | | | | | | | Silt (ML), Light Gray |
| 7CCR | 14.5-16 | 49.5 | | | | | | | | Silt (ML), Light Gray mottled Dark Brown |
| 7CCR | 17-18.5 | 45.8 | | | | | | | | Silty Sand (SM), Light Gray |
| | | | | | | | | | | |
| 7L | 2-3.5 | 16.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 7L | 4.5-6 | 14.6 | | | | | | | | Fat Clay (CH), Light Gray mottled Brown over Sandy Lean Clay (CL), Yellow Brown mottled Light Brown |
| 7L | 7-8.5 | 24.1 | | | | | | | | Sandy Lean Clay (CL), Yellow Brown mottled Brown over Poorly Graded Sand (SP), Yellow Brown, Fine, Silty |
| 7L | 9.5-11 | 27.3 | | | | | | | | Fat Clay (CH), Light Brown mottled Brown, Silty, Trace Sand |
| 7L | 12-13.5 | 37.7 | | | | | | | | Silt (ML), Brown |
| 7L | 15-16.5 | 29.2 | | | | | | 33/25 | | Silt (ML), Brown, Trace Sand |
| 7L | 17-18.5 | 26.0 | | | | | | | | Fat Clay (CH/CL), Brown, Silty, Trace Sand |
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GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

# Andrews Engineering
# Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 8L | 3-3.5 | 15.5 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Brown |
| 8L | 5.5-6 | 14.1 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Brown |
| 8L | 7.5-8 | 27.2 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Brown/Light Gray, Silty |
| 8L | 10.5-11 | 27.8 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Brown/Light Gray, Silty |
| 8L ST5 | 12-14' | 23.8 | 126.4 | 102.1 | 0.33 | 69.80 | 56.6/13.2 | 26/19 | $3.41x10^{-6}$ | Sandy Silty Clay (CL-ML), Yellow Brown mottled Reddish Brown/Light Gray, Medium, Moist |
| 8L | 15.5-16 | 29.8 | | | | | | | | Sandy Lean Clay (CL), Light Gray, Silty |
| 8L | 17.5-18 | 33.5 | | | | | | | | Sandy Lean Clay (CL), Light Gray, Silty, With Organics |
| 8L | 20.5-21 | 32.3 | | | | | | 39/26 | | Silt (ML), Gray, With Lean Clay (CL) Seams |
| 8L | 22.5-23 | 26.7 | | | | | | 31/21 | | Lean Clay (CL), Gray, Silty |
| | | | | | | | | | | |
| 8U | 2-3.5 | 24.8 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown, Silty |
| 8U | 4.5-6 | 22.4 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown, Silty |
| 8U | 7-8.5 | 23.8 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, Silty |
| 8U ST8 | 9.5-11.5 | 24.0 | 125.7 | 101.4 | 0.55 | 90.60 | 68.1/22.5 | 48/21 | $2.25x10^{-8}$ | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist |
| 8U | 12-13.5 | 22.5 | | | | | | | | Fat Clay (CH), Light Gray mottled Yellow Brown |
| 8U | 14.5-16 | 23.9 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown/Light Gray |
| 8U | 17-18.5 | 21.9 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown Light Gray, Silty |
| 8U ST16 | 19.5-21.5 | 25.7 | 127.1 | 101.1 | 0.80 | 95.50 | 79.7/15.8 | 45/19 | $9.40x10^{-9}$ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Stiff, Moist |
| 8U | 22-23.5 | 27.8 | | | | | | | | Lean Clay (CL), Brown, Silty |
| 8U | 24.5-26 | 31.0 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 8U | 27-28.5 | 31.7 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 8U | 29.5-31 | 29.5 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 8U | 32-33.5 | 29.5 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| | | | | | | | | | | |
| 9L | 2-2.5 | 23.6 | | | | | | | | Sandy Lean Clay (CL), Light Brown mottled Light Gray |
| 9L | 4.5-5 | 24.6 | | | | | | | | Lean Clay with Sand (CL), Light Brown mottled Light Gray/Yellow Brown, Silty |
| 9L ST | 7-9' | 28.0 | 126.5 | 98.8 | 0.15 | 79.90 | 65.0/14.9 | 26/17 | $2.55x10^{-6}$ | Lean Clay with Sand (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Soft, Moist |
| 9L | 10.5-11 | 55.9 | | | | | | | | Silty Clayey Sand (SC-SM), Gray, With Organics |
| 9L | 13-13.5 | 27.2 | | | | | | | | Sandy Silt (ML), Gray, Clayey |
| 9L | 15.5-16 | 28.1 | | | | | | 33/22 | | Lean Clay (CL), Gray, Silty |
| 9L | 18-18.5 | 28.6 | | | | | | 46/21 | | Lean Clay (CL), Gray, Silty |

GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

## Andrews Engineering
## Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 9U | 2-3.5 | 19.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray/Brown |
| 9U | 4.5-5 | 20.3 | | | | | | | | Fat Clay (CH), Brown mottled Light GrayYellow Brown |
| 9U | 7-8.5 | 19.9 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray/Gray |
| 9U | 9.5-11 | n/a | | | | | | | | |
| 9U | 12-13.5 | 25.5 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray/Gray |
| 9U | 14.5-16 | 22.2 | | | | | | | | Fat Clay (CH), Gray mottled Yellow Brown |
| 9U | 17-18.5 | 23.6 | | | | | | | | Lean Clay with Sand (CL), Brown mottled Light Brown/Light Gray |
| 9U ST 16 | 19.5-21.5 | 22.4 | 125.2 | 102.3 | 0.95 | 96.00 | 78.6/17.4 | 46/22 | $2.63x10^{-8}$ | Lean Clay (CL), Gray mottled Light Gray, Silty, Stiff, Moist |
| 9U | 22-23.5 | 21.3 | | | | | | | | Lean Clay (CL), Brown mottled Light Gray/Yellow Brown |
| 9U | 24.5-26 | 25.2 | | | | | | | | Fat Clay (CH), Gray mottled Yellow Brown, Trace Coal |
| 9U | 26-28 | 23.3 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Brown/Light Gray |
| 9U | 28-30 | 28.7 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray |
| 9U | 30-32 | 29.4 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray/Gray |
| 9U | 32-34 | 29.5 | | | | | | | | Fat Clay (CH/CL), Gray mottled Light Gray, Silty |
| 9U | 34-36 | 29.7 | | | | | | | | Sandy Lean Clay (CL), Gray mottled Yellow Brown, Silty |
| 9U | 36-38 | 29.5 | | | | | | | | Sandy Lean Clay (CL), Gray mottled Light Gray |
| 9U | 38-40 | 24.6 | | | | | | | | Sandy Lean Clay (CL), Gray mottled Yellow Brown, Silty |
| | | | | | | | | | | |
| 9CCR | 2-3.5 | 15.0 | | | | | | | | Sandy Lean Clay (CL), Gray mottled Light Brown |
| 9CCR | 4.5-5 | 42.3 | | | | | | | | Silt (ML), Gray mottled Light Gray |
| 9CCR | 7-8.5 | 64.2 | | | | | | | | Silt (ML), Gray mottled Light Gray |
| 9CCR ST8 | 9.5-11.5 | 23.2 | 126.9 | 103.0 | 0.72 | 94.50 | 66.6/27.9 | 46/21 | $9.55x10^{-9}$ | Lean Clay (CL), Yellow Brown mottled Light Gray/Gray, Silty, Trace Sand, Stiff, Moist |
| 9CCR | 12-13.5 | 46.9 | | | | | | | | Silt (ML), Gray mottled Light Gray |
| 9CCR | 14.5-16 | 41.4 | | | | | | | | Silt (ML), Gray mottled Light Gray |
| 9CCR | 17-18.5 | 41.0 | | | | | | | | Silt (ML), Gray mottled Light Gray |
| | | | | | | | | | | |
| 10CCR | 2-3.5 | 25.9 | | | | | | | | Ash/Cinders, Gray |
| 10CCR | 4.5-5 | 13.8 | | | | | | | | Ash/Cinders, Gray |
| 10CCR | 7-8.5 | 28.7 | | | | | | | | Ash, Brown/Light Gray |
| 10CCR | 9.5-11 | 38.2 | | | | | | | | Ash, Brown/Light Gray |
| 10CCR | 12-13.5 | 58.1 | | | | | | | | Ash, Brown/Light Brown |
| 10CCR | 14.5-16 | 27.2 | | | | | | | | Ash/Cinders, Dark Gray mottled Light Brown |
| 10CCR | 17-18.5 | 52.9 | | | | | | | | Ash, Brown/Gray |
| 10CCR | 19.5-21 | 59.5 | | | | | | | | Ash/Cinders, Gray mottled Brown |
| 10CCR | 22-23.5 | 58.0 | | | | | | | | Ash/Cinders, Gray mottled Brown |
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GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

# Andrews Engineering
# Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 11U | 2-3.5 | 18.0 | | | | | | | | Sandy Lean Clay (CL), Dark Brown |
| 11U | 4.5-5 | 20.4 | | | | | | | | Lean Clay with Sand (CL), Yellow Brown mottled Brown |
| 11U | 7-8.5 | 23.5 | | | | | | | | Fat Clay (CH), Light Gray mottled Yellow Brown, Trace Sand |
| 11U ST8 | 9.5-11.5 | 21.8 | 129.9 | 106.7 | 0.80 | 92.50 | 52.4/40.1 | 36/20 | $1.38x10^{-8}$ | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist |
| 11U | 12-13.5 | 23.2 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Light Gray/Gray, Trace Sand |
| 11U | 14.5-16 | 20.7 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown |
| 11U | 17-18.5 | 28.6 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown |
| 11U ST16 | 19.5-21.5 | 25.7 | 123.1 | 97.9 | 0.50 | 95.90 | 66.8/29.1 | 48/21 | $3.04x10^{-7}$ | Lean Clay (CL), Brown mottled Yellow Brown, Silty, Stiff, Moist |
| 11U | 22-23.5 | 25.8 | | | | | | | | Fat Clay (CH), Yellow Brown mottled Brown |
| 11U | 24.5-26 | 28.3 | | | | | | 34/21 | | Lean Clay (CL), Yellow Brown mottled Brown, Silty |
| 11U | 27-28.5 | 25.9 | | | | | | | | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty |
| | | | | | | | | | | |
| 12L | 3.5-4 | 14.5 | | | | | | | | Fat Clay (CH), Brown mottled Light Brown |
| 12L | 5.5-6 | 17.4 | | | | | | | | Fat Clay (CH), Brown mottled Light Brown/Yellow Brown |
| 12L | 8.5-9 | 23.2 | | | | | | | | Fat Clay (CH/CL), Yellow Brown mottled Light Gray |
| 12L | 11.5-12 | 24.5 | | | | | | | | Fat Clay (CH), Brown mottled Light Gray/Yellow Brown |
| 12L | 14-14.5 | 24.5 | | | | | | | | Lean Clay (CL), Light Gray mottled Yellow Brown/Gray |
| 12L ST | 14.5-16 | 23.2 | 127.7 | 103.6 | 0.55 | 87.10 | 71.6/15.5 | 30/19 | $9.69x10^{-7}$ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist |
| 12L | 19-19.5 | 22.9 | | | | | | | | Lean Clay (CL), Light Gray mottled Yellow Brown |
| 12L | 20-20.5 | 10.0 | | | | | | | | Sandy Lean Clay (CL), Light Gray mottled Yellow Brown |
| 12L | 23-23.5 | 13.0 | | | | | | | | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty |
| | | | | | | | | | | |
| 12U | 2-3.5 | 19.0 | | | | | | | | Lean Clay (CL), Brown, Silty |
| 12U | 4.5-5 | 17.1 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown/Reddish Brown, Black Oxidation, Silty |
| 12U | 7-8.5 | 20.0 | | | | | | | | Lean Clay (CL), Light Brown mottled Yellow Brown, Silty |
| 12U ST8 | 9.5-11.5 | 21.8 | 129.5 | 106.2 | 0.75 | 95.20 | 69.6/25.6 | 45/22 | $3.13x10^{-9}$ | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist |
| 12U | 12-13.5 | 17.3 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, Silty |
| 12U | 14.5-16 | 15.2 | | | | | | | | Lean Clay (CL), Brown, With Lime Fines, Trace Gravel |
| 12U | 17-18.5 | 18.9 | | | | | | | | Lean Clay (CL), Brown, With Ash/Coal |
| 12U ST16 | 19.5-21.5 | 21.6 | 123.3 | 101.4 | 0.95 | 96.10 | 73.0/23.1 | 42/22 | $1.03x10^{-8}$ | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist |
| 12U | 22-23.5 | 25.6 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 12U | 24.5-26 | 25.8 | | | | | | | | Lean Clay (CL), Light Brown mottled Yellow Brown, Reddish Oxidation, Silty |
| 12U | 27-28.5 | 25.2 | | | | | | | | Lean Clay (CL), Light Gray mottled Yellow Brown/Light Brown, Reddish Oxidation, Silty |
| | | | | | | | | | | |
| 13L | 2-3.5 | 15.9 | | | | | | | | Lean Clay (CL), Brown |
| 13L | 4.5-5 | 17.4 | | | | | | | | Lean Clay (CL), Brown |
| 13L | 7-8.5 | 19.3 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown |
| 13L | 9.5-11 | 19.6 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown, Silty |
| 13L | 12-13.5 | 23.5 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown |
| 13L | 14.5-16 | 27.4 | | | | | | | | Fat Clay (CH), Light Gray mottled Yellow Brown/Brown, Black Oxidation |
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GEOTECHNICS
Soil & Material Testing

**Lab Data Summary**

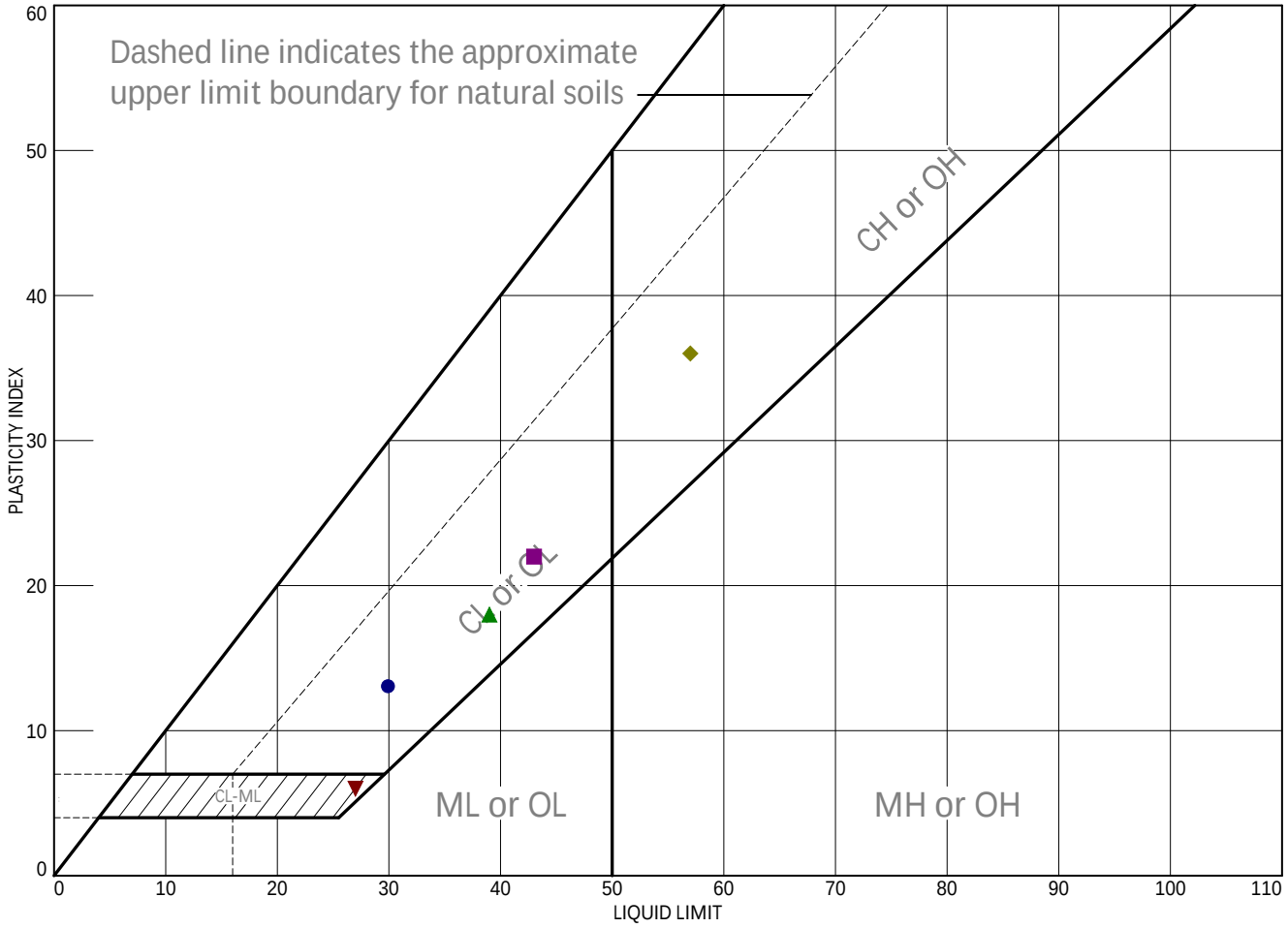
* Shelby Tube Samples Colored in Yellow
* Additional Atterberg Testing Requested Colored in Red

**Job #:**
**23-1071**

## Andrews Engineering
## Springfield, IL Ash Ponds

| Sample No. | Depth (ft.) | Nat. Moist. (%) | Wet Density (PCF) | Dry Density (PCF) | Torvane (TSF) | Grad. -200 (%) | Silt/Clay (%) | Atterberg % (LL/PL) | Hydraulic Cond. (cm/sec) | USCS Visual Description |
|---|---|---|---|---|---|---|---|---|---|---|
| 13BN | 2-3.5 | 18.6 | | | | | | | | Lean Clay (CL), Light Brown mottled Reddish Brown/Light Gray, Silty |
| 13BN | 4.5-5 | 21.1 | | | | | | | | Lean Clay (CL), Light Brown mottled Reddish Brown |
| 13BN | 7-8.5 | 15.5 | | | | | | | | Lean Clay (CL), Light Brown mottled Reddish Brown, Silty |
| 13BN ST7 | 8.5-10.5 | 18.4 | 132.2 | 111.6 | 0.95 | 90.90 | 74.9/16.0 | 34/20 | $8.84x10^{-9}$ | Lean Clay (CL), Yellow Brown, Silty, Trace Sand, Stiff, Moist |
| | | | | | | | | | | |
| 13BS | 2-3.5 | 16.0 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 13BS | 4.5-5 | 15.5 | | | | | | | | Lean Clay (CL), Brown mottled Reddish Brown, Silty |
| 13BS | 7-8.5 | 19.1 | | | | | | | | Lean Clay (CL), Brown mottled Light Brown/Light Gray |
| 13BS ST7 | 8.5-10.5 | 21.1 | 127.5 | 105.3 | 0.95 | 94.90 | 78.6/16.3 | 52/25 | $2.32x10^{-8}$ | Fat Clay (CH), Gray mottled Light Gray, Silty, Trace Sand, Stiff, Moist |
| | | | | | | | | | | |
| 13LF | 2-3.5 | 12.4 | | | | | | | | Lean Clay (CL), Brown mottled Yellow Brown, Silty |
| 13LF | 4.5-5 | 22.3 | | | | | | | | Lean Clay (CL), Light Brown mottled Yellow Brown/Light Gray, With Fat Seams |
| 13LF | 7-8.5 | 21.0 | | | | | | | | Lean Clay (CL), Light Brown mottled Yellow Brown/Light Gray, With Fat Seams, Over Light Gray Ash |
| 13LF | 9.5-11 | 21.4 | | | | | | | | Ash, Light Gray |
| 13LF | 12-13.5 | 21.1 | | | | | | | | Ash, Light Gray |
| 13LF | 14.5-16 | 19.1 | | | | | | | | Ash, Light Gray |
| 13LF | 17-18.5 | 20.9 | | | | | | | | Lean Clay (CL), Light Brown mottled Reddish Brown/Light Gray, Over Light Gray Ash |
| 13LF | 19.5-21 | 21.6 | | | | | | | | Ash, Yellow Brown mottled Light Gray |
| 13LF | 22-23.5 | 24.8 | | | | | | | | Ash, Yellow Brown |
| 13LF | 24.5-26 | 28.3 | | | | | | | | Ash, Yellow Brown |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | |

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Lean Clay (CL), Gray, Silty, Trace Sand, Medium, Moist | 30 | 17 | 13 | 98.2 | 85.7 | CL |
| ■ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Stiff, Moist | 43 | 21 | 22 | 99.8 | 97.6 | CL |
| ▲ | Lean Clay with Sand (CL), Gray, Silty, Medium, Moist | 39 | 21 | 18 | 99.6 | 84.4 | CL |
| ◆ | Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist | 57 | 21 | 36 | 98.1 | 91.7 | CH |
| ▼ | Silty Clay (CL-ML), Yellow Brown mottled Light Gray, Trace Sand, Medium, Moist | 27 | 21 | 6 | 98.3 | 87.7 | CL-ML |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | | |
|---|---|---|---|
| ● | Location: Boring 1 | Depth: 24½-26½ ft. | Sample Number: |
| ■ | Location: Boring 1L | Depth: 22-24 ft. | Sample Number: 18 |
| ▲ | Location: Boring 1 LL | Depth: 14½-16½ ft. | Sample Number: 12 |
| ◆ | Location: Boring 2 | Depth: 22-24 ft. | Sample Number: 8 |
| ▼ | Location: Boring 2L | Depth: 7-9 ft. | Sample Number: 6 |

Remarks:

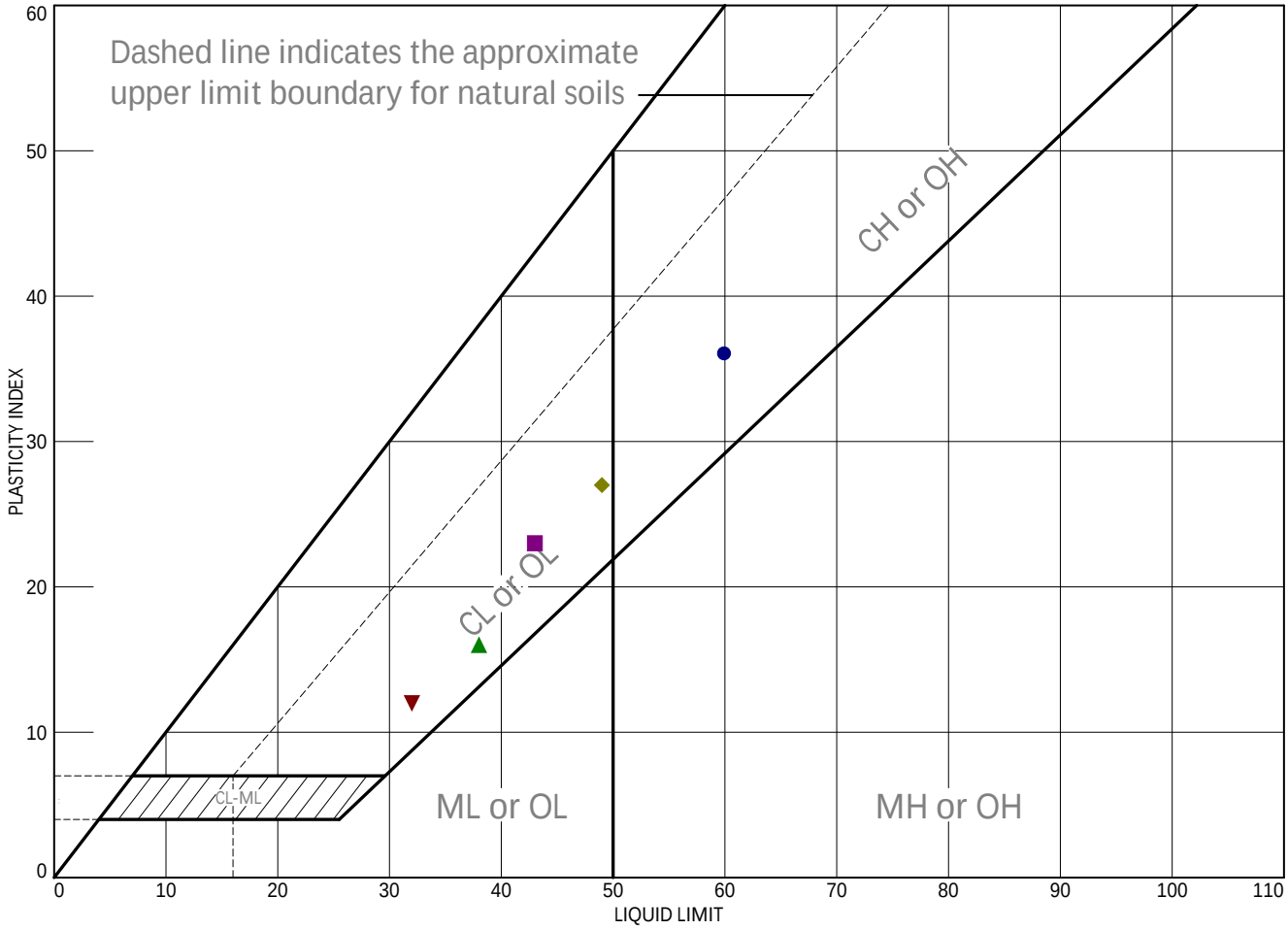
- ● Natural Moisture = 27.9%
- ■ Natural Moisture = 30.7%
- ▲ Natural Moisture = 24.7%
- ◆ Natural Moisture = 26.8%
- ▼ Natural Moisture = 25.5%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-1

Tested By: ○ DAW □ MAS △ DAW ◇ BRH ▽ DAW

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Fat Clay (CH), Light Gray mottled Yellow Brown, Black Oxidation, Silty, Stiff, Moist | 60 | 24 | 36 | 99.3 | 98.1 | CH |
| ■ | Lean Clay (CL), Gray mottled Yellow Brown, Silty, Stiff, Moist | 43 | 20 | 23 | 98.5 | 95.0 | CL |
| ▲ | Lean Clay with Sand (CL), Yellow Brown mottled Light Gray/Gray, Silty, Stiff, Moist | 38 | 22 | 16 | 90.3 | 81.1 | CL |
| ◆ | Lean Clay (CL/CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist | 49 | 22 | 27 | 99.5 | 97.2 | CL |
| ▼ | Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, Silty, Trace Sand, Medium, Moist | 32 | 20 | 12 | 97.4 | 87.9 | CL |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | |
|---|---|---|
| ● Location: Boring 3 ST8 | Depth: 9½-11½ ft. | Sample Number: 8 |
| ■ Location: Boring 3 ST16 | Depth: 19½-21½ ft. | Sample Number: 16 |
| ▲ Location: Boring 3U ST8 | Depth: 9½-11 ft. | Sample Number: 8 |
| ◆ Location: Boring 4 | Depth: 19½-21½ ft. | Sample Number: |
| ▼ Location: Boring 4L | Depth: 12-14 ft. | Sample Number: 10 |

Remarks:

● Natural Moisture = 25.8%
■ Natural Moisture = 25.8%
▲ Natural Moisture = 21.3%
◆ Natural Moisture = 28.3%
▼ Natural Moisture = 27.4%

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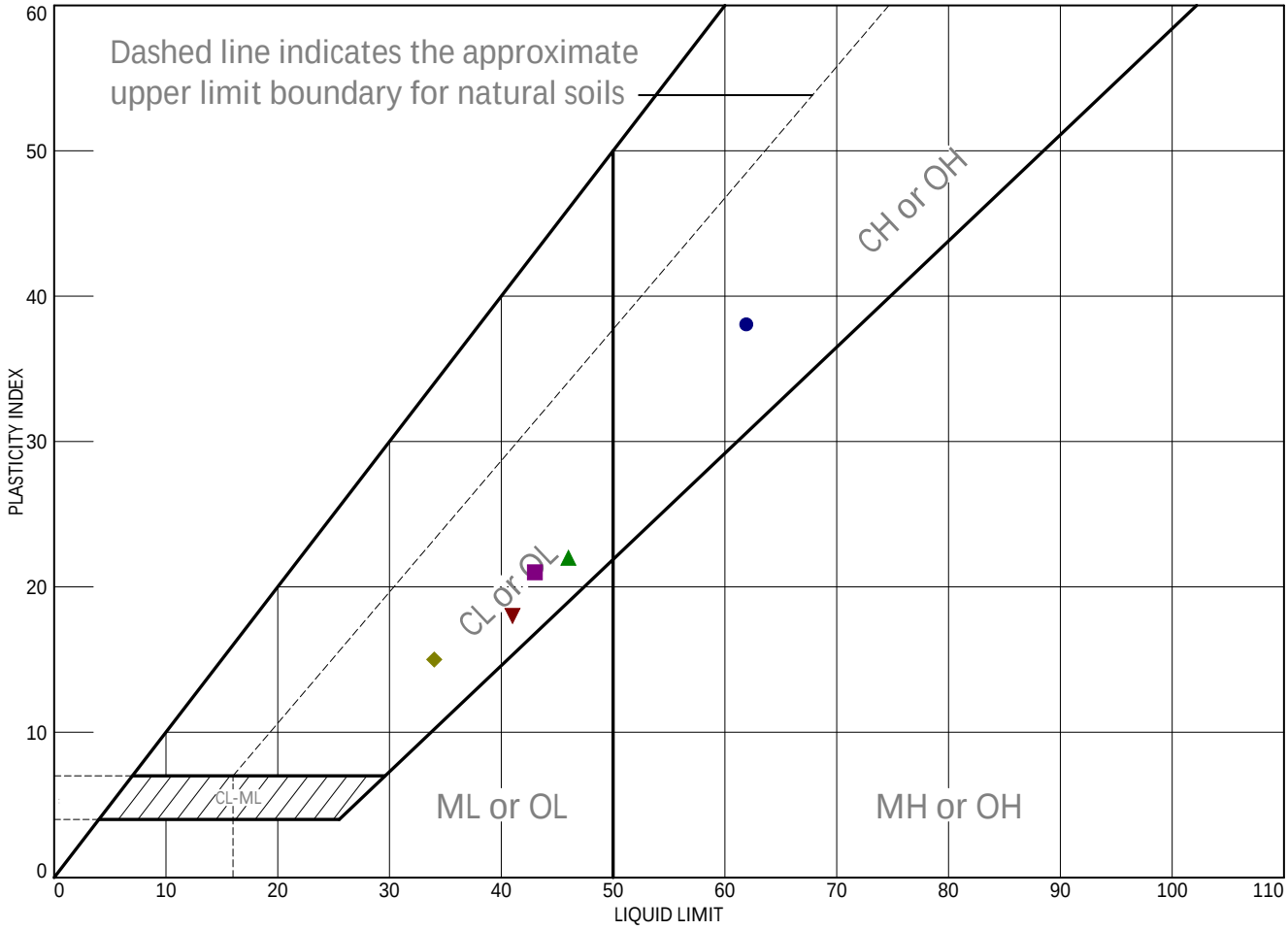
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-2

Tested By: ○ DAW □ BRH △ DAW ◇ DAW ▽ MAS

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist | 62 | 24 | 38 | 99.4 | 97.1 | CH |
| ■ | Lean Clay (CL), Light Gray mottled Gray/Yellow Brown, Silty, Trace Sand, Medium, Moist | 43 | 22 | 21 | 98.7 | 90.2 | CL |
| ▲ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist | 46 | 24 | 22 | 98.3 | 94.6 | CL |
| ◆ | Lean Clay (CL), Gray/Greenish Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist | 34 | 19 | 15 | 99.0 | 90.2 | CL |
| ▼ | Lean Clay (CL), Light Gray mottled Reddish Brown, Silty, Trace Sand, Medium, Moist | 41 | 23 | 18 | 99.6 | 91.6 | CL |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | |
|---|---|---|
| ● Location: Boring 4U | Depth: 27-29 ft. | Sample Number: 22 |
| ■ Location: Boring 5 | Depth: 24½-26½ ft. | Sample Number: 10 |
| ▲ Location: Boring 5L | Depth: 9½-11 ft. | Sample Number: |
| ◆ Location: Boring 6 | Depth: 17-19 ft. | Sample Number: 8 |
| ▼ Location: Boring 6L | Depth: 7½-9 ft. | Sample Number: ST1 |

Remarks:

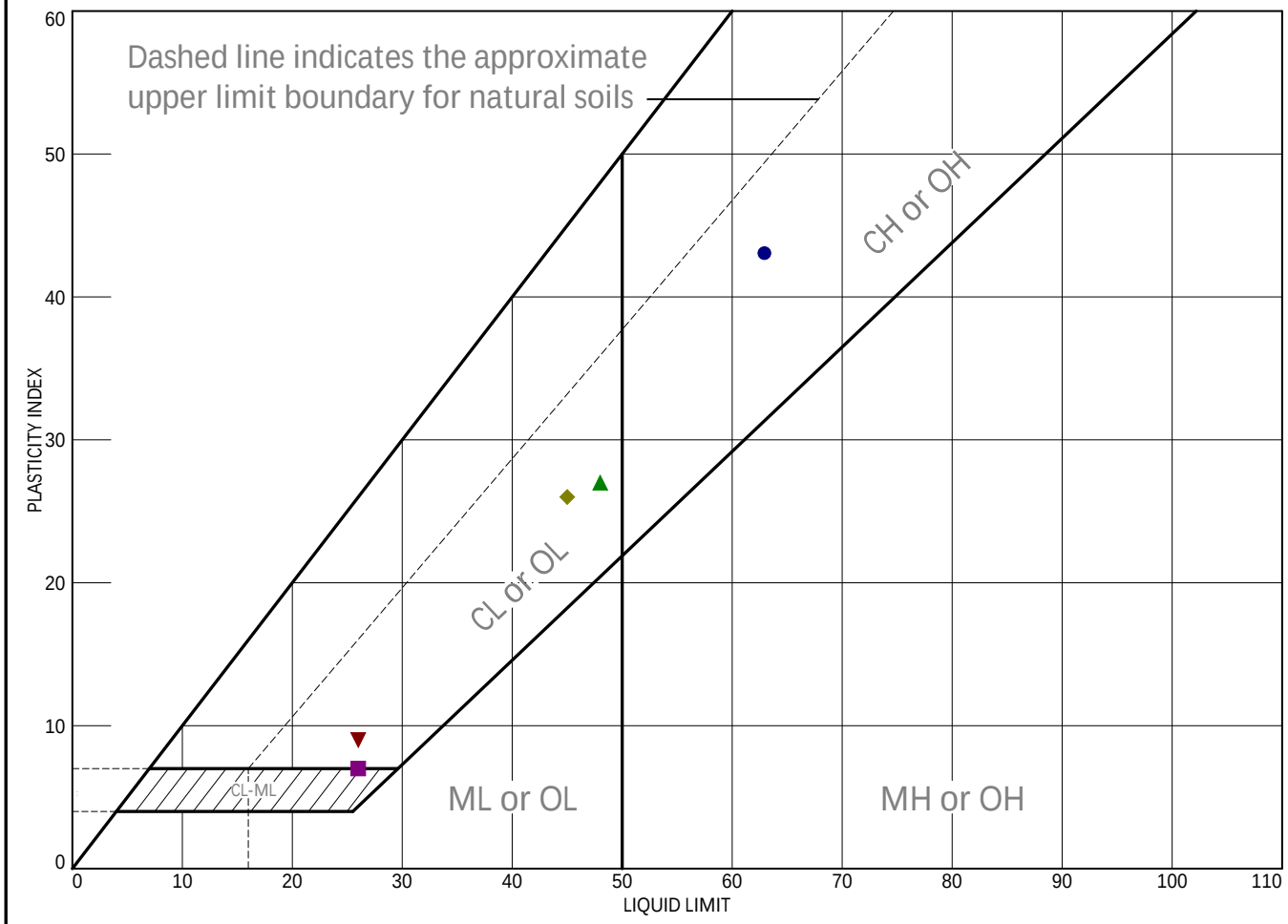
- ● Natural Moisture = 26.9%
- ■ Natural Moisture = 24.3%
- ▲ Natural Moisture = 28.8%
- ◆ Natural Moisture = 21.9%
- ▼ Natural Moisture = 26.6%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-3

Tested By: ○ MAS □ DAW △ DAW ◇ DAW ▽ BRH

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Fat Clay (CH), Brown/Yellow Brown mottled Light Gray, Silty, Stiff, Moist | 63 | 20 | 43 | 98.8 | 97.7 | CH |
| ■ | Sandy Silty Clay (CL-ML), Yellow Brown mottled Reddish Brown/Light Gray, Medium, Moist | 26 | 19 | 7 | 99.8 | 69.8 | CL-ML |
| ▲ | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist | 48 | 21 | 27 | 96.6 | 90.6 | CL |
| ◆ | Lean Clay (CL), Light Gray Mottled Yellow Brown, Silty, Stiff, Moist | 45 | 19 | 26 | 99.3 | 95.5 | CL |
| ▼ | Lean Clay with Sand (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Soft, Moist | 26 | 17 | 9 | 98.4 | 79.9 | CL |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | |
|---|---|---|
| ● Location: Boring 7 | Depth: 19½-21½ ft. | Sample Number: 7 |
| ■ Location: Boring 8L | Depth: 12-14 ft. | Sample Number: 5 |
| ▲ Location: Boring 8U ST8 | Depth: 9½-11½ ft. | Sample Number: 8 |
| ◆ Location: Boring 8U ST16 | Depth: 19½-21½ ft. | Sample Number: 16 |
| ▼ Location: Boring 9L | Depth: 7½-9 ft. | Sample Number: |

Remarks:

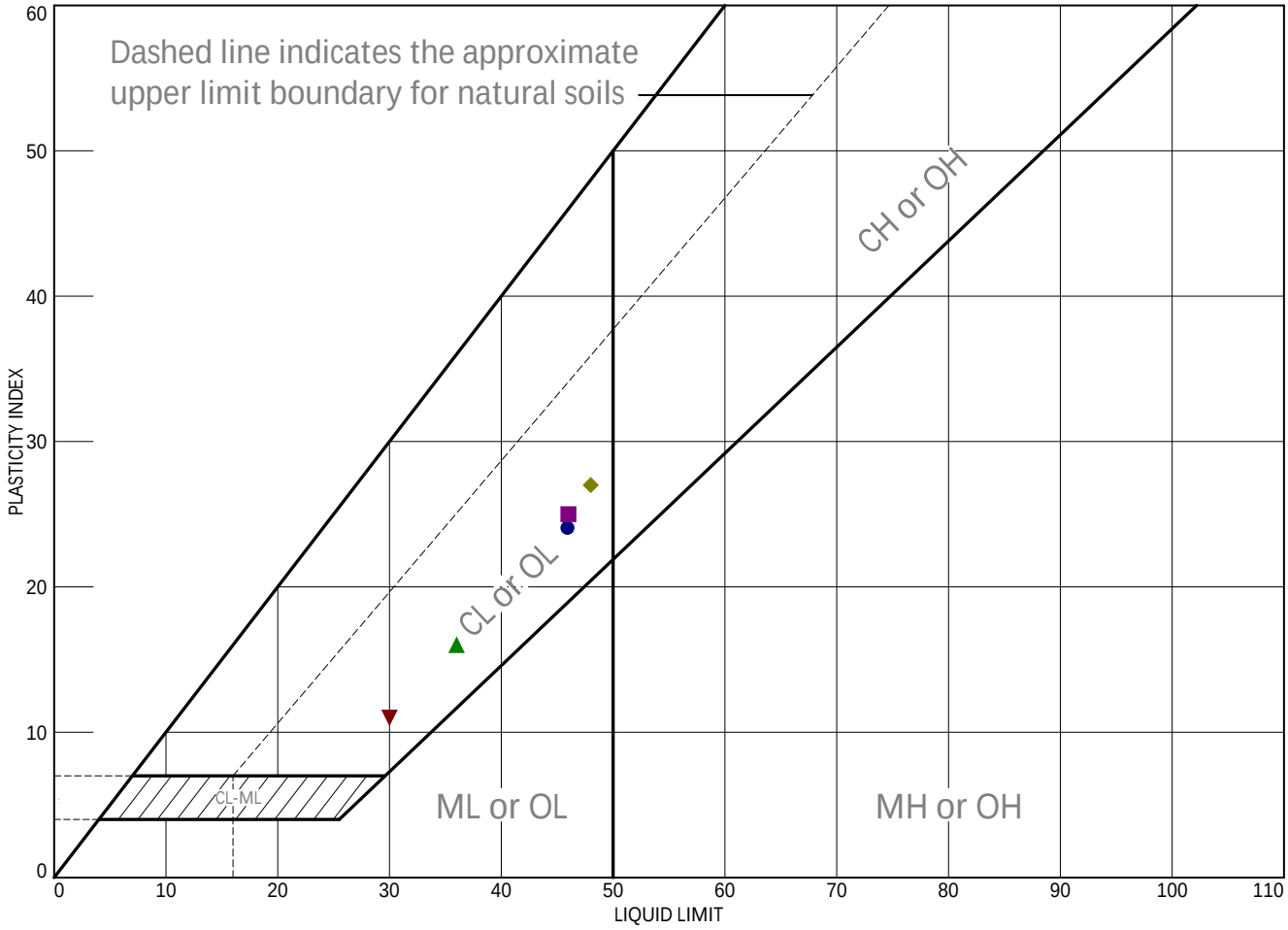
● Natural Moisture = 25.8%
■ Natural Moisture = 23.8%
▲ Natural Moisture = 24.0%
◆ Natural Moisture = 25.7%
▼ Natural Moisture = 28.0%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-4

Tested By: ○ DJS □ DAW △ BRH ◇ BRH ▽ DAW

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Lean Clay (CL), Gray mottled Light Gray, Silty, Stiff, Moist | 46 | 22 | 24 | 99.7 | 96.0 | CL |
| ■ | Lean Clay (CL), Yellow Brown mottled Light Gray/Gray, Silty, Trace Sand, Stiff, Moist | 46 | 21 | 25 | 99.2 | 94.5 | CL |
| ▲ | Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist | 36 | 20 | 16 | 98.2 | 92.5 | CL |
| ◆ | Lean Clay (CL), Brown mottled Yellow Brown, Silty, Stiff, Moist | 48 | 21 | 27 | 99.2 | 95.9 | CL |
| ▼ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist | 30 | 19 | 11 | 99.8 | 87.1 | CL |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | |
|---|---|---|
| ● Location: Boring 9U ST16 | Depth: 19½-21½ ft. | Sample Number: 16 |
| ■ Location: Boring 9 CCR ST8 | Depth: 9½-11½ ft. | Sample Number: 8 |
| ▲ Location: Boring 11U ST8 | Depth: 9½-11½ ft. | Sample Number: |
| ◆ Location: Boring 11U ST16 | Depth: 19½-21½ ft. | Sample Number: |
| ▼ Location: Boring 12L | Depth: 14½-16 ft. | Sample Number: |

Remarks:

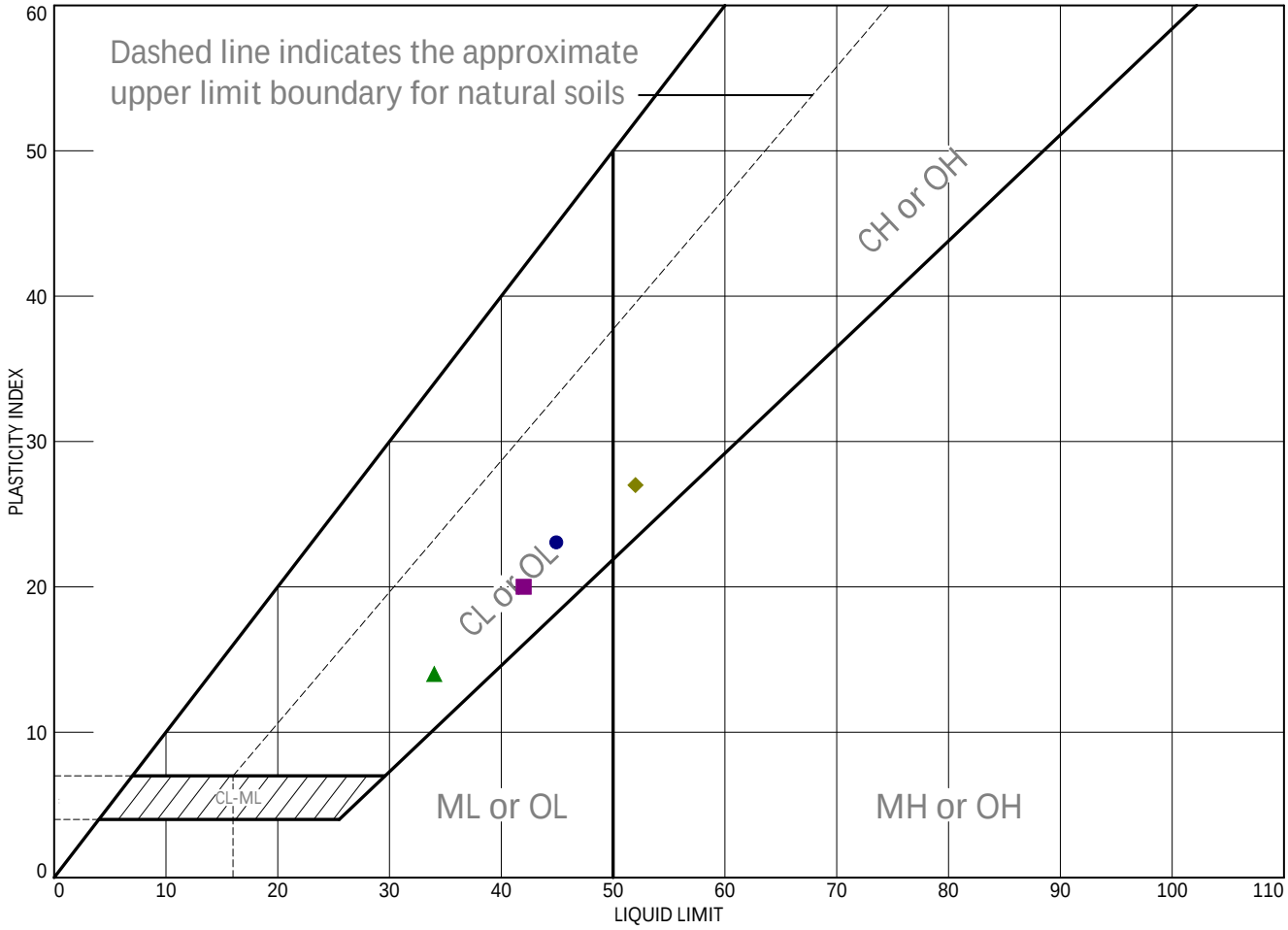
● Natural Moisture = 22.4%
■ Natural Moisture = 23.2%
▲ Natural Moisture = 21.8%
◆ Natural Moisture = 25.7%
▼ Natural Moisture = 23.2%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-5

Tested By: ○ NPP □ NPP △ MAS ◇ BRH ▽ DAW

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist | 45 | 22 | 23 | 99.6 | 95.2 | CL |
| ■ | Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist | 42 | 22 | 20 | 99.3 | 96.1 | CL |
| ▲ | Lean Clay (CL), Yellow Brown, Silty, Trace Sand, Stiff, Moist | 34 | 20 | 14 | 99.9 | 90.9 | CL |
| ◆ | Fat Clay (CH), Gray mottled Light Gray, Silty, Trace Sand, Stiff, Moist | 52 | 25 | 27 | 99.3 | 94.9 | CH |
| | | | | | | | |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | |
|---|---|---|
| ● Location: Boring 12U ST8 | Depth: 9½-11½ ft. | Sample Number: 8 |
| ■ Location: Boring 12U ST16 | Depth: 19½-21½ ft. | Sample Number: 16 |
| ▲ Location: Boring 13 BN ST7 | Depth: 8½-10½ ft. | Sample Number: 7 |
| ◆ Location: Boring 13 BS ST7 | Depth: 8½-10½ ft. | Sample Number: 7 |

Remarks:

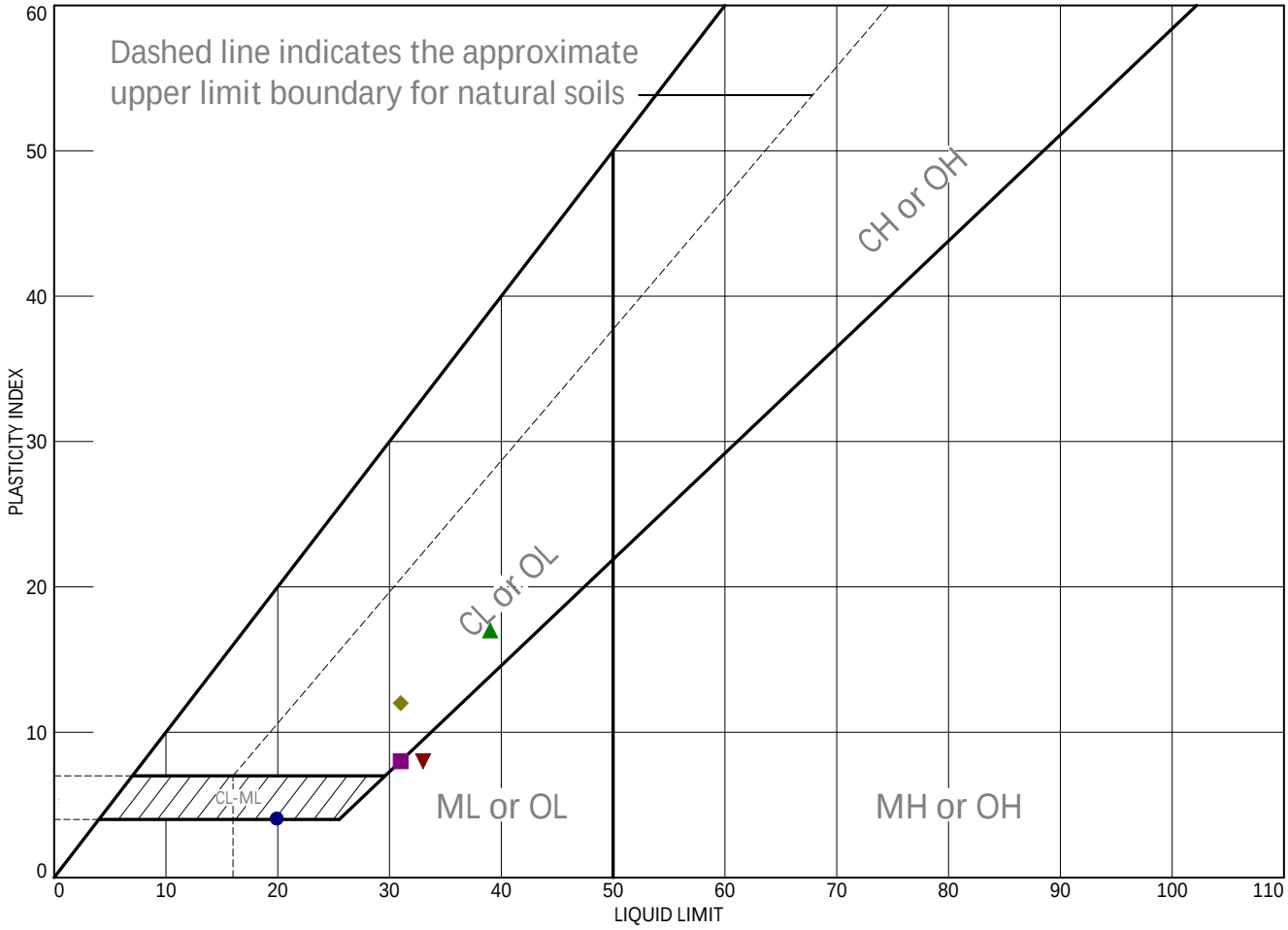
● Natural Moisture = 21.8%
■ Natural Moisture = 21.6%
▲ Natural Moisture = 18.4%
◆ Natural Moisture = 21.1%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-6

Tested By: ○ DAW □ DAW △ MAS ◇ MAS

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Sandy Silty Clay (CL-ML), Yellow Brown mottled Light Gray, Moist | 20 | 16 | 4 | | | CL-ML |
| ■ | Lean Clay (CL/ML), Yellow Brown mottled Light Gray, Black Oxidation | 31 | 23 | 8 | | | CL |
| ▲ | Lean Clay (CL), Light Gray mottled Yellow Brown, Silty | 39 | 22 | 17 | | | CL |
| ◆ | Lean Clay (CL), Gray, Trace Organics | 31 | 19 | 12 | | | CL |
| ▼ | Silt (ML), Brown, Trace Sand | 33 | 25 | 8 | | | ML |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

| | | |
|---|---|---|
| ● Location: Boring 2L | Depth: 14½-16 | Sample Number: |
| ■ Location: Boring 4L | Depth: 17-18½ ft. | Sample Number: |
| ▲ Location: Boring 5L | Depth: 17-17½ ft. | Sample Number: |
| ◆ Location: Boring 6L | Depth: 17½-19 ft. | Sample Number: 7 |
| ▼ Location: Boring 7L | Depth: 15-16½ ft. | Sample Number: 6 |

Remarks:

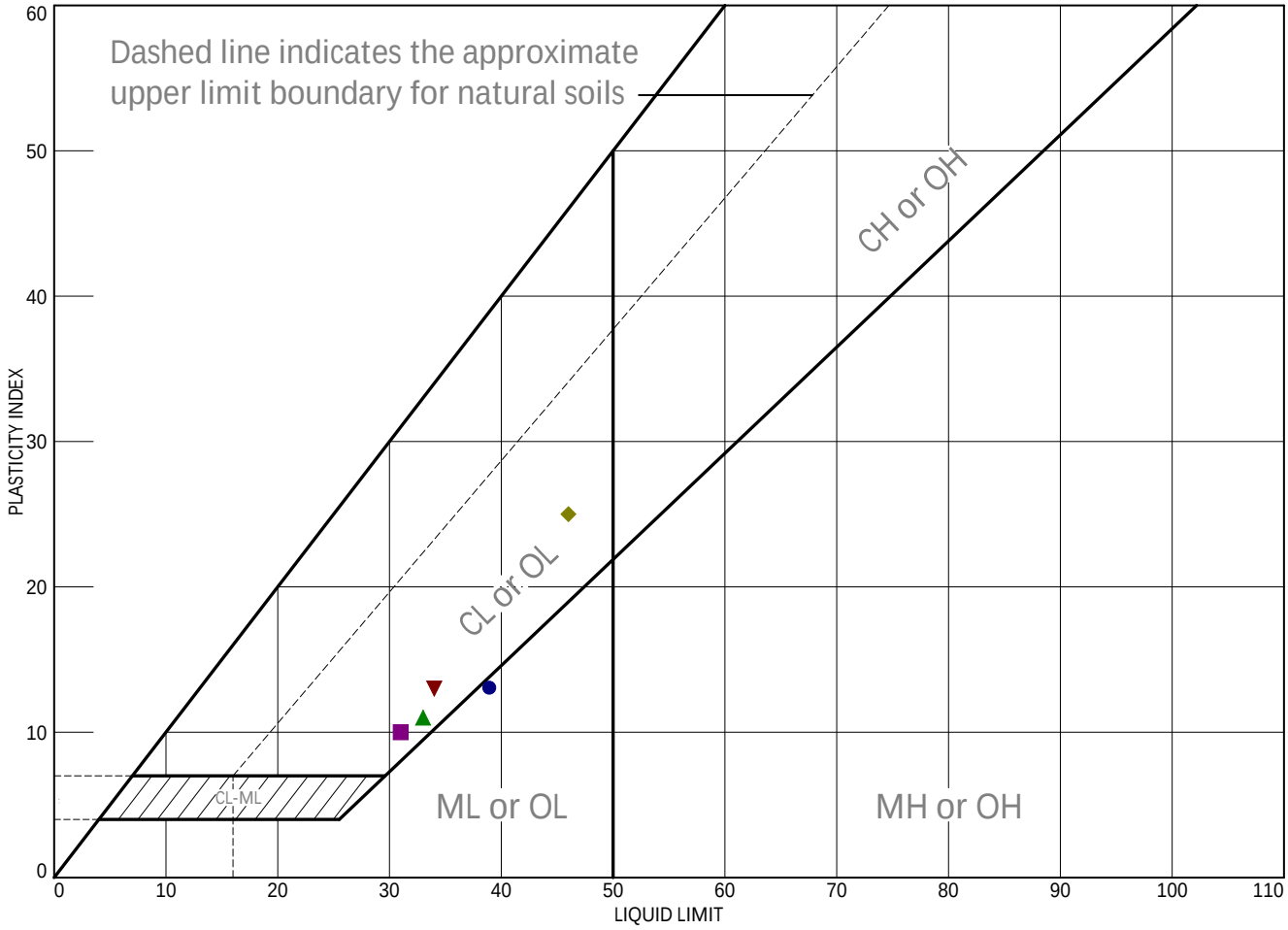
● Natural Moisture = 23.6%
■ Natural Moisture = 27.4%
▲ Natural Moisture = 28.3%
◆ Natural Moisture = 35.9%
▼ Natural Moisture = 29.2%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-7

Tested By: DAW Checked By: NAS

# LIQUID AND PLASTIC LIMITS TEST REPORT




| | MATERIAL DESCRIPTION | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|---|---|---|---|---|---|
| ● | Silt (ML), Gray, With Lean Clay (CL) Seams | 39 | 26 | 13 | | | ML |
| ■ | Lean Clay (CL), Gray, Silty | 31 | 21 | 10 | | | CL |
| ▲ | Lean Clay (CL), Gray, Silty | 33 | 22 | 11 | | | CL |
| ◆ | Lean Clay (CL), Gray, Silty | 46 | 21 | 25 | | | CL |
| ▼ | Lean Clay (CL), Yellow Brown mottled Brown, Silty | 34 | 21 | 13 | | | CL |

Project No. 23-1071 Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

● Location: Boring 8L Depth: 20½-21 ft.
■ Location: Boring 8L Depth: 22½-23 ft.
▲ Location: Boring 9L Depth: 15½-16 ft.
◆ Location: Boring 9L Depth: 18-18½ ft.
▼ Location: Boring 11U Depth: 24½-26 ft.

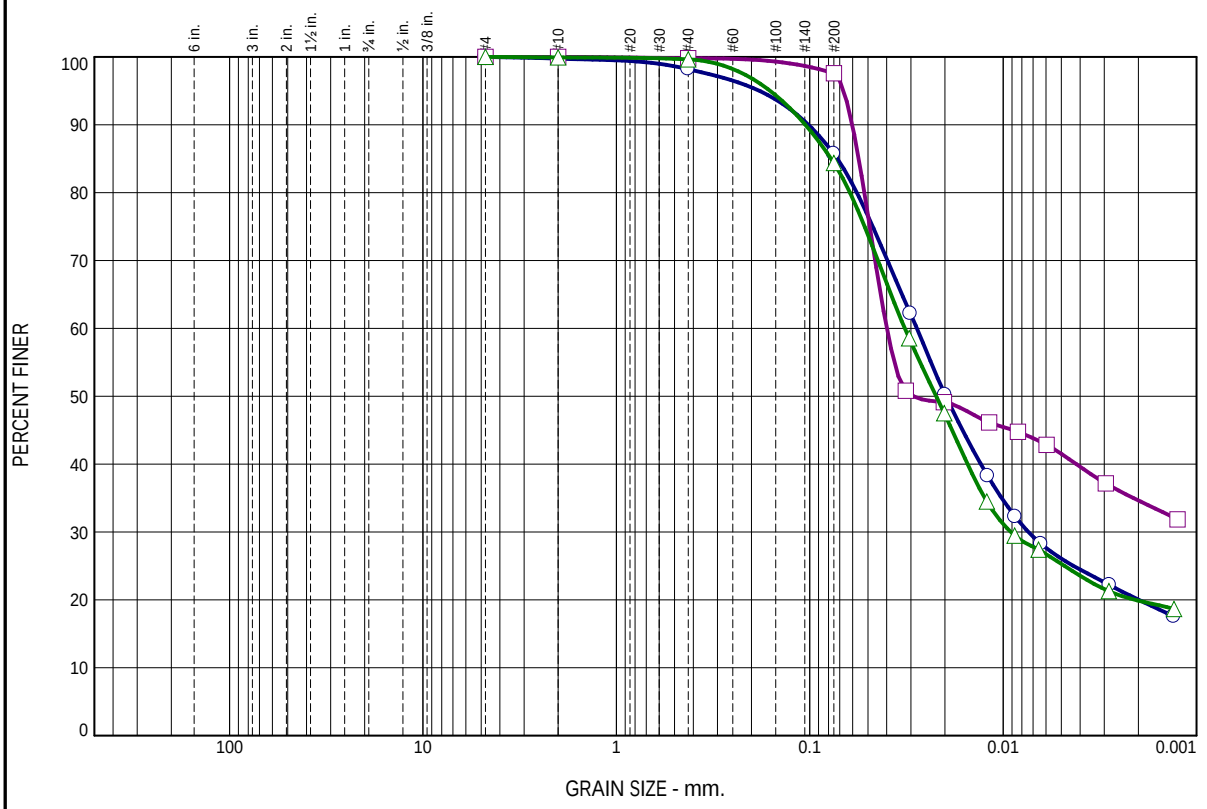
Remarks:
● Natural Moisture = 32.3%
■ Natural Moisture = 26.7%
▲ Natural Moisture = 28.1%
◆ Natural Moisture = 28.6%
▼ Natural Moisture = 28.3%

GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

Figure A-8

Tested By: DAW Checked By: NAS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 14.3 | 65.7 | 20.0 | CL | 30 | 17 | 13 |
| □ | 0.0 | 0.0 | 2.4 | 63.0 | 34.6 | CL | 43 | 21 | 22 |
| △ | 0.0 | 0.0 | 15.6 | 64.5 | 19.9 | CL | 39 | 21 | 18 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| | | | |
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0279 | 0.0399 | 0.0322 |
| $D_{30}$ | 0.0074 | | 0.0091 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | 100.0 | 100.0 | 100.0 |
| #10 | 99.7 | 100.0 | 99.9 |
| #40 | 98.2 | 99.8 | 99.6 |
| #200 | 85.7 | 97.6 | 84.4 |

**Material Description**

○ Lean Clay (CL), Gray, Silty, Trace Sand, Medium, Moist

□ Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Stiff, Moist

△ Lean Clay with Sand (CL), Gray, Silty, Medium, Moist

**REMARKS:**

○ Natural Moisture = 27.9%

□ Natural Moisture = 30.7%

△ Natural Moisture = 24.7%

○ Location: Boring 1 Depth: 24½-26½ ft. Sample Number:

□ Location: Boring 1L Depth: 22-24 ft. Sample Number: 18

△ Location: Boring 1 LL Depth: 14½-16½ ft. Sample Number: 12


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

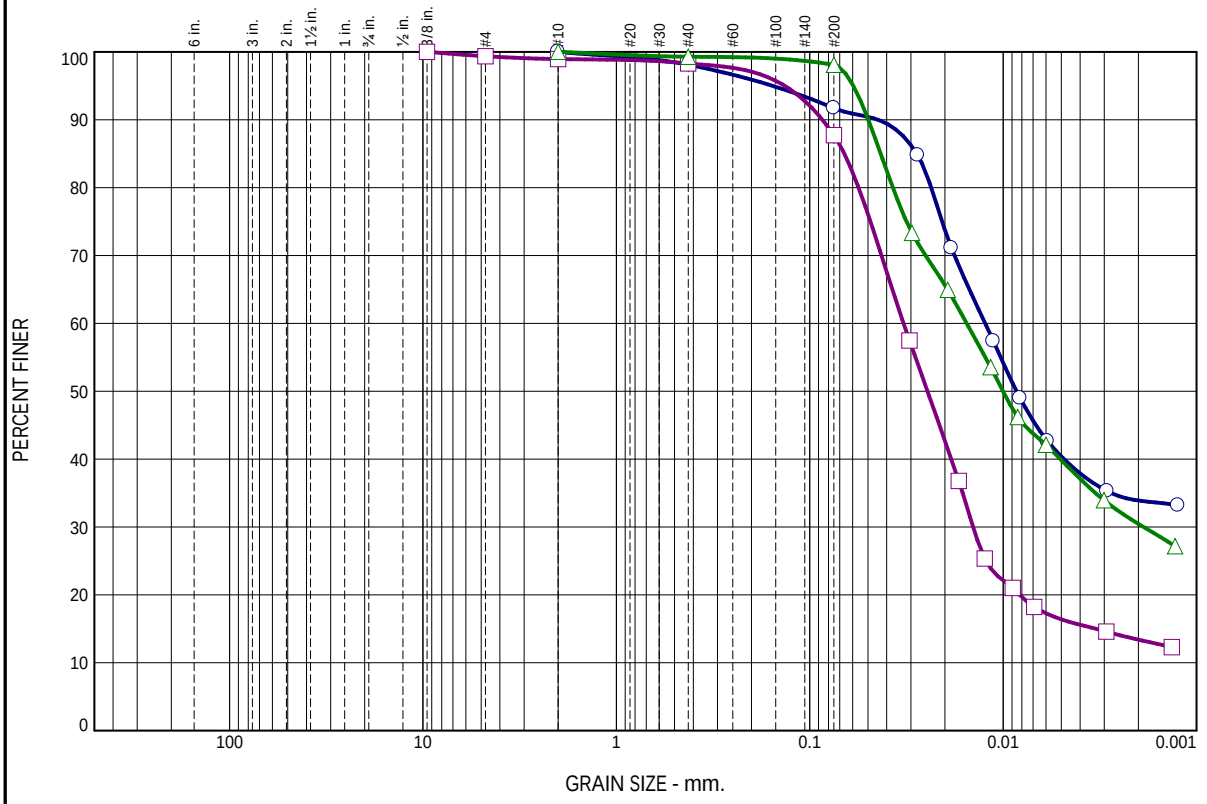

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-1

Tested By: DAW / DJS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 8.3 | 57.8 | 33.9 | CH | 57 | 21 | 36 |
| □ | 0.0 | 0.6 | 11.7 | 74.3 | 13.4 | CL-ML | 27 | 21 | 6 |
| △ | 0.0 | 0.0 | 1.9 | 67.6 | 30.5 | CH | 60 | 24 | 36 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| 3/8" | | 100.0 | |
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0124 | 0.0328 | 0.0154 |
| $D_{30}$ | | 0.0143 | 0.0019 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | | 99.4 | |
| #10 | 100.0 | 98.9 | 100.0 |
| #40 | 98.1 | 98.3 | 99.3 |
| #200 | 91.7 | 87.7 | 98.1 |

**Material Description**

○ Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist

□ Silty Clay (CL-ML), Yellow Brown mottled Light Gray, Trace Sand, Medium, Moist

△ Fat Clay (CH), Light Gray mottled Yellow Brown, Black Oxidation, Silty, Stiff, Moist

**REMARKS:**

○ Natural Moisture = 26.8%

□ Natural Moisture = 25.5%

△ Natural Moisture = 25.8%

○ Location: Boring 2 Depth: 22-24 ft. Sample Number: 8

□ Location: Boring 2L Depth: 7-9 ft. Sample Number: 6

△ Location: Boring 3 ST8 Depth: 9½-11½ ft. Sample Number: 8


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

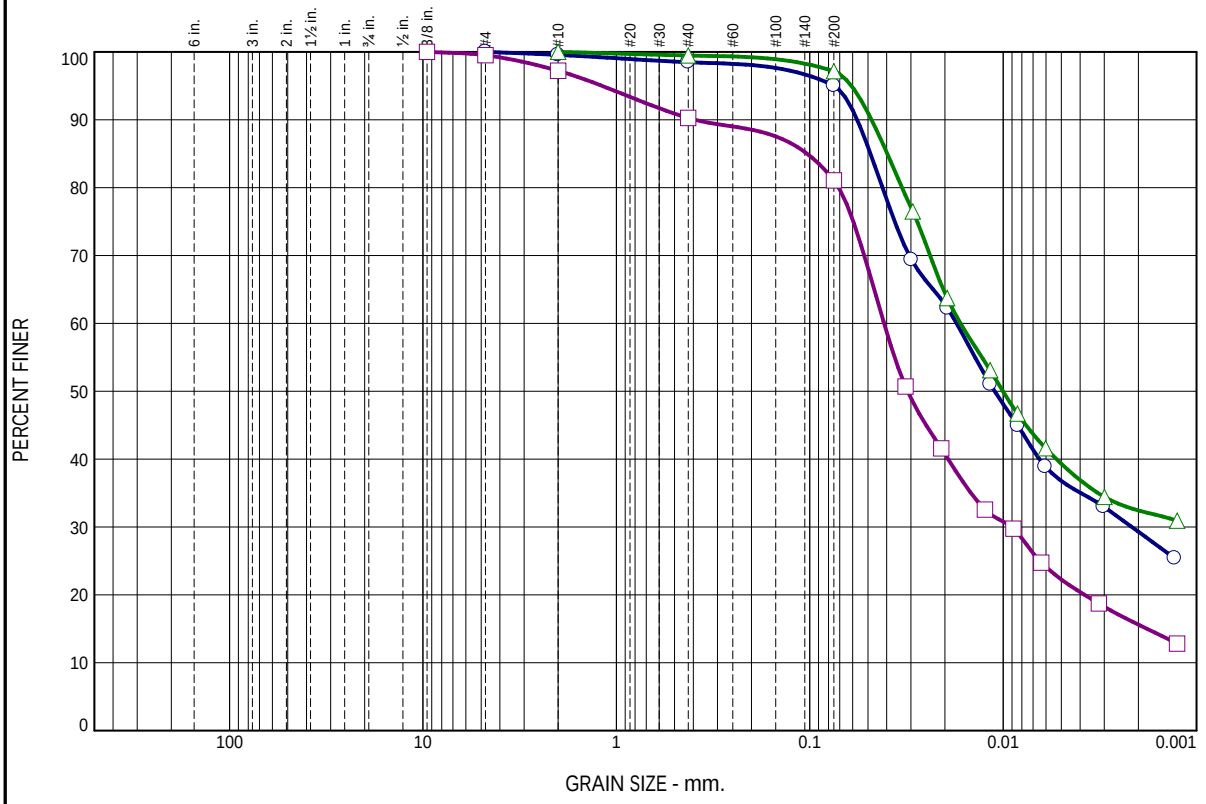

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-2

Tested By: ○ DAW □ DAW / DJS △ DAW

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 5.0 | 65.7 | 29.3 | CL | 43 | 20 | 23 |
| □ | 0.0 | 0.5 | 18.4 | 65.5 | 15.6 | CL | 38 | 22 | 16 |
| △ | 0.0 | 0.0 | 2.8 | 64.8 | 32.4 | CL | 49 | 22 | 27 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| 3/8" | | 100.0 | |
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0174 | 0.0413 | 0.0166 |
| $D_{30}$ | 0.0022 | 0.0090 | |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | 100.0 | 99.5 | |
| #10 | 99.6 | 97.2 | 100.0 |
| #40 | 98.5 | 90.3 | 99.5 |
| #200 | 95.0 | 81.1 | 97.2 |

**Material Description**

○ Lean Clay (CL), Gray mottled Yellow Brown, Silty, Stiff, Moist

□ Lean Clay with Sand (CL), Yellow Brown mottled Light Gray/Gray, Silty, Stiff, Moist

△ Lean Clay (CL/CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist

**REMARKS:**

○ Natural Moisture = 25.8%

□ Natural Moisture = 21.3%

△ Natural Moisture = 28.3%

○ Location: Boring 3 ST16 Depth: 19½-21½ ft. Sample Number: 16

□ Location: Boring 3U ST8 Depth: 9½-11 ft. Sample Number: 8

△ Location: Boring 4 Depth: 19½-21½ ft. Sample Number:


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

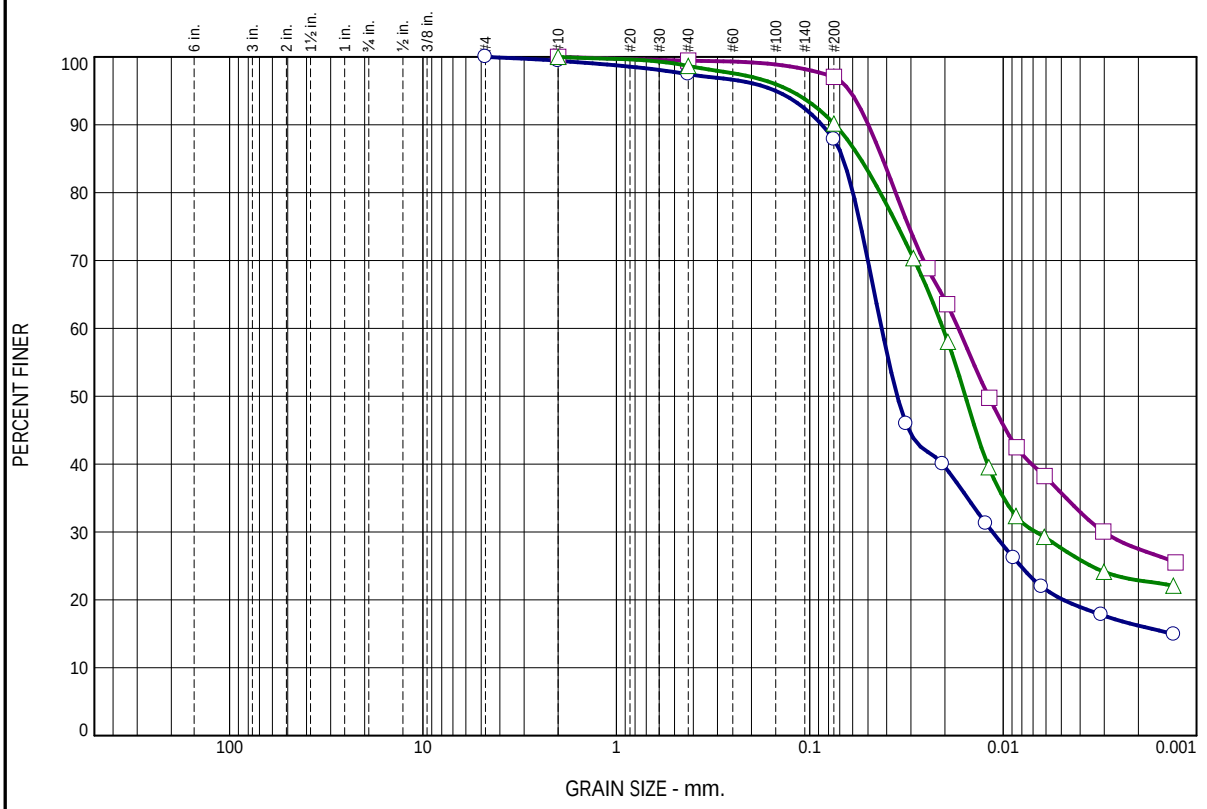

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-3

Tested By: ○ DAW □ DAW △ DAW / MAS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 12.1 | 71.7 | 16.2 | CL | 32 | 20 | 12 |
| □ | 0.0 | 0.0 | 2.9 | 69.6 | 27.5 | CH | 62 | 24 | 38 |
| △ | 0.0 | 0.0 | 9.8 | 67.3 | 22.9 | CL | 43 | 22 | 21 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0425 | 0.0170 | 0.0205 |
| $D_{30}$ | 0.0114 | 0.0030 | 0.0068 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | 100.0 | | |
| #10 | 99.4 | 100.0 | 100.0 |
| #40 | 97.4 | 99.4 | 98.7 |
| #200 | 87.9 | 97.1 | 90.2 |

**Material Description**

○ Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, Silty, Trace Sand, Medium, Moist

□ Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist

△ Lean Clay (CL), Light Gray mottled Gray/ Yellow Brown, Silty, Trace Sand, Medium, Moist

**REMARKS:**

○ Natural Moisture = 27.4%

□ Natural Moisture = 26.9%

△ Natural Moisture = 24.3%

○ Location: Boring 4L Depth: 12-14 ft. Sample Number: 10

□ Location: Boring 4U Depth: 27-29 ft. Sample Number: 22

△ Location: Boring 5 Depth: 24½-26½ ft. Sample Number: 10


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

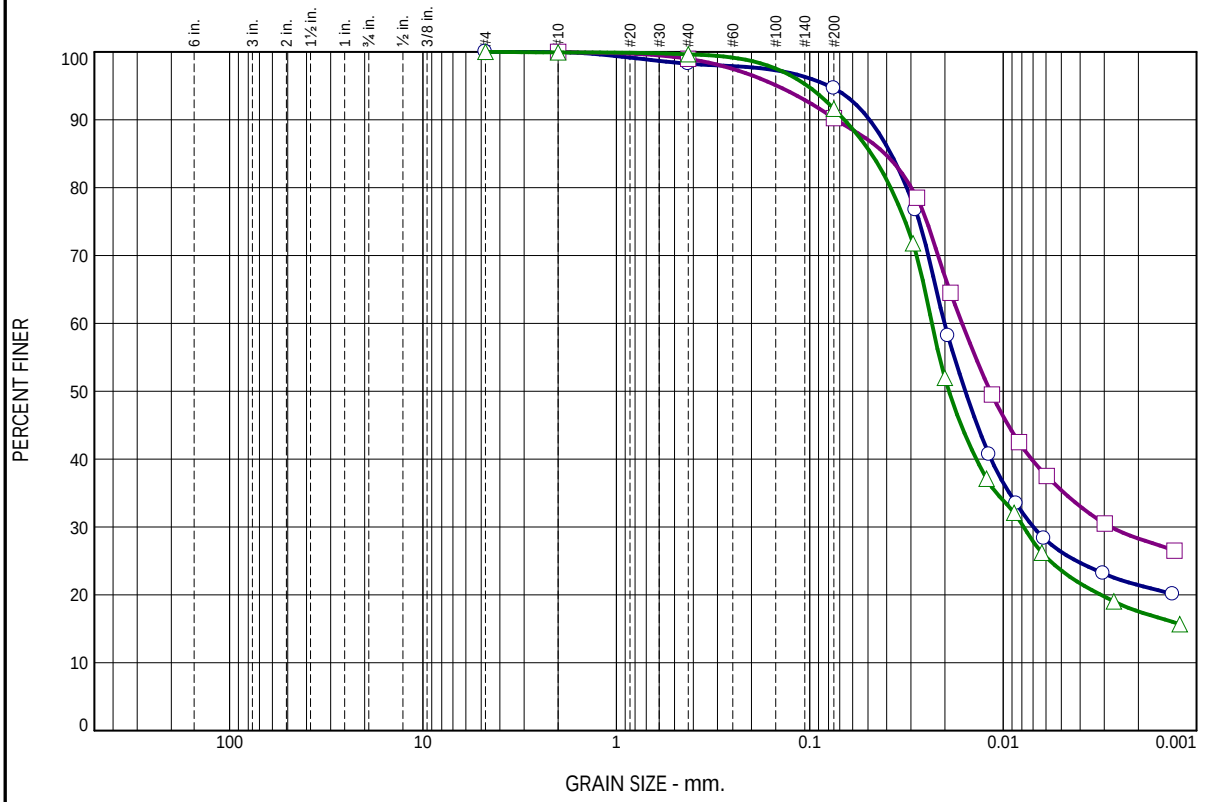

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-4

Tested By: ○ DAW / DJS □ DAW / DJS △ DAW

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 5.4 | 73.2 | 21.4 | CL | 46 | 24 | 22 |
| □ | 0.0 | 0.0 | 9.8 | 61.9 | 28.3 | CL | 34 | 19 | 15 |
| △ | 0.0 | 0.0 | 8.4 | 74.1 | 17.5 | CL | 41 | 23 | 18 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| | | | |
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0201 | 0.0163 | 0.0234 |
| $D_{30}$ | 0.0070 | 0.0028 | 0.0078 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | 100.0 | | 100.0 |
| #10 | 100.0 | 100.0 | 99.9 |
| #40 | 98.3 | 99.0 | 99.6 |
| #200 | 94.6 | 90.2 | 91.6 |

**Material Description**

○ Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist

□ Lean Clay (CL), Gray/Greenish Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist

△ Lean Clay (CL), Light Gray mottled Reddish Brown, Silty, Trace Sand, Medium, Moist

**REMARKS:**

○ Natural Moisture = 28.8%

□ Natural Moisture = 21.9%

△ Natural Moisture = 26.6%

○ Location: Boring 5L Depth: 9½-11 ft. Sample Number:

□ Location: Boring 6 Depth: 17-19 ft. Sample Number: 8

△ Location: Boring 6L Depth: 7½-9 ft. Sample Number: ST1


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

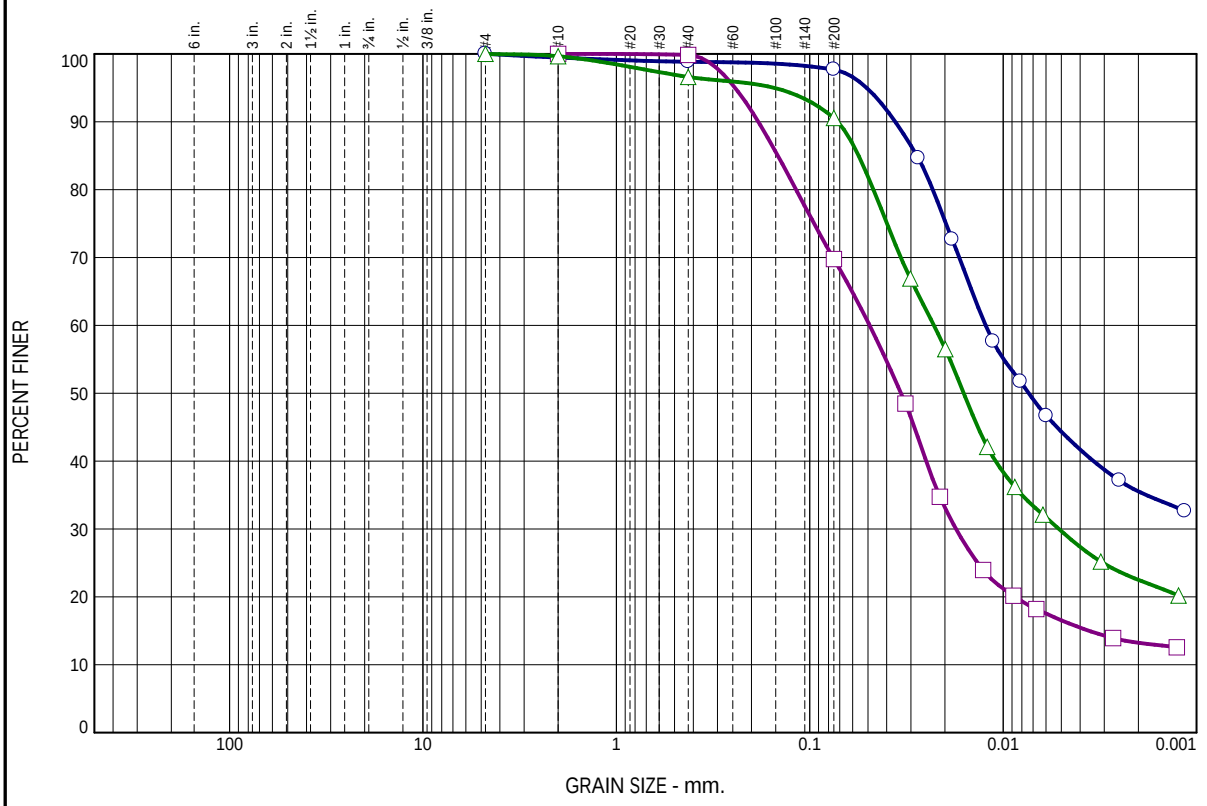

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-5

Tested By: DAW Checked By: NAS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 2.3 | 62.2 | 35.5 | CH | 63 | 20 | 43 |
| □ | 0.0 | 0.0 | 30.2 | 56.6 | 13.2 | CL-ML | 26 | 19 | 7 |
| △ | 0.0 | 0.0 | 9.4 | 68.1 | 22.5 | CL | 48 | 21 | 27 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0123 | 0.0491 | 0.0228 |
| $D_{30}$ | | 0.0175 | 0.0052 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | 100.0 | | 100.0 |
| #10 | 99.5 | 100.0 | 99.6 |
| #40 | 98.8 | 99.8 | 96.6 |
| #200 | 97.7 | 69.8 | 90.6 |

Material Description

○ Fat Clay (CH), Brown/Yellow Brown mottled Light Gray, Silty, Stiff, Moist

□ Sandy Silty Clay (CL-ML), Yellow Brown mottled Reddish Brown/Light Gray, Medium, Moist

△ Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist

REMARKS:

○ Natural Moisture = 25.8%

□ Natural Moisture = 23.8%

△ Natural Moisture = 24.0%

○ Location: Boring 7 Depth: 19½-21½ ft. Sample Number: 7

□ Location: Boring 8L Depth: 12-14 ft. Sample Number: 5

△ Location: Boring 8U ST8 Depth: 9½-11½ ft. Sample Number: 8


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

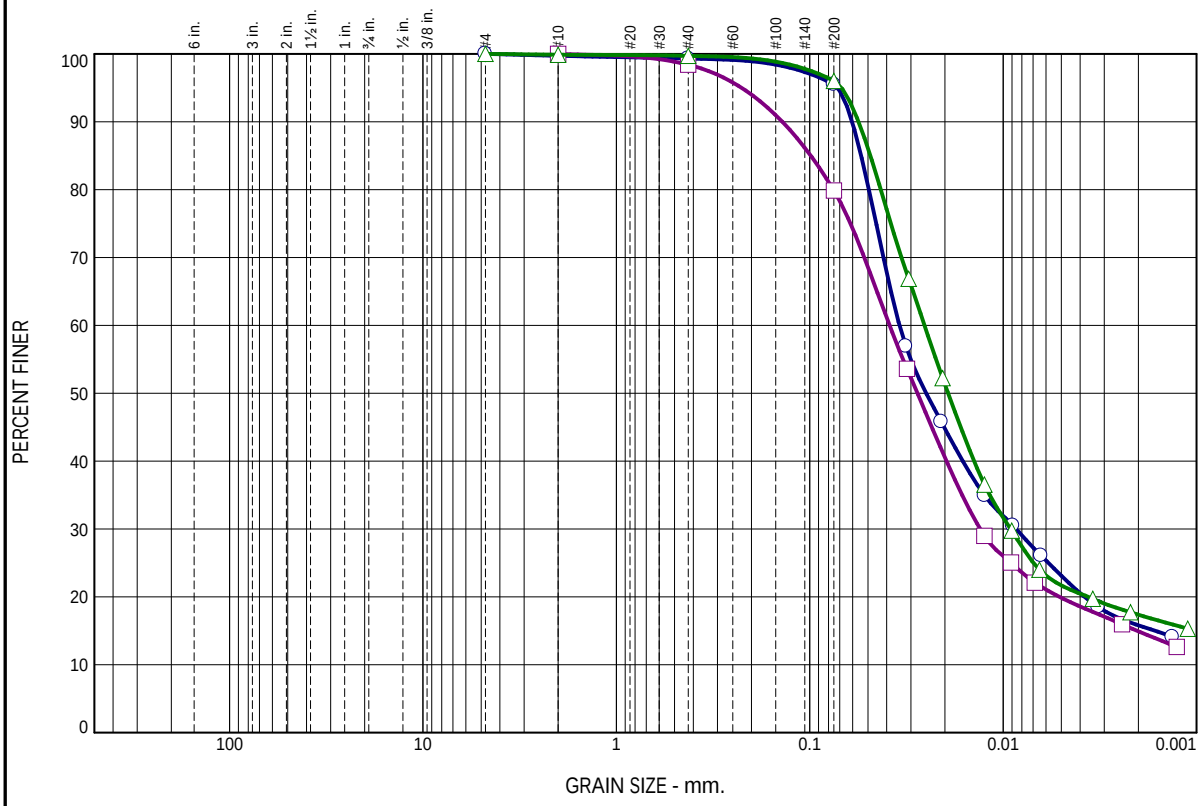

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-6

Tested By: DAW Checked By: NAS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 4.5 | 79.7 | 15.8 | CL | 45 | 19 | 26 |
| □ | 0.0 | 0.0 | 20.1 | 65.0 | 14.9 | CL | 26 | 17 | 9 |
| △ | 0.0 | 0.0 | 4.0 | 78.6 | 17.4 | CL | 46 | 22 | 24 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| | | | |
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0343 | 0.0386 | 0.0255 |
| $D_{30}$ | 0.0086 | 0.0131 | 0.0091 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #4 | 100.0 | | 100.0 |
| #10 | 99.7 | 100.0 | 99.9 |
| #40 | 99.3 | 98.4 | 99.7 |
| #200 | 95.5 | 79.9 | 96.0 |

**Material Description**

○ Lean Clay (CL), Light Gray Mottled Yellow Brown, Silty, Stiff, Moist

□ Lean Clay with Sand (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Soft, Moist

△ Lean Clay (CL), Gray mottled Light Gray, Silty, Stiff, Moist

**REMARKS:**

○ Natural Moisture = 25.7%

□ Natural Moisture = 28.0%

△ Natural Moisture = 22.4%

○ Location: Boring 8U ST16 Depth: 19½-21½ ft. Sample Number: 16

□ Location: Boring 9L Depth: 7½-9 ft. Sample Number:

△ Location: Boring 9U ST16 Depth: 19½-21½ ft. Sample Number: 16


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

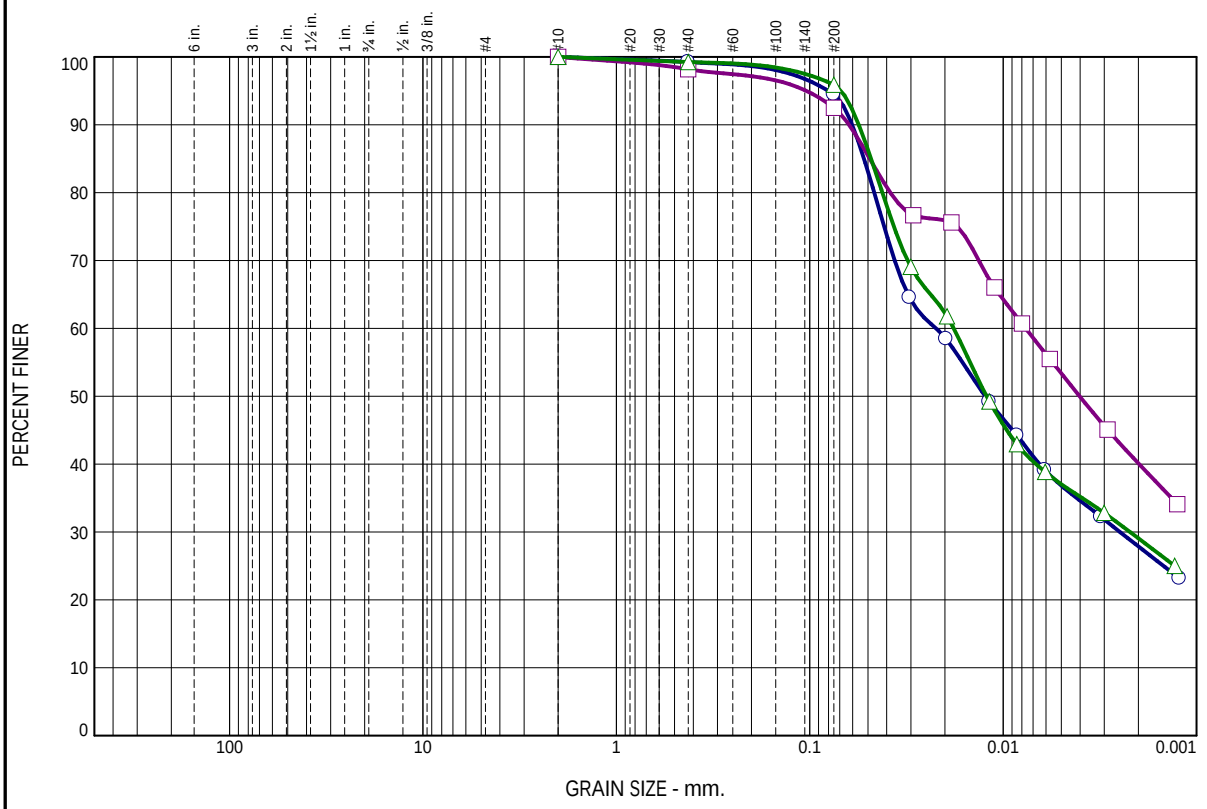

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-7

Tested By: ○ DAW □ DAW △ MAS Checked By: NAS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 5.5 | 66.6 | 27.9 | CL | 46 | 21 | 25 |
| □ | 0.0 | 0.0 | 7.5 | 52.4 | 40.1 | CL | 36 | 20 | 16 |
| △ | 0.0 | 0.0 | 4.1 | 66.8 | 29.1 | CL | 48 | 21 | 27 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| | | | |
| | GRAIN SIZE | | |
| $D_{60}$ | 0.0222 | 0.0077 | 0.0180 |
| $D_{30}$ | 0.0025 | | 0.0022 |
| $D_{10}$ | | | |
| | COEFFICIENTS | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #10 | 100.0 | 100.0 | 100.0 |
| #40 | 99.2 | 98.2 | 99.2 |
| #200 | 94.5 | 92.5 | 95.9 |

**Material Description**

○ Lean Clay (CL), Yellow Brown mottled Light Gray/Gray, Silty, Trace Sand, Stiff, Moist

□ Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist

△ Lean Clay (CL), Brown mottled Yellow Brown, Silty, Stiff, Moist

**REMARKS:**

○ Natural Moisture = 23.2%

□ Natural Moisture = 21.8%

△ Natural Moisture = 25.7%

○ Location: Boring 9 CCR ST8 Depth: 9½-11½ ft. Sample Number: 8

□ Location: Boring 11U ST8 Depth: 9½-11½ ft. Sample Number:

△ Location: Boring 11U ST16 Depth: 19½-21½ ft. Sample Number:


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

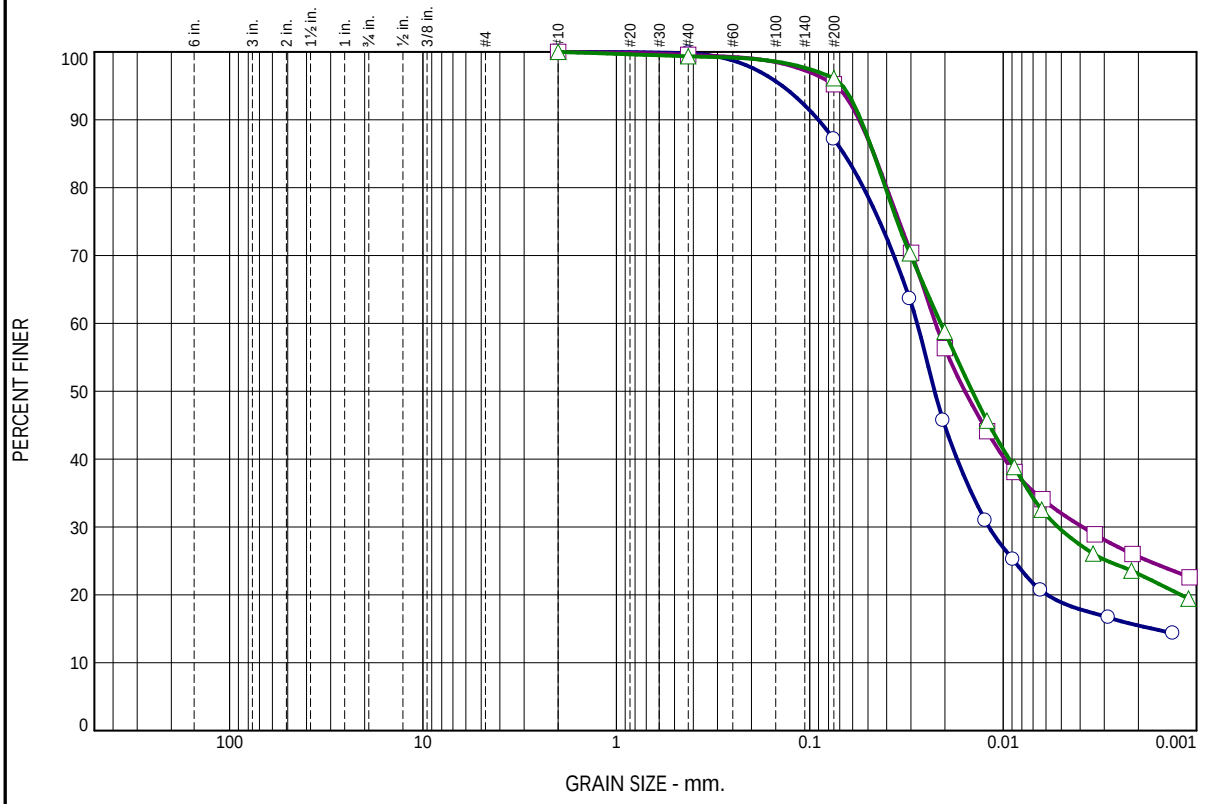

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-8

Tested By: DAW

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 12.9 | 71.6 | 15.5 | CL | 30 | 19 | 11 |
| □ | 0.0 | 0.0 | 4.8 | 69.6 | 25.6 | CL | 45 | 22 | 23 |
| △ | 0.0 | 0.0 | 3.9 | 73.0 | 23.1 | CL | 42 | 22 | 20 |

| SIEVE inches size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| | | | |
| GRAIN SIZE | | | |
| $D_{60}$ | 0.0278 | 0.0224 | 0.0210 |
| $D_{30}$ | 0.0119 | 0.0039 | 0.0052 |
| $D_{10}$ | | | |
| COEFFICIENTS | | | |
| $C_c$ | | | |
| $C_u$ | | | |

| SIEVE number size | PERCENT FINER ○ | □ | △ |
|---|---|---|---|
| #10 | 100.0 | 100.0 | 100.0 |
| #40 | 99.8 | 99.6 | 99.3 |
| #200 | 87.1 | 95.2 | 96.1 |

**Material Description**

○ Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist

□ Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist

△ Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist

**REMARKS:**

○ Natural Moisture = 23.2%

□ Natural Moisture = 21.8%

△ Natural Moisture = 21.6%

○ Location: Boring 12L Depth: 14½-16 ft. Sample Number:

□ Location: Boring 12U ST8 Depth: 9½-11½ ft. Sample Number: 8

△ Location: Boring 12U ST16 Depth: 19½-21½ ft. Sample Number: 16


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO

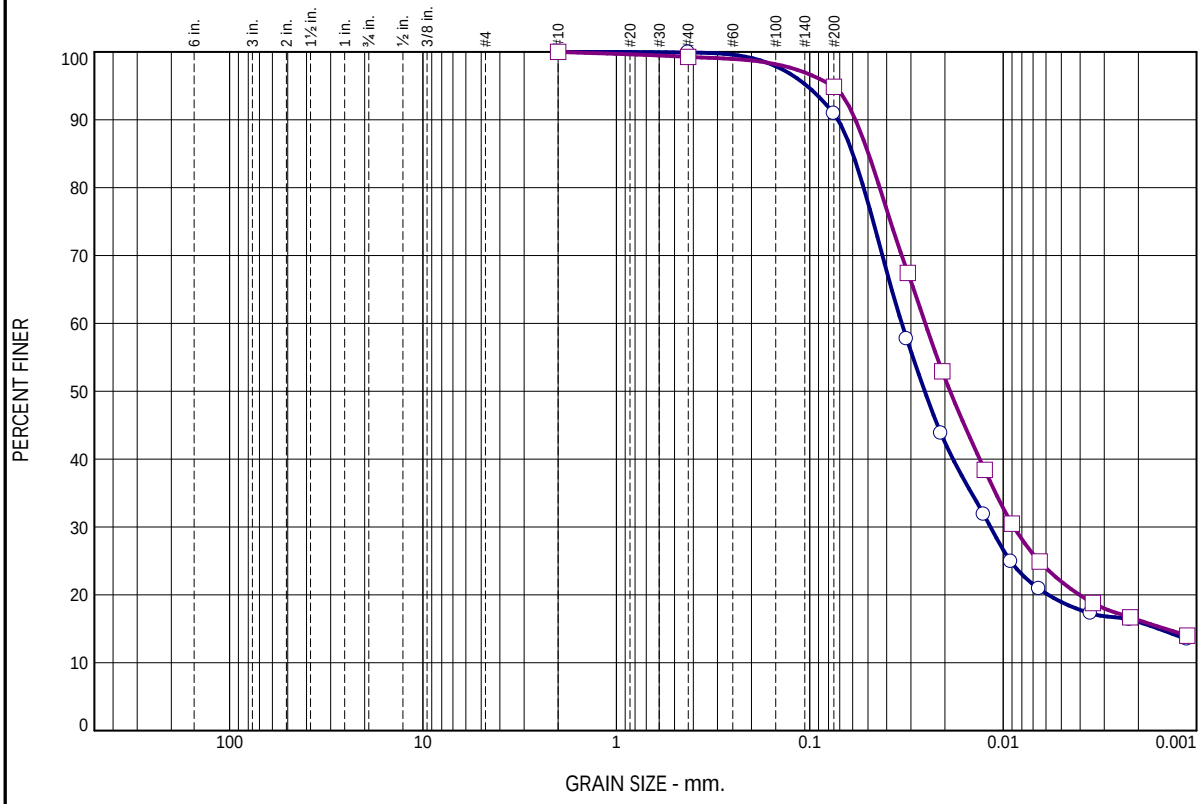

Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-9

Tested By: ○ DAW □ MAS △ MAS

# Particle Size Distribution Report




| | +3" | % GRAVEL | % SAND | % SILT | % CLAY | USCS | LL | PL | PI |
|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 9.1 | 74.9 | 16.0 | CL | 34 | 20 | 14 |
| □ | 0.0 | 0.0 | 5.1 | 78.6 | 16.3 | CH | 52 | 25 | 27 |

| SIEVE inches size | ○ PERCENT FINER | □ PERCENT FINER |
|---|---|---|
| GRAIN SIZE | | |
| $D_{60}$ | 0.0335 | 0.0253 |
| $D_{30}$ | 0.0116 | 0.0088 |
| $D_{10}$ | | |
| COEFFICIENTS | | |
| $C_c$ | | |
| $C_u$ | | |

| SIEVE number size | ○ PERCENT FINER | □ PERCENT FINER |
|---|---|---|
| #10 | 100.0 | 100.0 |
| #40 | 99.9 | 99.3 |
| #200 | 90.9 | 94.9 |

**Material Description**

○ Lean Clay (CL), Yellow Brown, Silty, Trace Sand, Stiff, Moist

□ Fat Clay (CH), Gray mottled Light Gray, Silty, Trace Sand, Stiff, Moist

**REMARKS:**

○ Natural Moisture = 18.4%

□ Natural Moisture = 21.1%

○ Location: Boring 13 BN ST7 Depth: 8½-10½ ft. Sample Number: 7

□ Location: Boring 13 BS ST7 Depth: 8½-10½ ft. Sample Number: 7


GEOTECHNICS
Soil & Material Testing
4510 Paris Gravel Road - Hannibal, MO


Client: Andrews Engineering

Project: Springfield, IL Ash Ponds

Project No.: 23-1071 Figure S-10

Tested By: MAS

Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Gray, Silty, Trace Sand, Medium, Moist**

LIQUID LIMIT **30** PLASTIC LIMIT **17** P.I. **13**

BORING NO. **Boring 1** SAMPLE NO.

SAMPLE TYPE **ST** DEPTH **24½-26½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **26.2%** INITIAL DRY DENSITY **100.8 P.C.F.**

FINAL WATER CONTENT **23.1%** FINAL DRY DENSITY **102.6 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:12:00 PM | | 0.200 | 7.214 | 40.438 | | 2.89 | 7.04 | 20.750 | 210.9 | | 231.650 | | |
| 3:12:00 PM | 3:33:00 PM | 0.200 | 7.214 | 40.438 | 1260 | 5.00 | 4.94 | -0.300 | 210.9 | 1.00 | 210.600 | 1.35E-06 | 1.27E-06 |
| 3:33:00 PM | 3:53:00 PM | 0.200 | 7.214 | 40.438 | 1200 | 6.77 | 3.17 | -18.000 | 210.9 | 1.00 | 192.900 | 1.31E-06 | 1.23E-06 |
| 3:53:00 PM | 4:34:00 PM | 0.200 | 7.214 | 40.438 | 2460 | 9.89 | 0.04 | -49.250 | 210.9 | 1.00 | 161.650 | 1.28E-06 | 1.21E-06 |
| | | | | | | | | | | | | | 1.23E-06 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 1.23 E-06 CM/SEC

REMARKS: Testing Completed 11/2/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

GEOTECHNICS
Soil & Material Testing
A Division of Klingner

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573.221.7714 • 573.221.7762 (Fax) • www.klingner.com

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Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Stiff, Moist**

LIQUID LIMIT **43** PLASTIC LIMIT **21** P.I. **22**

BORING NO. **Boring 1L** SAMPLE NO. **ST 18**

SAMPLE TYPE **ST** DEPTH **22-24 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **20.4%** INITIAL DRY DENSITY **114.0 P.C.F.**

FINAL WATER CONTENT **16.1%** FINAL DRY DENSITY **117.4 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:42:00 PM | | 0.200 | 7.330 | 41.980 | | 4.60 | 5.36 | 3.800 | 70.3 | | 74.100 | | |
| 12:42:00 PM | 12:50:00 PM | 0.200 | 7.330 | 41.980 | 480 | 5.82 | 4.15 | -8.350 | 70.3 | 0.99 | 61.950 | 6.51E-06 | 6.14E-06 |
| 12:50:00 PM | 1:32:00 PM | 0.200 | 7.330 | 41.980 | 2520 | 9.50 | 0.50 | -45.000 | 70.3 | 0.99 | 25.300 | 6.21E-06 | 5.85E-06 |
| 1:32:00 PM | 1:42:30 PM | 0.200 | 7.330 | 41.980 | 630 | 9.99 | 0.01 | -49.900 | 70.3 | 1.00 | 20.400 | 5.97E-06 | 5.62E-06 |
| | | | | | | | | | | | | | 5.84E-06 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 5.84 E-06 CM/SEC

REMARKS: Testing Completed 11/10/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

GEOTECHNICS
Soil & Material Testing
A Division of Klingner

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573.221.7714 • 573.221.7762 (Fax) • www.klingner.com

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Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay with Sand (CL), Gray, Silty, Medium, Moist**

LIQUID LIMIT **39** PLASTIC LIMIT **21** P.I. **18**

BORING NO. **Boring 1LL** SAMPLE NO. **ST 12**

SAMPLE TYPE **ST** DEPTH **14½-16½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **23.8%** INITIAL DRY DENSITY **102.1 P.C.F.**

FINAL WATER CONTENT **22.8%** FINAL DRY DENSITY **103.9 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2:32:00 PM | | 0.200 | 7.391 | 41.543 | | 0.14 | 10.00 | 49.300 | 70.3 | | 119.600 | | |
| 2:32:00 PM | 2:46:00 PM | 0.200 | 7.391 | 41.543 | 840 | 3.35 | 6.78 | 17.150 | 70.3 | 1.00 | 87.450 | 6.63E-06 | 6.25E-06 |
| 2:46:00 PM | 2:54:00 PM | 0.200 | 7.391 | 41.543 | 480 | 4.75 | 5.38 | 3.150 | 70.3 | 1.00 | 73.450 | 6.47E-06 | 6.09E-06 |
| 2:54:00 PM | 3:10:00 PM | 0.200 | 7.391 | 41.543 | 960 | 6.82 | 3.31 | -17.550 | 70.3 | 1.00 | 52.750 | 6.14E-06 | 5.78E-06 |
| | | | | | | | | | | | | | 6.02E-06 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 6.02 E-06 CM/SEC

REMARKS: Testing Completed 11/3/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **57** PLASTIC LIMIT **21** P.I. **36**

BORING NO. **Boring 2** SAMPLE NO. **8**

SAMPLE TYPE **ST** DEPTH **22-24 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **21.5%** INITIAL DRY DENSITY **101.8 P.C.F.**

FINAL WATER CONTENT **23.0%** FINAL DRY DENSITY **102.1 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:39:00 AM | | 0.200 | 6.980 | 41.931 | | 4.53 | 4.63 | 0.500 | 210.9 | | 211.400 | | |
| 6:39:00 AM | 6:52:00 AM | 0.200 | 6.980 | 41.931 | 780 | 4.60 | 4.56 | -0.200 | 210.9 | 1.00 | 210.700 | 7.08E-08 | 6.67E-08 |
| 6:52:00 AM | 7:30:00 AM | 0.200 | 6.980 | 41.931 | 2280 | 4.81 | 4.34 | -2.350 | 210.9 | 1.05 | 208.550 | 7.49E-08 | 7.05E-08 |
| 7:30:00 AM | 7:48:00 AM | 0.200 | 6.980 | 41.931 | 1080 | 4.90 | 4.24 | -3.300 | 210.9 | 1.11 | 207.600 | 7.04E-08 | 6.63E-08 |
| | | | | | | | | | | | | | 6.87E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 6.87 E-08 CM/SEC

REMARKS: Testing Completed 10/14/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Silty Clay (CL-ML), Yellow Brown mottled Light Gray, Trace Sand, Medium, Moist**

LIQUID LIMIT **27** PLASTIC LIMIT **21** P.I. **6**

BORING NO. **Boring 2L** SAMPLE NO. **6**

SAMPLE TYPE **ST** DEPTH **7.0-9.0 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **24.7%** INITIAL DRY DENSITY **101.9 P.C.F.**

FINAL WATER CONTENT **23.5%** FINAL DRY DENSITY **103.2 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:28:00 PM | | 0.200 | 7.005 | 41.254 | | 3.97 | 6.85 | 14.400 | 70.3 | | 84.700 | | |
| 3:28:00 PM | 3:40:00 PM | 0.200 | 7.005 | 41.254 | 720 | 6.71 | 4.10 | -13.050 | 70.3 | 1.00 | 57.250 | 9.24E-06 | 8.70E-06 |
| 3:40:00 PM | 3:50:00 PM | 0.200 | 7.005 | 41.254 | 600 | 8.30 | 2.50 | -29.000 | 70.3 | 1.01 | 41.300 | 9.24E-06 | 8.71E-06 |
| 3:50:00 PM | 4:02:00 PM | 0.200 | 7.005 | 41.254 | 720 | 9.47 | 1.33 | -40.700 | 70.3 | 1.00 | 29.600 | 7.86E-06 | 7.40E-06 |
| | | | | | | | | | | | | | 8.24E-06 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 8.24 E-06 CM/SEC

REMARKS: Testing Completed 11/5/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
## ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Fat Clay (CH), Light Gray mottled Yellow Brown, Black Oxidation, Silty, Stiff, Moist**

LIQUID LIMIT **60** PLASTIC LIMIT **24** P.I. **36**

BORING NO. **Boring 3** SAMPLE NO. **ST 8**

SAMPLE TYPE **ST** DEPTH **9½-11½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **24.7%** INITIAL DRY DENSITY **100.2 P.C.F.**

FINAL WATER CONTENT **26.1%** FINAL DRY DENSITY **99.0 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:53:00 AM | | 0.200 | 7.163 | 42.028 | | 1.50 | 7.88 | 31.900 | 210.9 | | 242.800 | | |
| 5:53:00 AM | 7:13:00 AM | 0.200 | 7.163 | 42.028 | 4800 | 1.56 | 7.82 | 31.300 | 210.9 | 1.00 | 242.200 | 8.79E-09 | 8.28E-09 |
| 7:13:00 AM | 7:38:00 AM | 0.200 | 7.163 | 42.028 | 1500 | 1.58 | 7.80 | 31.100 | 210.9 | 1.00 | 242.000 | 9.39E-09 | 8.84E-09 |
| 7:38:00 AM | 8:29:00 AM | 0.200 | 7.163 | 42.028 | 3060 | 1.62 | 7.76 | 30.700 | 210.9 | 1.00 | 241.600 | 9.21E-09 | 8.68E-09 |
| | | | | | | | | | | | | | 8.50E-09 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 8.50 E-09 CM/SEC

REMARKS: Testing Completed 11/15/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Gray mottled Yellow Brown, Silty, Stiff, Moist**

LIQUID LIMIT **43** PLASTIC LIMIT **20** P.I. **23**

BORING NO. **Boring 3** SAMPLE NO. **ST 16**

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **25.8%** INITIAL DRY DENSITY **95.1 P.C.F.**

FINAL WATER CONTENT **29.5%** FINAL DRY DENSITY **93.0 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:10:00 PM | | 0.200 | 7.432 | 42.077 | | 5.34 | 4.67 | -3.350 | 210.9 | | 207.550 | | |
| 12:10:00 PM | 12:30:00 PM | 0.200 | 7.432 | 42.077 | 1200 | 6.00 | 4.01 | -9.950 | 210.9 | 1.00 | 200.950 | 4.76E-07 | 4.48E-07 |
| 12:30:00 PM | 12:54:00 PM | 0.200 | 7.432 | 42.077 | 1440 | 6.72 | 3.29 | -17.150 | 210.9 | 1.00 | 193.750 | 4.48E-07 | 4.22E-07 |
| 12:54:00 PM | 1:25:00 PM | 0.200 | 7.432 | 42.077 | 1860 | 7.60 | 2.40 | -26.000 | 210.9 | 1.01 | 184.900 | 4.44E-07 | 4.18E-07 |
| | | | | | | | | | | | | | 4.27E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 4.27 E-07 CM/SEC

REMARKS: Testing Completed 11/15/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay with Sand (CL), Yellow Brown mottled Light Gray/Gray, Silty, Stiff, Moist**

LIQUID LIMIT **38** PLASTIC LIMIT **22** P.I. **16**

BORING NO. **Boring 3U** SAMPLE NO. **ST 8**

SAMPLE TYPE **ST** DEPTH **9½-11 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **21.4%** INITIAL DRY DENSITY **101.2 P.C.F.**

FINAL WATER CONTENT **21.4%** FINAL DRY DENSITY **102.2 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:55:00 PM | | 0.200 | 7.483 | 41.834 | | 2.21 | 6.92 | 23.550 | 351.5 | | 375.050 | | |
| 8:55:00 PM | 7:04:00 AM | 0.200 | 7.483 | 41.834 | 42180 | 3.58 | 5.53 | 9.750 | 351.5 | 1.01 | 361.250 | 1.59E-08 | 1.50E-08 |
| 7:04:00 AM | 8:38:00 AM | 0.200 | 7.483 | 41.834 | 5640 | 3.78 | 5.33 | 7.750 | 351.5 | 1.00 | 359.250 | 1.76E-08 | 1.66E-08 |
| 8:38:00 AM | 12:03:00 PM | 0.200 | 7.483 | 41.834 | 12300 | 4.18 | 4.92 | 3.700 | 351.5 | 1.03 | 355.200 | 1.65E-08 | 1.55E-08 |
| | | | | | | | | | | | | | 1.52E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 1.52 E-08 CM/SEC

REMARKS: Testing Completed 11/21/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL/CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist**

LIQUID LIMIT **49** PLASTIC LIMIT **22** P.I. **27**

BORING NO. **Boring 4** SAMPLE NO.

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **25.5%** INITIAL DRY DENSITY **96.4 P.C.F.**

FINAL WATER CONTENT **23.8%** FINAL DRY DENSITY **100.0 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:09:00 PM | | 0.200 | 7.437 | 41.205 | | 3.74 | 5.94 | 11.000 | 210.9 | | 221.900 | | |
| 7:09:00 PM | 8:29:00 PM | 0.200 | 7.437 | 41.205 | 4800 | 4.13 | 5.51 | 6.900 | 210.9 | 1.10 | 217.800 | 7.01E-08 | 6.61E-08 |
| 8:29:00 PM | 9:00:00 PM | 0.200 | 7.437 | 41.205 | 1860 | 4.30 | 5.34 | 5.200 | 210.9 | 1.00 | 216.100 | 7.60E-08 | 7.16E-08 |
| 9:00:00 PM | 9:28:00 PM | 0.200 | 7.437 | 41.205 | 1680 | 4.42 | 5.22 | 4.000 | 210.9 | 1.00 | 214.900 | 5.98E-08 | 5.64E-08 |
| | | | | | | | | | | | | | 6.53E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 6.53 E-08 CM/SEC

REMARKS: Testing Completed 11/5/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Brown mottled Yellow Brown/Light Gray, Silty, Trace Sand, Medium, Moist**

LIQUID LIMIT **32** PLASTIC LIMIT **20** P.I. **12**

BORING NO. **Boring 4L** SAMPLE NO. **ST 10**

SAMPLE TYPE **ST** DEPTH **12-14 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **25.7%** INITIAL DRY DENSITY **100.7 P.C.F.**

FINAL WATER CONTENT **24.6%** FINAL DRY DENSITY **101.8 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:16:00 PM | | 0.200 | 7.397 | 41.013 | | 1.20 | 8.82 | 38.100 | 140.6 | | 178.700 | | |
| 12:16:00 PM | 1:03:00 PM | 0.200 | 7.397 | 41.013 | 2820 | 3.75 | 6.23 | 12.400 | 140.6 | 1.02 | 153.000 | 9.93E-07 | 9.35E-07 |
| 1:03:00 PM | 2:23:00 PM | 0.200 | 7.397 | 41.013 | 4800 | 7.39 | 2.55 | -24.200 | 140.6 | 1.01 | 116.400 | 1.03E-06 | 9.68E-07 |
| 2:23:00 PM | 3:26:00 PM | 0.200 | 7.397 | 41.013 | 3780 | 9.59 | 0.32 | -46.350 | 140.6 | 1.01 | 94.250 | 1.01E-06 | 9.49E-07 |
| | | | | | | | | | | | | | 9.53E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 9.53 E-07 CM/SEC

REMARKS: Testing Completed 11/7/2023

TESTED BY: **BJS**

COMPUTED BY: **BJS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Fat Clay (CH), Yellow Brown mottled Light Gray, Silty, Stiff, Moist**

LIQUID LIMIT **62** PLASTIC LIMIT **24** P.I. **38**

BORING NO. **Boring 4U** SAMPLE NO. **ST 22**

SAMPLE TYPE **ST** DEPTH **27-29 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **28.8%** INITIAL DRY DENSITY **94.6 P.C.F.**

FINAL WATER CONTENT **28.1%** FINAL DRY DENSITY **95.5 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:47:00 PM | | 0.200 | 7.706 | 42.077 | | 2.33 | 6.84 | 22.550 | 210.9 | | 233.450 | | |
| 12:47:00 PM | 1:08:00 PM | 0.200 | 7.706 | 42.077 | 1260 | 2.35 | 6.82 | 22.350 | 210.9 | 1.00 | 233.250 | 1.25E-08 | 1.17E-08 |
| 1:08:00 PM | 2:20:00 PM | 0.200 | 7.706 | 42.077 | 4320 | 2.42 | 6.74 | 21.600 | 210.9 | 1.14 | 232.500 | 1.37E-08 | 1.29E-08 |
| 2:20:00 PM | 4:43:00 PM | 0.200 | 7.706 | 42.077 | 8580 | 2.50 | 6.66 | 20.800 | 210.9 | 1.00 | 231.700 | 7.36E-09 | 6.93E-09 |
| | | | | | | | | | | | | | 9.17E-09 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 9.17 E-09 CM/SEC

REMARKS: Testing Completed 11/10/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Light Gray mottled Gray/Yellow Brown, Silty, Trace Sand, Medium, Moist**

LIQUID LIMIT **43** PLASTIC LIMIT **22** P.I. **21**

BORING NO. **Boring 5** SAMPLE NO. **10**

SAMPLE TYPE **ST** DEPTH **24½-26½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **24.5%** INITIAL DRY DENSITY **99.8 P.C.F.**

FINAL WATER CONTENT **23.7%** FINAL DRY DENSITY **100.3 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1:59:00 PM | | 0.200 | 6.904 | 41.883 | | 2.62 | 6.29 | 18.350 | 210.9 | | 229.250 | | |
| 1:59:00 PM | 2:35:00 PM | 0.200 | 6.904 | 41.883 | 2160 | 3.48 | 5.40 | 9.600 | 210.9 | 1.03 | 220.500 | 2.97E-07 | 2.80E-07 |
| 2:35:00 PM | 3:06:00 PM | 0.200 | 6.904 | 41.883 | 1860 | 4.16 | 4.69 | 2.650 | 210.9 | 1.04 | 213.550 | 2.84E-07 | 2.67E-07 |
| 3:06:00 PM | 3:47:00 PM | 0.200 | 6.904 | 41.883 | 2460 | 5.00 | 3.84 | -5.800 | 210.9 | 1.01 | 205.100 | 2.71E-07 | 2.55E-07 |
| | | | | | | | | | | | | | 2.67E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 2.67 E-07 CM/SEC

REMARKS: Testing Completed 10/17/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **46** PLASTIC LIMIT **24** P.I. **22**

BORING NO. **Boring 5L** SAMPLE NO.

SAMPLE TYPE **ST** DEPTH **9½-11 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **29.0%** INITIAL DRY DENSITY **94.4 P.C.F.**

FINAL WATER CONTENT **28.4%** FINAL DRY DENSITY **94.3 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:33:00 PM | | 0.200 | 7.696 | 40.869 | | 0.08 | 9.97 | 49.450 | 210.9 | | 260.350 | | |
| 12:33:00 PM | 2:12:00 PM | 0.200 | 7.696 | 40.869 | 5940 | 4.13 | 5.77 | 8.200 | 210.9 | 1.04 | 219.100 | 5.47E-07 | 5.15E-07 |
| 2:12:00 PM | 2:38:00 PM | 0.200 | 7.696 | 40.869 | 1560 | 5.12 | 4.77 | -1.750 | 210.9 | 1.01 | 209.150 | 5.61E-07 | 5.28E-07 |
| 2:38:00 PM | 3:21:00 PM | 0.200 | 7.696 | 40.869 | 2580 | 6.62 | 3.24 | -16.900 | 210.9 | 1.02 | 194.000 | 5.49E-07 | 5.17E-07 |
| | | | | | | | | | | | | | 5.18E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 5.18 E-07 CM/SEC

REMARKS: Testing Completed 10/16/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Gray/Greenish Gray mottled Yellow Brown, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **34** PLASTIC LIMIT **19** P.I. **15**

BORING NO. **Boring 6** SAMPLE NO. **8**

SAMPLE TYPE **ST** DEPTH **17-19 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **19.5%** INITIAL DRY DENSITY **106.8 P.C.F.**

FINAL WATER CONTENT **20.7%** FINAL DRY DENSITY **106.4 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:10:00 AM | | 0.200 | 8.199 | 42.418 | | 3.33 | 6.20 | 14.350 | 210.9 | | 225.250 | | |
| 7:10:00 AM | 8:01:00 AM | 0.200 | 8.199 | 42.418 | 3060 | 3.49 | 6.04 | 12.750 | 210.9 | 1.00 | 223.650 | 4.50E-08 | 4.24E-08 |
| 8:01:00 AM | 9:31:00 AM | 0.200 | 8.199 | 42.418 | 5400 | 3.76 | 5.76 | 10.000 | 210.9 | 1.04 | 220.900 | 4.43E-08 | 4.17E-08 |
| 9:31:00 AM | 10:31:00 AM | 0.200 | 8.199 | 42.418 | 3600 | 3.95 | 5.57 | 8.100 | 210.9 | 1.00 | 219.000 | 4.64E-08 | 4.37E-08 |
| | | | | | | | | | | | | | 4.25E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 4.25 E-08 CM/SEC

REMARKS: Testing Completed 10/23/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Light Gray mottled Reddish Brown, Silty, Trace Sand, Medium, Moist**

LIQUID LIMIT **41** PLASTIC LIMIT **23** P.I. **18**

BORING NO. **Boring 6L-ST1** SAMPLE NO. **ST1**

SAMPLE TYPE **ST** DEPTH **7½-9ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **27.5%** INITIAL DRY DENSITY **95.2 P.C.F.**

FINAL WATER CONTENT **26.0%** FINAL DRY DENSITY **96.2 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:42:00 AM | | 0.200 | 7.625 | 39.301 | | 1.80 | 7.77 | 29.850 | 210.9 | | 240.750 | | |
| 10:42:00 AM | 11:10:00 AM | 0.200 | 7.625 | 39.301 | 1680 | 2.98 | 6.56 | 17.900 | 210.9 | 1.03 | 228.800 | 5.88E-07 | 5.54E-07 |
| 11:10:00 AM | 11:59:00 AM | 0.200 | 7.625 | 39.301 | 2940 | 4.88 | 4.61 | -1.350 | 210.9 | 1.03 | 209.550 | 5.80E-07 | 5.46E-07 |
| 11:59:00 AM | 12:16:00 PM | 0.200 | 7.625 | 39.301 | 1020 | 5.49 | 3.98 | -7.550 | 210.9 | 1.03 | 203.350 | 5.71E-07 | 5.38E-07 |
| | | | | | | | | | | | | | 5.47E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 5.47 E-07 CM/SEC

REMARKS: Testing Completed 10/20/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Fat Clay (CH), Brown/Yellow Brown mottled Light Gray, Silty, Stiff, Moist**

LIQUID LIMIT **63** PLASTIC LIMIT **20** P.I. **43**

BORING NO. **Boring 7** SAMPLE NO. **7**

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **28.4%** INITIAL DRY DENSITY **95.5 P.C.F.**

FINAL WATER CONTENT **27.4%** FINAL DRY DENSITY **94.6 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1:32:00 PM | | 0.200 | 7.478 | 40.869 | | 0.20 | 9.40 | 46.000 | 210.9 | | 256.900 | | |
| 1:32:00 PM | 3:08:00 PM | 0.200 | 7.478 | 40.869 | 5760 | 0.35 | 9.25 | 44.500 | 210.9 | 1.00 | 255.400 | 1.86E-08 | 1.75E-08 |
| 3:08:00 PM | 3:45:00 PM | 0.200 | 7.478 | 40.869 | 2220 | 0.40 | 9.20 | 44.000 | 210.9 | 1.00 | 254.900 | 1.62E-08 | 1.52E-08 |
| 3:45:00 PM | 4:16:00 PM | 0.200 | 7.478 | 40.869 | 1860 | 0.45 | 9.15 | 43.500 | 210.9 | 1.00 | 254.400 | 1.93E-08 | 1.82E-08 |
| | | | | | | | | | | | | | 1.71E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 1.71 E-08 CM/SEC

REMARKS: Testing Completed 10/26/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Sandy Silty Clay (CL-ML), Yellow Brown mottled Reddish Brown/Light Gray, Medium, Moist**

LIQUID LIMIT **26** PLASTIC LIMIT **19** P.I. **7**

BORING NO. **Boring 8L** SAMPLE NO. **5**

SAMPLE TYPE **ST** DEPTH **12-14 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **24.0%** INITIAL DRY DENSITY **101.1 P.C.F.**

FINAL WATER CONTENT **24.7%** FINAL DRY DENSITY **101.0 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2:24:00 PM | | 0.200 | 7.620 | 41.302 | | 4.90 | 5.01 | 0.550 | 70.3 | | 70.850 | | |
| 2:24:00 PM | 3:27:00 PM | 0.200 | 7.620 | 41.302 | 3780 | 8.66 | 1.24 | -37.100 | 70.3 | 1.00 | 33.200 | 3.70E-06 | 3.49E-06 |
| 3:27:00 PM | 3:48:00 PM | 0.200 | 7.620 | 41.302 | 1260 | 9.36 | 0.54 | -44.100 | 70.3 | 1.00 | 26.200 | 3.47E-06 | 3.27E-06 |
| 3:48:00 PM | 4:08:00 PM | 0.200 | 7.620 | 41.302 | 1200 | 9.90 | 0.00 | -49.500 | 70.3 | 1.00 | 20.800 | 3.55E-06 | 3.34E-06 |
| | | | | | | | | | | | | | 3.41E-06 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 3.41 E-06 CM/SEC

REMARKS: Testing Completed 11/7/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Yelllow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **48** PLASTIC LIMIT **21** P.I. **27**

BORING NO. **Boring 8U** SAMPLE NO. **ST 8**

SAMPLE TYPE **ST** DEPTH **9½-11½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **23.0%** INITIAL DRY DENSITY **102.4 P.C.F.**

FINAL WATER CONTENT **23.3%** FINAL DRY DENSITY **102.9 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:58:00 AM | | 0.200 | 7.280 | 41.398 | | 5.13 | 4.40 | -3.650 | 210.9 | | 207.250 | | |
| 10:58:00 AM | 12:10:00 PM | 0.200 | 7.280 | 41.398 | 4320 | 5.25 | 4.27 | -4.900 | 210.9 | 1.08 | 206.000 | 2.46E-08 | 2.32E-08 |
| 12:10:00 PM | 3:07:00 PM | 0.200 | 7.280 | 41.398 | 10620 | 5.54 | 3.96 | -7.900 | 210.9 | 1.07 | 203.000 | 2.43E-08 | 2.29E-08 |
| 3:07:00 PM | 3:54:00 PM | 0.200 | 7.280 | 41.398 | 2820 | 5.61 | 3.89 | -8.600 | 210.9 | 1.00 | 202.300 | 2.15E-08 | 2.03E-08 |
| | | | | | | | | | | | | | 2.25E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 2.25 E-08 CM/SEC

REMARKS: Testing Completed 11/17/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Light Gray mottled Yellow Brown, Silty, Stiff, Moist**

LIQUID LIMIT **45** PLASTIC LIMIT **19** P.I. **26**

BORING NO. **Boring 8U** SAMPLE NO. **ST16**

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **23.4%** INITIAL DRY DENSITY **100.9 P.C.F.**

FINAL WATER CONTENT **25.4%** FINAL DRY DENSITY **100.2 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:39:00 AM | | 0.200 | 7.732 | 41.398 | | 1.13 | 7.78 | 33.250 | 210.9 | | 244.150 | | |
| 8:39:00 AM | 9:05:00 AM | 0.200 | 7.732 | 41.398 | 1560 | 1.15 | 7.76 | 33.050 | 210.9 | 1.00 | 243.950 | 9.81E-09 | 9.24E-09 |
| 9:05:00 AM | 10:02:00 AM | 0.200 | 7.732 | 41.398 | 3420 | 1.19 | 7.72 | 32.650 | 210.9 | 1.00 | 243.550 | 8.96E-09 | 8.44E-09 |
| 10:02:00 AM | 12:04:00 PM | 0.200 | 7.732 | 41.398 | 7320 | 1.29 | 7.62 | 31.650 | 210.9 | 1.00 | 242.550 | 1.05E-08 | 9.89E-09 |
| | | | | | | | | | | | | | 9.40E-09 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 9.40 E-09 CM/SEC

REMARKS: Testing Completed 11/21/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Yellow Brown mottled Light Gray/Gray, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **46** PLASTIC LIMIT **21** P.I. **25**

BORING NO. **Boring 9CCR** SAMPLE NO. **ST 8**

SAMPLE TYPE **ST** DEPTH **9½-11½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **22.9%** INITIAL DRY DENSITY **102.9 P.C.F.**

FINAL WATER CONTENT **23.2%** FINAL DRY DENSITY **103.4 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:05:00 AM | | 0.200 | 7.336 | 41.350 | | 2.15 | 7.14 | 24.950 | 210.9 | | 235.850 | | |
| 9:05:00 AM | 10:59:00 AM | 0.200 | 7.336 | 41.350 | 6840 | 2.24 | 7.05 | 24.050 | 210.9 | 1.00 | 234.950 | 9.92E-09 | 9.34E-09 |
| 10:59:00 AM | 12:10:00 PM | 0.200 | 7.336 | 41.350 | 4260 | 2.30 | 6.99 | 23.450 | 210.9 | 1.00 | 234.350 | 1.06E-08 | 1.00E-08 |
| 12:10:00 PM | 3:06:00 PM | 0.200 | 7.336 | 41.350 | 10560 | 2.44 | 6.85 | 22.050 | 210.9 | 1.00 | 232.950 | 1.01E-08 | 9.48E-09 |
| | | | | | | | | | | | | | 9.55E-09 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 9.55 E-09 CM/SEC

REMARKS: Testing Completed 11/17/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay with Sand (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Soft, Moist**

LIQUID LIMIT **26** PLASTIC LIMIT **17** P.I. **9**

BORING NO. **Boring 9L** SAMPLE NO.

SAMPLE TYPE **ST** DEPTH **7½-9 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **24.3%** INITIAL DRY DENSITY **101.3 P.C.F.**

FINAL WATER CONTENT **20.1%** FINAL DRY DENSITY **106.5 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:24:00 PM | | 0.200 | 7.112 | 40.391 | | 4.13 | 5.83 | 8.500 | 70.3 | | 78.800 | | |
| 5:24:00 PM | 6:08:00 PM | 0.200 | 7.112 | 40.391 | 2640 | 6.89 | 3.06 | -19.150 | 70.3 | 1.00 | 51.150 | 2.88E-06 | 2.72E-06 |
| 6:08:00 PM | 6:26:00 PM | 0.200 | 7.112 | 40.391 | 1080 | 7.63 | 2.30 | -26.650 | 70.3 | 1.03 | 43.650 | 2.59E-06 | 2.44E-06 |
| 6:26:00 PM | 6:40:00 PM | 0.200 | 7.112 | 40.391 | 840 | 8.09 | 1.85 | -31.200 | 70.3 | 0.98 | 39.100 | 2.31E-06 | 2.17E-06 |
| | | | | | | | | | | | | | 2.55E-06 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 2.55 E-06 CM/SEC

REMARKS: Testing Completed 11/9/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Gray mottled Light Gray, Silty, Stiff, Moist**

LIQUID LIMIT **46** PLASTIC LIMIT **22** P.I. **24**

BORING NO. **Boring 9U** SAMPLE NO. **ST 16**

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **23.4%** INITIAL DRY DENSITY **102.5 P.C.F.**

FINAL WATER CONTENT **23.1%** FINAL DRY DENSITY **102.7 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:13:00 PM | | 0.200 | 7.681 | 42.077 | | 0.88 | 8.68 | 39.000 | 210.9 | | 249.900 | | |
| 3:13:00 PM | 3:58:00 PM | 0.200 | 7.681 | 42.077 | 2700 | 0.99 | 8.57 | 37.900 | 210.9 | 1.00 | 248.800 | 2.98E-08 | 2.81E-08 |
| 3:58:00 PM | 4:25:00 PM | 0.200 | 7.681 | 42.077 | 1620 | 1.06 | 8.50 | 37.200 | 210.9 | 1.00 | 248.100 | 3.17E-08 | 2.99E-08 |
| 4:25:00 PM | 4:58:00 PM | 0.200 | 7.681 | 42.077 | 1980 | 1.12 | 8.44 | 36.600 | 210.9 | 1.00 | 247.500 | 2.23E-08 | 2.10E-08 |
| | | | | | | | | | | | | | 2.63E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 2.63 E-08 CM/SEC

REMARKS: Testing Completed 11/22/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **36** PLASTIC LIMIT **20** P.I. **16**

BORING NO. **Boring 11U** SAMPLE NO. **ST 8**

SAMPLE TYPE **ST** DEPTH **9½-11½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **23.1%** INITIAL DRY DENSITY **104.4 P.C.F.**

FINAL WATER CONTENT **22.3%** FINAL DRY DENSITY **105.9 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:46:00 AM | | 0.200 | 7.244 | 41.834 | | 2.04 | 7.38 | 26.700 | 210.9 | | 237.600 | | |
| 7:46:00 AM | 8:57:00 AM | 0.200 | 7.244 | 41.834 | 4260 | 2.12 | 7.30 | 25.900 | 210.9 | 1.00 | 236.800 | 1.37E-08 | 1.29E-08 |
| 8:57:00 AM | 9:30:00 AM | 0.200 | 7.244 | 41.834 | 1980 | 2.16 | 7.26 | 25.500 | 210.9 | 1.00 | 236.400 | 1.48E-08 | 1.39E-08 |
| 9:30:00 AM | 10:41:00 AM | 0.200 | 7.244 | 41.834 | 4260 | 2.25 | 7.17 | 24.600 | 210.9 | 1.00 | 235.500 | 1.55E-08 | 1.46E-08 |
| | | | | | | | | | | | | | 1.38E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 1.38 E-08 CM/SEC

REMARKS: Testing Completed 11/13/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

GEOTECHNICS
Soil & Material Testing
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Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Brown mottled Yellow Brown, Silty, Stiff, Moist**

LIQUID LIMIT **48** PLASTIC LIMIT **21** P.I. **27**

BORING NO. **Boring 11U** SAMPLE NO. **ST 16**

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **25.2%** INITIAL DRY DENSITY **97.4 P.C.F.**

FINAL WATER CONTENT **26.8%** FINAL DRY DENSITY **97.3 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:17:00 PM | | 0.200 | 7.498 | 42.028 | | 0.50 | 9.38 | 44.400 | 210.9 | | 255.300 | | |
| 12:17:00 PM | 12:30:00 PM | 0.200 | 7.498 | 42.028 | 780 | 0.84 | 9.02 | 40.900 | 210.9 | 1.06 | 251.800 | 3.16E-07 | 2.97E-07 |
| 12:30:00 PM | 12:40:00 PM | 0.200 | 7.498 | 42.028 | 600 | 1.10 | 8.77 | 38.350 | 210.9 | 0.96 | 249.250 | 3.03E-07 | 2.85E-07 |
| 12:40:00 PM | 1:03:00 PM | 0.200 | 7.498 | 42.028 | 1380 | 1.73 | 8.12 | 31.950 | 210.9 | 1.03 | 242.850 | 3.36E-07 | 3.17E-07 |
| | | | | | | | | | | | | | 3.04E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 3.04 E-07 CM/SEC

REMARKS: Testing Completed 11/13/2023

TESTED BY: **NAS**

COMPUTED BY: **NAS**

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Geotechnics Form No. 17-FW

# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Light Gray mottled Yelllow Brown, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **30** PLASTIC LIMIT **19** P.I. **11**

BORING NO. **Boring 12L** SAMPLE NO.

SAMPLE TYPE **ST** DEPTH **14½-16 ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **22.2%** INITIAL DRY DENSITY **104.3 P.C.F.**

FINAL WATER CONTENT **22.0%** FINAL DRY DENSITY **105.1 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:25:00 PM | | 0.200 | 7.203 | 41.447 | | 5.54 | 3.60 | -9.700 | 70.3 | | 60.600 | | |
| 5:25:00 PM | 5:40:00 PM | 0.200 | 7.203 | 41.447 | 900 | 5.83 | 3.30 | -12.650 | 70.3 | 1.03 | 57.650 | 9.64E-07 | 9.08E-07 |
| 5:40:00 PM | 5:52:00 PM | 0.200 | 7.203 | 41.447 | 720 | 6.09 | 3.02 | -15.350 | 70.3 | 1.08 | 54.950 | 1.16E-06 | 1.09E-06 |
| 5:52:00 PM | 5:58:00 PM | 0.200 | 7.203 | 41.447 | 360 | 6.20 | 2.92 | -16.400 | 70.3 | 0.91 | 53.900 | 9.31E-07 | 8.77E-07 |
| | | | | | | | | | | | | | 9.69E-07 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 9.69 E-07 CM/SEC

REMARKS: Testing Completed 11/3/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
## ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Yellow Brown mottled Light Gray, Black Oxidation, Silty, Stiff, Moist**

LIQUID LIMIT **45** PLASTIC LIMIT **22** P.I. **23**

BORING NO. **Boring 12U** SAMPLE NO. **ST 8**

SAMPLE TYPE **ST** DEPTH **9½-11½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **20.7%** INITIAL DRY DENSITY **107.5 P.C.F.**

FINAL WATER CONTENT **21.6%** FINAL DRY DENSITY **106.3 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:14:00 AM | | 0.200 | 7.457 | 41.785 | | 1.48 | 7.91 | 32.150 | 210.9 | | 243.050 | | |
| 8:14:00 AM | 9:34:00 AM | 0.200 | 7.457 | 41.785 | 4800 | 1.50 | 7.89 | 31.950 | 210.9 | 1.00 | 242.850 | 3.06E-09 | 2.88E-09 |
| 9:34:00 AM | 11:39:00 AM | 0.200 | 7.457 | 41.785 | 7500 | 1.54 | 7.85 | 31.550 | 210.9 | 1.00 | 242.450 | 3.92E-09 | 3.70E-09 |
| 11:39:00 AM | 1:09:00 PM | 0.200 | 7.457 | 41.785 | 5400 | 1.56 | 7.83 | 31.350 | 210.9 | 1.00 | 242.250 | 2.73E-09 | 2.57E-09 |
| | | | | | | | | | | | | | 3.13E-09 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 3.13 E-09 CM/SEC

REMARKS: Testing Completed 11/24/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Yellow Brown mottled Light Gray, Silty, Black Oxidation, Silty, Stiff, Moist**

LIQUID LIMIT **42** PLASTIC LIMIT **22** P.I. **20**

BORING NO. **Boring 12U** SAMPLE NO. **ST 16**

SAMPLE TYPE **ST** DEPTH **19½-21½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **22.2%** INITIAL DRY DENSITY **100.1 P.C.F.**

FINAL WATER CONTENT **26.8%** FINAL DRY DENSITY **97.3 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:31:00 AM | | 0.200 | 7.366 | 42.126 | | 1.62 | 8.07 | 32.250 | 210.9 | | 243.150 | | |
| 6:31:00 AM | 8:42:00 AM | 0.200 | 7.366 | 42.126 | 7860 | 1.74 | 7.96 | 31.100 | 210.9 | 0.92 | 242.000 | 1.05E-08 | 9.93E-09 |
| 8:42:00 AM | 10:53:00 AM | 0.200 | 7.366 | 42.126 | 7860 | 1.86 | 7.84 | 29.900 | 210.9 | 1.00 | 240.800 | 1.11E-08 | 1.04E-08 |
| 10:53:00 AM | 4:03:00 PM | 0.200 | 7.366 | 42.126 | 18600 | 2.13 | 7.55 | 27.100 | 210.9 | 1.07 | 238.000 | 1.10E-08 | 1.04E-08 |
| | | | | | | | | | | | | | 1.03E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 1.03 E-08 CM/SEC

REMARKS: Testing Completed 11/25/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Lean Clay (CL), Yellow Brown, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **34** PLASTIC LIMIT **20** P.I. **14**

BORING NO. **Boring 13BN** SAMPLE NO. **ST 7**

SAMPLE TYPE **ST** DEPTH **8½-9½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **19.0%** INITIAL DRY DENSITY **109.7 P.C.F.**

FINAL WATER CONTENT **18.8%** FINAL DRY DENSITY **110.9 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:06:00 AM | | 0.200 | 7.219 | 41.785 | | 5.27 | 4.64 | -3.150 | 210.9 | | 207.750 | | |
| 9:06:00 AM | 10:18:00 AM | 0.200 | 7.219 | 41.785 | 4320 | 5.32 | 4.59 | -3.650 | 210.9 | 1.00 | 207.250 | 9.64E-09 | 9.08E-09 |
| 10:18:00 AM | 12:22:00 PM | 0.200 | 7.219 | 41.785 | 7440 | 5.40 | 4.51 | -4.450 | 210.9 | 1.00 | 206.450 | 8.98E-09 | 8.46E-09 |
| 12:22:00 PM | 1:18:00 PM | 0.200 | 7.219 | 41.785 | 3360 | 5.44 | 4.47 | -4.850 | 210.9 | 1.00 | 206.050 | 9.97E-09 | 9.39E-09 |
| | | | | | | | | | | | | | 8.84E-09 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 8.84 E-09 CM/SEC

REMARKS: Testing Completed 11/27/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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# PERMEABILITY TEST REPORT
# ASTM D 5084-10

PROJECT No. **23-1071**

PROJECT **Andrews - Springfield, IL Ash Ponds** LOCATION **Springfield, IL**
CLIENT **Andrews Engineering** SAMPLING DATE

SAMPLE DESCRIPTION **Fat Clay (CH), Gray mottled Light Gray, Silty, Trace Sand, Stiff, Moist**

LIQUID LIMIT **52** PLASTIC LIMIT **25** P.I. **27**

BORING NO. **Boring 13BS** SAMPLE NO. **ST 7**

SAMPLE TYPE **ST** DEPTH **8½-9½ ft.**

SPECIFIC GRAVITY, Gs TEST METHOD **ASTM D 5084-10**

INITIAL WATER CONTENT **19.1%** INITIAL DRY DENSITY **109.6 P.C.F.**

FINAL WATER CONTENT **18.2%** FINAL DRY DENSITY **110.6 P.C.F.**

| $t_1$ | $t_2$ | a | L | A | t | head | tail | $h_w$ | $h_a$ | dt/dh | $h_a+h_w$ | k | $k_{20}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:54:00 PM | | 0.200 | 5.476 | 41.013 | | 1.24 | 8.79 | 37.750 | 210.9 | | 248.650 | | |
| 12:54:00 PM | 2:26:00 PM | 0.200 | 5.476 | 41.013 | 5520 | 1.51 | 8.52 | 35.050 | 210.9 | 1.00 | 245.950 | 2.64E-08 | 2.49E-08 |
| 2:26:00 PM | 4:58:00 PM | 0.200 | 5.476 | 41.013 | 9120 | 1.90 | 8.12 | 31.100 | 210.9 | 1.03 | 242.000 | 2.37E-08 | 2.23E-08 |
| 4:58:00 PM | 6:40:00 PM | 0.200 | 5.476 | 41.013 | 6120 | 2.18 | 7.86 | 28.400 | 210.9 | 0.93 | 239.300 | 2.45E-08 | 2.31E-08 |
| | | | | | | | | | | | | | 2.32E-08 |

## COEFFICIENT OF VERTICAL PERMEABILITY
## $K_{20}$ = 2.32 E-08 CM/SEC

REMARKS: Testing Completed 11/27/2023

TESTED BY: **BJS/NAS**

COMPUTED BY: **NAS**

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*217-877-2100 • FAX 217-877-4816*
*www.sksengineers.com*

Report of Lab Test

| | | | |
|---|---|---|---|
| **PROJECT:** | CWLP | **PROJECT NO:** | 418834 |
| | | **DATE OF TEST** | June 03, 2024 |
| **CLIENT:** | Andrews Engineering | **REPORT NUMBER:** | 418834-01 |
| **ATTN:** | Mr. Brad Hunsberger | **PAGE NO.** | 1/1 |

**ITEM:** **PERMEABILITY TEST RESULTS**

| Sample | Moisture Content (%) | | Dry Unit Weight (PCF) | Permeability (Cm./Sec.) |
|---|---|---|---|---|
| | Before Test | After Test | | |
| L4 (17'-19') | 37.6 | 31.5 | 89.2 | 1.7 x 10-8 |
| D3 (29.5'-31.5') | 27.0 | 26.6 | 98.4 | 2.1 x 10-6 |
| D1 (38.5'-40.5') | 23.1 | 22.9 | 105.6 | 5.1 x 10-8 |
| L5 (37.5'-39.5') | 23.2 | 22.4 | 103.6 | 6.8 x 10-6 |
| D2 (35.5'-37.5') | 25.2 | 25.0 | 98.8 | 2.8 x 10-7 |
| L3 (34.5'-36.5') | 24.3 | 30.4 | 94.1 | 8.5 x 10-8 |
| L1 (36'-38') | 26.5 | 25.9 | 98.2 | 4.5 x 10-7 |
| D4 (34.5'-36.5') | 27.8 | 23.0 | 99.4 | 1.4 x 10-6 |

**NOTES:** Test ran according to ASTM D-5084

**BY:** Stephen Jacobs

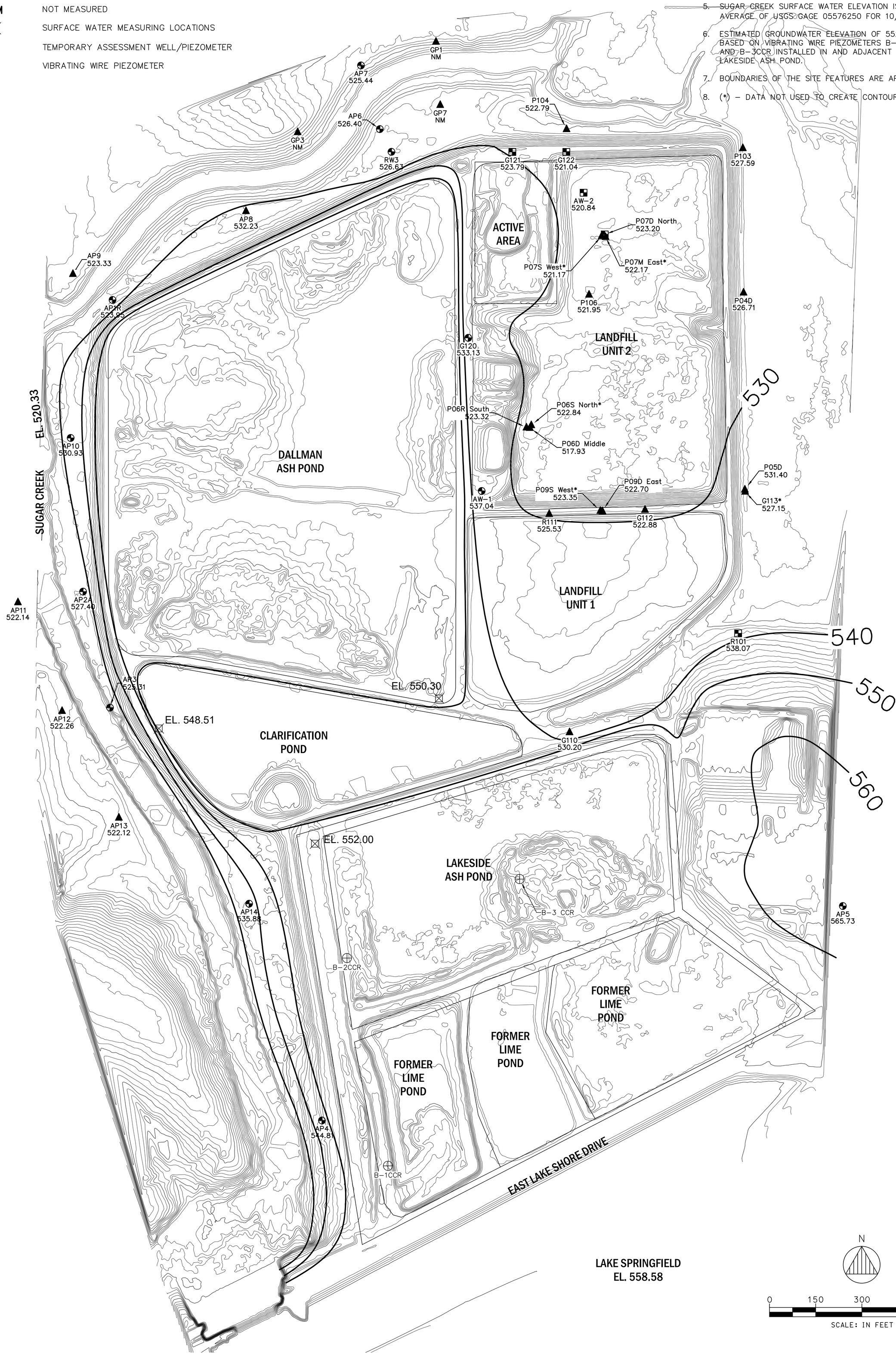
# APPENDIX F:
## POTENTIOMETRIC SURFACE MAPS

## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- CCR SURFACE IMPOUNDMENT WELL
- FGDS LANDFILL WELL
- NM — NOT MEASURED
- SURFACE WATER MEASURING LOCATIONS
- TEMPORARY ASSESSMENT WELL/PIEZOMETER
- VIBRATING WIRE PIEZOMETER

## NOTES

1. FLIGHT DATE: APRIL 2023.
2. POTENTIOMETRIC CONTOUR INTERVAL SHOWN IS 10 FEET.
3. TOPOGRAPHIC CONTOUR INTERVAL SHOWN IS 2 FEET.
4. SAMPLING DATE: 10/26/2023.
5. SUGAR CREEK SURFACE WATER ELEVATION IS BASED ON AVERAGE OF USGS GAGE 05576250 FOR 10/26/2023.
6. ESTIMATED GROUNDWATER ELEVATION OF 552 FT MSL IS BASED ON VIBRATING WIRE PIEZOMETERS B-1CCR, B-2CCR, AND B-3CCR INSTALLED IN AND ADJACENT TO THE LAKESIDE ASH POND.
7. BOUNDARIES OF THE SITE FEATURES ARE APPROXIMATE.
8. (*) – DATA NOT USED TO CREATE CONTOURS.




8

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: APRIL 2025

POTENTIOMETRIC SURFACE MAP
4TH QUARTER 2023

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- 540 — GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL/PIEZOMETER
- ○ PIEZOMETER
- ◕ CCR SURFACE IMPOUNDMENT WELL
- ■ FGDS LANDFILL WELL
- ☒ SURFACE WATER MEASURING LOCATIONS
- NM NOT MEASURED

## NOTES

1. FLIGHT DATE: APRIL 2023.
2. POTENTIOMETRIC CONTOUR INTERVAL SHOWN IS 5 FEET.
3. TOPOGRAPHIC CONTOUR INTERVAL SHOWN IS 2 FEET.
4. SAMPLING DATE: 2/22/2024.
5. SUGAR CREEK SURFACE WATER ELEVATION IS BASED ON AVERAGE OF USGS GAGE 05576250 FOR 2/22/2024.
6. "NM" – NOT MEASURED.
7. DEPICTED BOUNDARIES OF SITE FEATURES ARE APPROXIMATE.
8. (*) – DATA NOT USED TO CREATE CONTOURS.

T-6 NM
GP1 526.94
T-5 NM
AP-7 526.81
GP7 526.33
GP3 NM
T-4 NM
AP-6 528.61
RW-3 529.32
P104 526.85
P103 528.87
G121 527.79
G122 526.57
AW-2 524.38
P07D North 525.42
ACTIVE AREA
P07M East* 525.02
P07S West* 525.08
AP-8 535.82
AP-9 525.15
AP-1R 526.89
D2 NM
P106 523.24
P04D 528.08
LANDFILL UNIT 2
G120 537.11
D1 NM
P06D Middle 523.96
P06S North* 523.96
530
AP-10 534.68
DALLMAN ASH POND
D3 NM
P05D 531.68
P09S West* 525.22
AW-1 542.55
R111 528.06
G112 526.80
G113* 532.65
P09D East 526.22
LANDFILL UNIT 1
550
AP-11 523.68
SUGAR CREEK EL 520.16
AP-2A 528.99
D4 NM
R101 540.14
540
EL. 550.57
T-2 NM
AP-12 523.25
AP-3 526.08
EL. 546.43
CLARIFICATION POND
G110 532.56
550
AP-13 524.99
DRY
LAKESIDE ASH POND
560
L-5 NM
AP-14 537.88
L-3 NM
AP-5 567.95
T-1 NM
FORMER LIME POND
L-4 NM
FORMER LIME POND
FORMER LIME POND
AP-4 546.62
L-1 NM
EAST LAKE SHORE DRIVE
560

LAKE SPRINGFIELD
EL. 559.52

N

0 150 300 600
SCALE: IN FEET

| | | | |
|---|---|---|---|
| SHEET NUMBER: 9 | PROJECT ID: 240338/0014 | DATE: APRIL 2025 | |

POTENTIOMETRIC SURFACE MAP
1ST QUARTER 2024

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
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PH (217) 787-2334 WWW.ANDREWS-ENG.COM
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| APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK |
|---|---|---|

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL/PIEZOMETER
- ○ PIEZOMETER
- ◔ CCR SURFACE IMPOUNDMENT WELL
- ■ FGDS LANDFILL WELL
- ☒ SURFACE WATER MEASURING LOCATIONS
- NM NOT MEASURED

## NOTES

1. FLIGHT DATE: APRIL 2023.
2. POTENTIOMETRIC CONTOUR INTERVAL SHOWN IS 5 FEET.
3. TOPOGRAPHIC CONTOUR INTERVAL SHOWN IS 2 FEET.
4. SAMPLING DATE: 5/13/2024.
5. SUGAR CREEK SURFACE WATER ELEVATION IS BASED ON AVERAGE OF USGS GAGE 05576250 FOR 5/13/2024.
6. "NM" - NOT MEASURED.
7. DEPICTED BOUNDARIES OF SITE FEATURES ARE APPROXIMATE.
8. (*) - DATA NOT USED TO CREATE CONTOURS.

T-6 529.88
GP1 526.90
T-5 533.43
AP-7 528.08
GP7 528.34
GP5 532.02
P104 524.26
T-4 533.46
AP-6 528.94
RW-3 528.91
G121 527.57
G122 525.61
P103 529.69
AW-2 524.96
P07D North 525.42
AP-8 535.64
ACTIVE AREA
P07S West* 525.08
P07M East* 525.02
530
AP-9 527.31
AP-1R 526.78
D2 550.40
P106 523.29
P04D 528.66
LANDFILL UNIT 2
G120 536.22
D1 549.14
P06S North* 523.96
P06D Middle 523.96
AP-10 534.24
DALLMAN ASH POND
D3 549.18
530
P05D 533.03
AW-1 541.79
G113* 532.92
R111 528.18
G112 526.31
P09S West* 526.36
P09D East 526.20
550
AP-11 525.66
SUGAR CREEK EL 523.60
AP-2A 531.43
D4 549.36
LANDFILL UNIT 1
R101 540.85
EL. 556.96
AP-12 526.33
AP-3 528.84
T-2 528.14
EL. 548.05
CLARIFICATION POND
G110 532.73
540
AP-13 527.89
DRY
LAKESIDE ASH POND
550
560
L-5 550.08
AP-14 537.81
L-3 553.68
AP-5 569.54
T-1 524.72
FORMER LIME POND
L-4 560.57
FORMER LIME POND
FORMER LIME POND
AP-4 545.84
L-1 553.37
EAST LAKE SHORE DRIVE
560

LAKE SPRINGFIELD
EL. 560.54

N

0 150 300 600
SCALE: IN FEET

10

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: APRIL 2025

POTENTIOMETRIC SURFACE MAP
2ND QUARTER 2024

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL/PIEZOMETER
- ○ PIEZOMETER
- ◔ CCR SURFACE IMPOUNDMENT WELL
- ■ FGDS LANDFILL WELL
- ☒ SURFACE WATER MEASURING LOCATIONS
- NM NOT MEASURED

## NOTES

1. FLIGHT DATE: APRIL 2023.
2. POTENTIOMETRIC CONTOUR INTERVAL SHOWN IS 5 FEET.
3. TOPOGRAPHIC CONTOUR INTERVAL SHOWN IS 2 FEET.
4. SAMPLING DATE: 8/12/2024.
5. SUGAR CREEK SURFACE WATER ELEVATION IS BASED ON AVERAGE OF USGS GAGE 05576250 FOR 8/12/2024.
6. "NM" – NOT MEASURED.
7. DEPICTED BOUNDARIES OF SITE FEATURES ARE APPROXIMATE.
8. (*) – DATA NOT USED TO CREATE CONTOURS.

T-6 528.44
GP1 524.71
T-5 529.96
AP-7 525.87
GP7 NM
GP3 529.63
P104 522.33
T-4 530.28
AP-6 526.71
RW-3 527.11
G121 524.99
G122 522.07
P103 528.41
AW-2 521.96
P07D North 528.25
P07S West* 518.80
P07M East* 520.21
AP-8 538.33
AP-9 523.31
AP-1R 524.03
D2 548.42
P106 521.99
P04D 526.78
LANDFILL UNIT 2
G120 534.09
D1 545.72
P06S North* 522.57
P06D Middle 523.96
AP-10 532.11
DALLMAN ASH POND
D3 545.28
530
P05D 531.37
AW-1 538.85
G113* 529.88
R111 526.11
G112 524.33
P09S West* 524.43
P09D East 524.38
AP-2A 527.61
D4 546.39
LANDFILL UNIT 1
AP-11 522.28
SUGAR CREEK EL. 520.28
R101 539.24
540
T-2 523.87
AP-12 522.56
AP-3 525.75
EL. 545.69
CLARIFICATION POND
G110 530.20
550
AP-13 523.80
EL. NM
LAKESIDE ASH POND
L-5 549.96
560
AP-14 536.23
T-1 521.15
L-3 551.12
AP-5 566.56
FORMER LIME POND
L-4 558.76
FORMER LIME POND
FORMER LIME POND
AP-4 544.83
L-1 551.18
FAST LAKE SHORE DRIVE
560

LAKE SPRINGFIELD
EL. 559.95

N

0 150 300 600
SCALE: IN FEET

| | | | |
|---|---|---|---|
| SHEET NUMBER: 11 | PROJECT ID: 240338/0014 | DATE: APRIL 2025 | POTENTIOMETRIC SURFACE MAP 3RD QUARTER 2024 |
| | | | PREPARED FOR CITY WATER, LIGHT, AND POWER SPRINGFIELD, SANGAMON COUNTY, ILLINOIS |

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
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PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL/PIEZOMETER
- ○ PIEZOMETER
- ◔ CCR SURFACE IMPOUNDMENT WELL
- ■ FGDS LANDFILL WELL
- ☒ SURFACE WATER MEASURING LOCATIONS
- NM NOT MEASURED

## NOTES

1. FLIGHT DATE: APRIL 2023.
2. POTENTIOMETRIC CONTOUR INTERVAL SHOWN IS 5 FEET.
3. TOPOGRAPHIC CONTOUR INTERVAL SHOWN IS 2 FEET.
4. SAMPLING DATE: 11/12/2024.
5. SUGAR CREEK SURFACE WATER ELEVATION IS BASED ON AVERAGE OF USGS GAGE 05576250 FOR 11/12/2024.
6. "NM" – NOT MEASURED.
7. DEPICTED BOUNDARIES OF SITE FEATURES ARE APPROXIMATE.
8. (*) – DATA NOT USED TO CREATE CONTOURS.

T-6 527.30
T-5 529.20
AP-7 525.45
GP7 526.30
P104 NM
T-4 529.32
AP-6 526.65
RW-3 526.97
G121 519.80
G122 523.04
P103 NM
AW-2 523.74
AP-8 532.98
ACTIVE AREA
P07D North 523.88
P07S West* NM
P07M East* NM
AP-9 523.97
AP-7R 524.98
D2 549.62
P106 NM
P04D NM
LANDFILL UNIT 2
G120 534.98
D1 546.11
P06S North* NM
AP-10 531.91
DALLMAN ASH POND
D3 548.84
P06D Middle NM
P05D NM
P09S West* NM
AW-1 539.88
R111 527.16
G112 525.50
G113* 529.10
P09D East NM
530
LANDFILL UNIT 1
D4 547.48
AP-11 522.67
EL 521.57
SUGAR CREEK
AP-2A 529.56
R101 539.35
540
EL. NM
AP-12 522.68
AP-3 526.15
EL. 545.69
550
CLARIFICATION POND
G110 531.16
560
T-2 534.39
AP-13 522.60
EL. NM
LAKESIDE ASH POND
L-5 549.57
AP-14 534.96
T-1 521.64
L-3 550.02
AP-5 567.62
FORMER LIME POND
L-4 558.70
FORMER LIME POND
FORMER LIME POND
AP-4 544.75
L-1 550.69
EAST LAKE SHORE DRIVE

LAKE SPRINGFIELD
EL. 559.54

N

0 150 300 600
SCALE: IN FEET

12

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: APRIL 2025

POTENTIOMETRIC SURFACE MAP
4TH QUARTER 2024

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
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PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- —540— GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◔ PART 257 GROUNDWATER MONITORING WELL
- ■ PART 845 GROUNDWATER MONITORING WELL
- ☒ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.

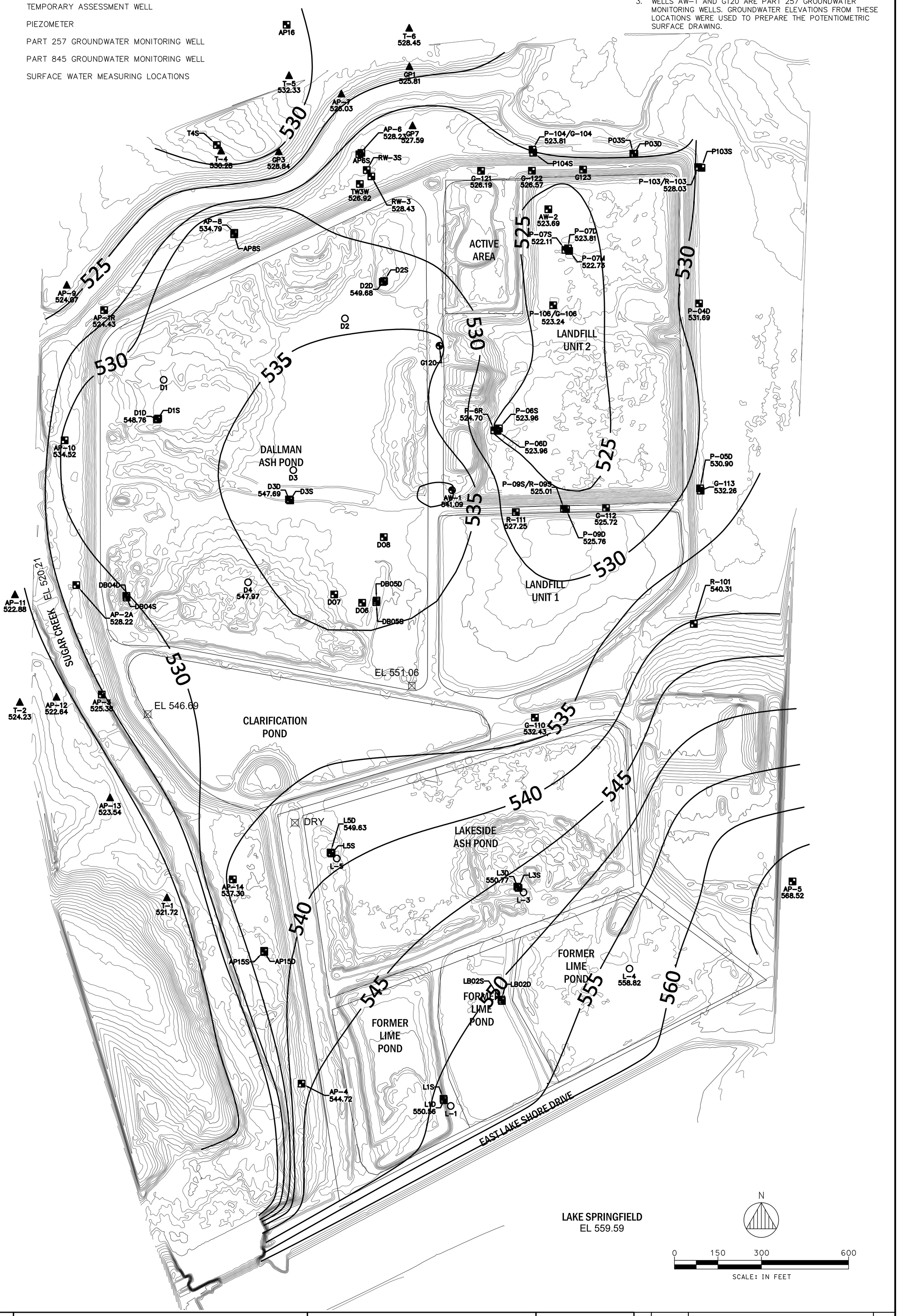


FIG. 1

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: AUGUST 2025

POTENTIOMETRIC SURFACE MAP
JANUARY 27, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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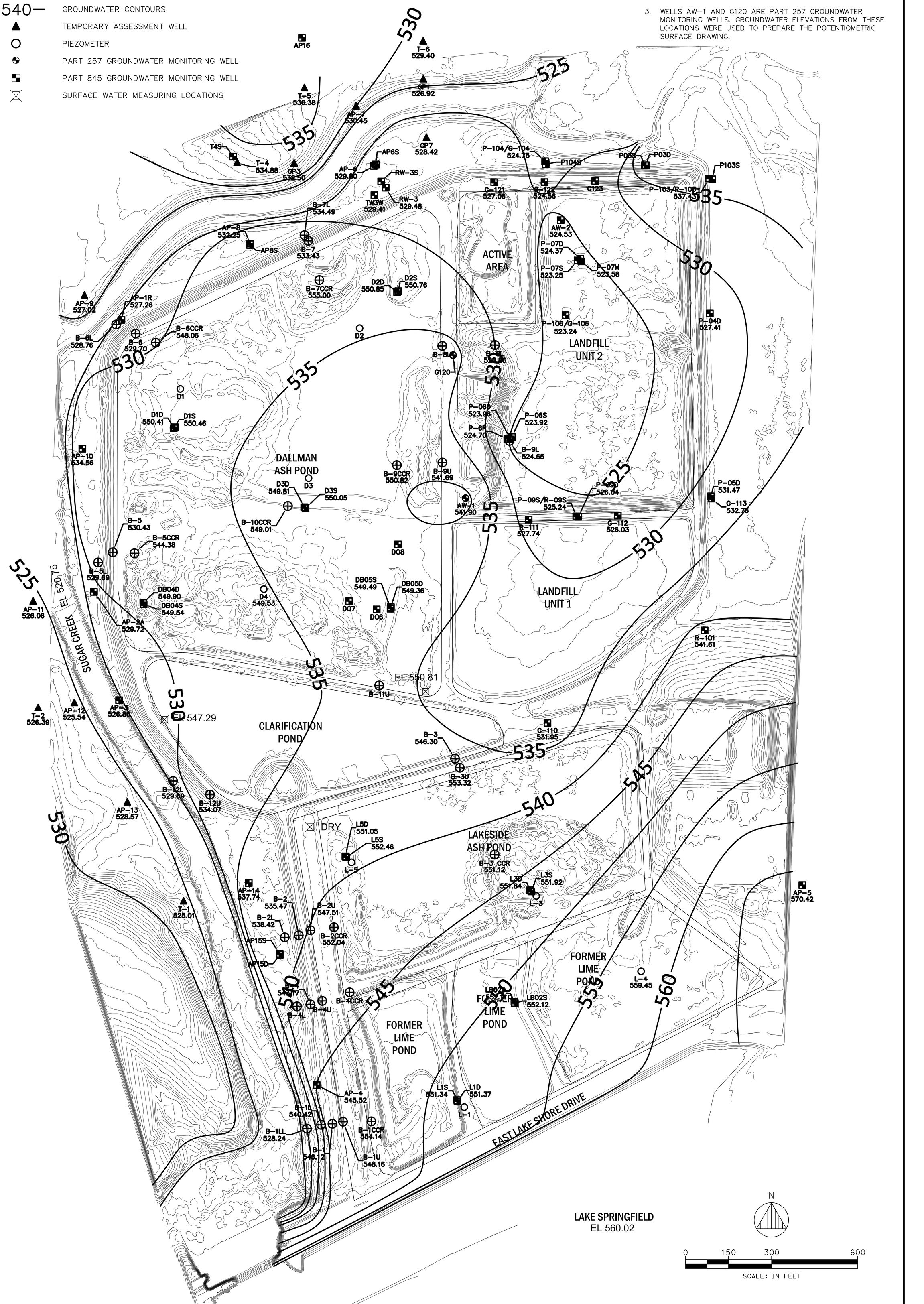
## LEGEND

- 550 — EXISTING GROUND CONTOURS
- 540 — GROUNDWATER CONTOURS
- ▲ TEMPORARY ASSESSMENT WELL
- ○ PIEZOMETER
- ◕ PART 257 GROUNDWATER MONITORING WELL
- ▪ PART 845 GROUNDWATER MONITORING WELL
- ☒ SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.




**LAKE SPRINGFIELD**
EL 560.02

N

0 150 300 600
SCALE: IN FEET

FIG. 4

POTENTIOMETRIC SURFACE MAP
APRIL 20, 2025

PREPARED FOR
CITY WATER, LIGHT, AND POWER
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: AUGUST 2025
PROJECT ID: 240338/0014
SHEET NUMBER:

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
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APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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## LEGEND

- 550 — EXISTING GROUND CONTOURS
- 540 — GROUNDWATER CONTOURS
- TEMPORARY ASSESSMENT WELL
- PIEZOMETER
- PART 257 GROUNDWATER MONITORING WELL
- PART 845 GROUNDWATER MONITORING WELL
- SURFACE WATER MEASURING LOCATIONS

## NOTES

1. FLIGHT DATE APRIL 2023.
2. CONTOUR INTERVAL SHOWN IS 5 FEET.
3. WELLS AW-1 AND G120 ARE PART 257 GROUNDWATER MONITORING WELLS. GROUNDWATER ELEVATIONS FROM THESE LOCATIONS WERE USED TO PREPARE THE POTENTIOMETRIC SURFACE DRAWING.

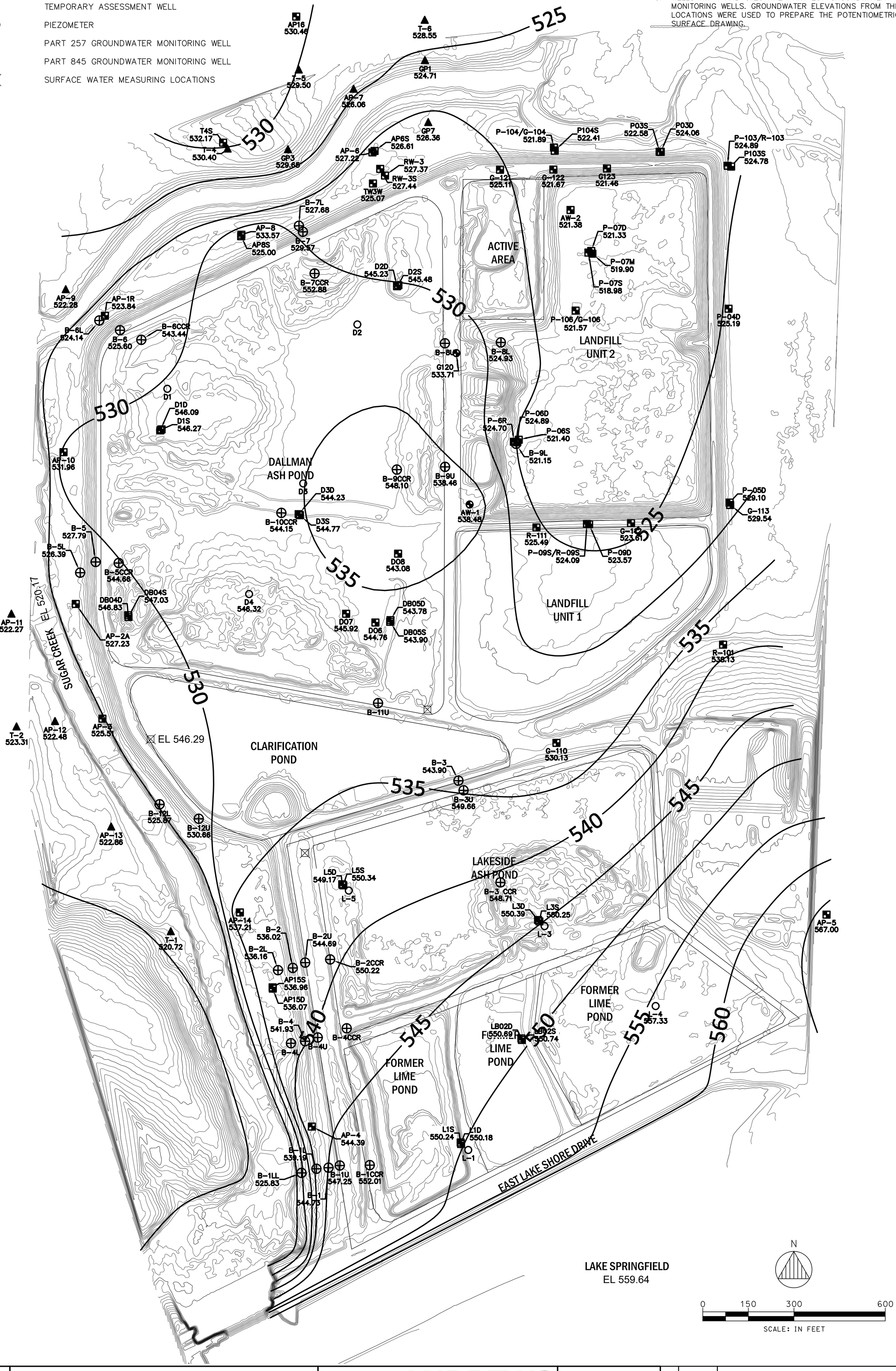


FIG. 8

POTENTIOMETRIC SURFACE MAP
AUGUST 21, 2025

PREPARED FOR

CITY WATER, LIGHT, AND POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

SHEET NUMBER:

PROJECT ID: 240338/0014

DATE: AUGUST 2025

ANDREWS ENGINEERING
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 WWW.ANDREWS-ENG.COM
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO

APPROVED BY: MTH | DESIGNED BY: MTH | DRAWN BY: BCK

| NO. | DATE | REVISION DESCRIPTION | BY |
|---|---|---|---|

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# ANDREWS ENGINEERING

## CORPORATE HEADQUARTERS

### SPRINGFIELD OFFICE

3300 Ginger Creek Drive, Springfield, IL 62711

217.787.2334

### CHICAGO AREA OFFICE

420 Eisenhower Lane North, Lombard, IL 60143

630.953.3332

### INDIANAPOLIS OFFICE

1811 Executive Drive, Suite J, Indianapolis, IN 46241

317.595.6492

### ST. LOUIS OFFICE

101 East Walton, Suite 201, Warrenton, MO 63382

636.456.6387

### PONTIAC OFFICE

215 West Washington Street, Pontiac, IL 61764

815.842.2042

ANDREWS-ENG.COM

# ANDREWS ENGINEERING

## CORPORATE HEADQUARTERS

### SPRINGFIELD OFFICE

3300 Ginger Creek Drive, Springfield, IL 62711

217.787.2334

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636.456.6387

### PONTIAC OFFICE

215 West Washington Street, Pontiac, IL 61764

815.842.2042

ANDREWS-ENG.COM

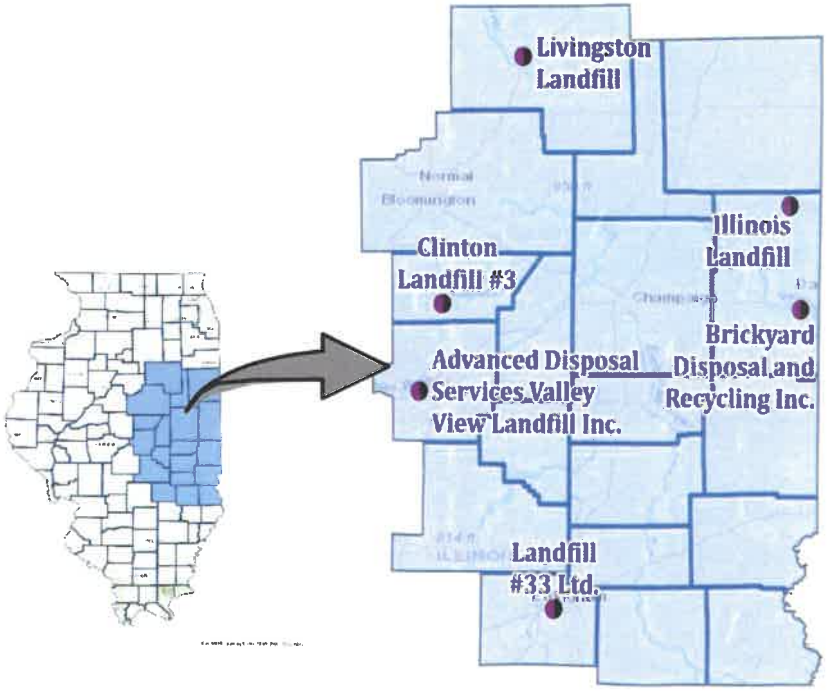
# Appendix C

# Central Illinois Landfill Capacity Information

# 2023 Landfill Capacity Information

| | Disposal Volume Reported (Gate cy) | Disposal Volume (Post-Compaction In-place cy) | Five-Year Average Disposal Volume In-place cy) | Remaining Capacity Reported (In-Place cy) | Lifetime Expectancy (Years) |
|---|---|---|---|---|---|
| **Region 4: East Central Illinois** | | | | | |
| Advanced Disposal Services Valley View Landfill Inc. | 467,811 | 187,124 | 207,039 | 7,223,189 | 35 |
| Brickyard Disposal and Recycling Inc. | 663,839 | 301,745 | 314,264 | 5,864,904 | 19 |
| Clinton Landfill #3 | 141,633 | 54,058 | 481,121 | 23,080,860 | 48 |
| Illinois Landfill | 101,652 | 50,826 | 65,410 | 11,069,307 | 169 |
| Landfill #33 Ltd. | 302,407 | 100,802 | 109,760 | 558,365 | 5 |
| Livingston Landfill | 3,823,899 | 1,365,678 | 1,084,146 | 23,912,219 | 22 |
| Totals: | **5,501,241** | **2,060,234** | **2,261,742** | **71,708,843** | **50** |

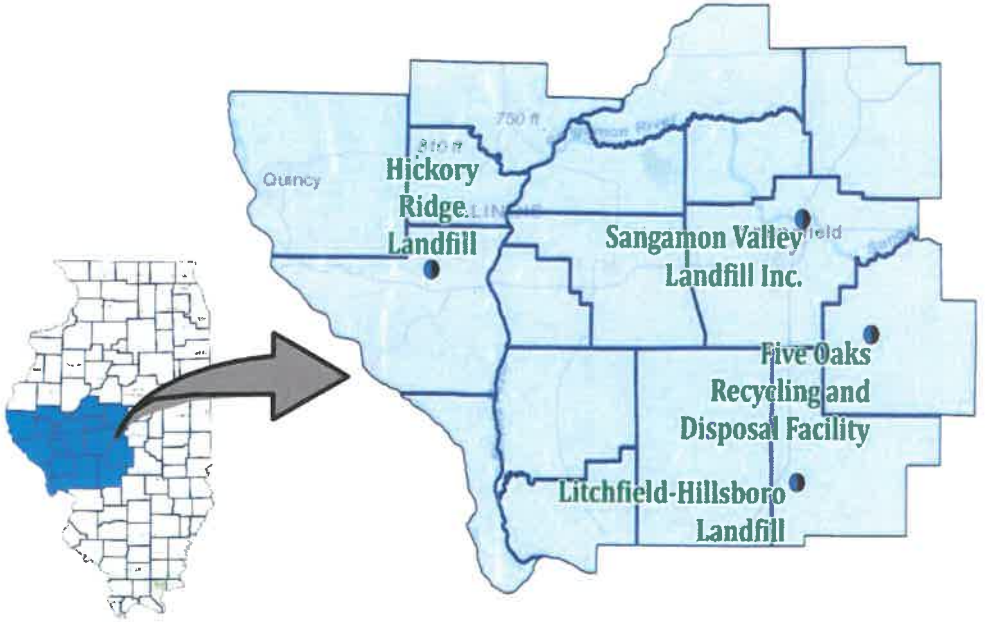
The table reflects each landfill's reported capacity as of January 1, 2024 as well as the volume of waste disposed in 2023, five-year average volume disposed, and projected life expectancy based on current five-year average.



# 2023 Landfill Capacity Information

| | Disposal Volume Reported (Gate cy) | Disposal Volume (Post-Compaction In-place cy) | Five-Year Average Disposal Volume (In-place cy) | Remaining Capacity Reported (In-Place cy) | Lifetime Expectancy (Years) |
|---|---|---|---|---|---|
| Region 5: West Central Illinois | | | | | |
| Five Oaks Recycling and Disposal Facility | 901,532 | 342,788 | 282,636 | 6,131,584 | 22 |
| Hickory Ridge Landfill | 425,697 | 127,074 | 155,564 | 9,956,606 | 64 |
| Litchfield-Hillsboro Landfill | 229,053 | 76,351 | 105,663 | 1,135,066 | 11 |
| Sangamon Valley Landfill Inc. | 510,890 | 170,297 | 171,119 | 1,644,087 | 10 |
| Totals: | **2,067,172** | **716,509** | **714,982** | **18,867,343** | **27** |

The table reflects each landfill's reported capacity as of January 1, 2024, as well as the volume of waste disposed in 2023, five-year average volume disposed, and projected life expectancy based on current five-year average.



# Appendix D

# TCLP/SPLP Laboratory Results

May 28, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050235

Dear Eric Staley:

TEKLAB, INC received 4 samples on 5/2/2024 1:11:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 11 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050235

**Client Project:** CWLP Borings **Report Date:** 28-May-24

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

**Client:** City Water, Light & Power

**Client Project:** CWLP Borings

**Work Order:** 24050235

**Report Date:** 28-May-24

**Cooler Receipt Temp:** 2.9 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050235-001
**Client Sample ID:** D2 33.5-35.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 10:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **158** | mg/L | 10 | 05/09/2024 14:01 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.37 | 1.0 | J | **0.37** | mg/L | 10 | 05/10/2024 9:26 | R347102 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | | |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **8** | mg/L | 1 | 05/09/2024 13:56 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.18** | | 1 | 05/06/2024 11:24 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.345** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.352** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | J | **0.0002** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **4.05** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0130** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **1.27** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/07/2024 17:27 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0125** | mg/L | 5 | 05/09/2024 9:41 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0707** | mg/L | 5 | 05/09/2024 9:41 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0018** | mg/L | 5 | 05/09/2024 9:41 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 0:32 | 222519 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0390** | mg/L | 1 | 05/08/2024 17:27 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **3.05** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **5.21** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/07/2024 16:58 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0273** | mg/L | 5 | 05/09/2024 10:45 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0065** | mg/L | 5 | 05/09/2024 10:45 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0015** | mg/L | 5 | 05/09/2024 10:45 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:08 | 223125 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050235-002
**Client Sample ID:** D1 36.5-38.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 15:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 6 | 10 | | **45** | mg/L | 1 | 05/09/2024 14:04 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.19** | mg/L | 1 | 05/09/2024 13:44 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **1** | mg/L | 1 | 05/09/2024 14:04 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.64** | | 1 | 05/06/2024 11:30 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0528** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.514** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0085** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **10.9** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0706** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0707** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0116** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **0.0102** | mg/L | 1 | 05/08/2024 13:13 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0554** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.037** | mg/L | 1 | 05/07/2024 17:45 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0237** | mg/L | 5 | 05/09/2024 9:36 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0367** | mg/L | 5 | 05/09/2024 9:36 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0268** | mg/L | 5 | 05/08/2024 14:55 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 0:39 | 222519 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0471** | mg/L | 1 | 05/08/2024 17:23 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | J | **0.0002** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **2.94** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.144** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.021** | mg/L | 1 | 05/07/2024 17:03 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0078** | mg/L | 5 | 05/08/2024 15:04 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0112** | mg/L | 5 | 05/09/2024 10:24 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0010** | mg/L | 5 | 05/08/2024 15:04 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:12 | 223125 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050235-003
**Client Sample ID:** D3 14.5-29.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 6 | 10 | | **31** | mg/L | 1 | 05/09/2024 14:28 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.11** | mg/L | 1 | 05/09/2024 13:47 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **< 4** | mg/L | 1 | 05/09/2024 14:28 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.38** | | 1 | 05/06/2024 11:33 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0155** | mg/L | 1 | 05/08/2024 13:15 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.373** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0113** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **8.74** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0475** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0438** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0054** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0415** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.030** | mg/L | 1 | 05/07/2024 17:46 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0197** | mg/L | 5 | 05/10/2024 7:34 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0100** | mg/L | 5 | 05/09/2024 10:29 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0185** | mg/L | 5 | 05/08/2024 15:29 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 0:42 | 222519 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0173** | mg/L | 1 | 05/08/2024 17:29 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **2.34** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0355** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/07/2024 17:04 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0070** | mg/L | 5 | 05/09/2024 11:07 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0034** | mg/L | 5 | 05/09/2024 11:07 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0017** | mg/L | 5 | 05/09/2024 11:07 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:14 | 223125 |

**Client:** City Water, Light & Power
**Work Order:** 24050235
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050235-004
**Client Sample ID:** D4 29.5-31.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 15:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **102** | mg/L | 10 | 05/09/2024 14:41 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.14** | mg/L | 1 | 05/09/2024 13:49 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **11** | mg/L | 1 | 05/09/2024 14:36 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **10.2** | | 1 | 05/06/2024 11:35 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0242** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.287** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0012** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Boron | NELAP | 0.250 | 1.00 | | **6.25** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0063** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0089** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.179** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.022** | mg/L | 1 | 05/07/2024 17:49 | 222522 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0376** | mg/L | 5 | 05/09/2024 10:18 | 222522 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0374** | mg/L | 5 | 05/09/2024 10:18 | 222522 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0243** | mg/L | 5 | 05/08/2024 15:00 | 222522 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/19/2024 16:25 | 223122 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0114** | mg/L | 1 | 05/08/2024 17:31 | 222567 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Boron | NELAP | 0.250 | 1.00 | | **2.77** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.134** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.021** | mg/L | 1 | 05/07/2024 17:05 | 222567 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0240** | mg/L | 5 | 05/09/2024 11:44 | 222567 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0059** | mg/L | 5 | 05/09/2024 11:44 | 222567 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0013** | mg/L | 5 | 05/08/2024 16:14 | 222567 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 17:21 | 223125 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

# Receiving Check List

Teklab, Inc. Environmental Laboratory

http://www.teklabinc.com/

**Client:** City Water, Light & Power

**Client Project:** CWLP Borings

**Work Order:** 24050235

**Report Date:** 28-May-24

**Carrier:** Paul Reeves

**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 03-May-24

**Reviewed by:** Ellie Hopkins
**On:** 03-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 14

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 2.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☐ | No ☑ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | NA ☑ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 5/3/2024 10:02:55 AM

Limited volume for D3 sample; additional volume for Radium-226 and -228 was submitted on WO#24050346. SAH 5/28/24

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050235

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 2.9 °C #7
Preserved in: [ ] LAB [ ] FIELD
FOR LAB USE ONLY
LAB NOTES:

TEKLAB

Client Comments:
TCLP & SPLP for all metals

Courier

email results to C. Grey and datamanagement@andrews-eng.com

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

**PROJECT NAME/NUMBER**: CWLP Borings

**SAMPLE COLLECTOR'S NAME**: S. Van Hook

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | TCLP & SPLP Sb, As, Ba, Be | TCLP & SPLP B, Cd, Cr, Co, Pb, Se, Tl | TCLP & SPLP Li, Mo | TCLP & SPLP Hg | Neutral Leach Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050235-001 | D2 33.5-35.5 | 4/29/24 10AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | D1 36.5-38.5 | 4/29/24 3:30PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | D3 14.5-29.5 | 4/30/24 10:15am | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | D4 29.5-31.5 | 4/30/24 3:00PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steve Van Hook | 5/1/24 7:00pm | ASI Secure Storage | 5/1/24 7:00P |
| ASI Secure Storage CMay | 5/2/24 7:40A | Paul Mix | 5.2.24 0740 |
| Paul Mix | 5.2.24 1311 | Mitch Klett | 5/2/24 1311 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

UM 5/2

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 23, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050235

Dear Shelly Hennessy:

Order No.: 24050488

Summit Environmental Technologies, Inc. received 3 sample(s) on 5/7/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24050488**
Date: **5/23/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050235

WorkOrder Narrative:
24050488: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

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# Qualifiers and Acronyms

WO#: **24050488**
Date: **5/23/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24050488**
***23-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050235

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050488-001 | 24050235-001 | | 4/29/2024 10:00:00 AM | 5/7/2024 11:30:00 AM | Solid |
| 24050488-002 | 24050235-002 | | 4/29/2024 3:30:00 PM | 5/7/2024 11:30:00 AM | Solid |
| 24050488-003 | 24050235-004 | | 4/30/2024 3:00:00 PM | 5/7/2024 11:30:00 AM | Solid |

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# DATES REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050235

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050488-001A | 24050235-001 | 4/29/2024 10:00:00 AM | Solid | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050488-002A | 24050235-002 | 4/29/2024 3:30:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050488-003A | 24050235-004 | 4/30/2024 3:00:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |

Original

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# Analytical Report

(consolidated)

WO#: **24050488**

Date Reported: **5/23/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 10:00:00 AM

**Project:** 24050235

**Lab ID:** 24050488-001

**Matrix:** SOLID

**Client Sample ID:** 24050235-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 ANALYSIS (9315)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.100 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RAD226/228** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 ANALYSIS (9320)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.330 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050488**

Date Reported: **5/23/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 3:30:00 PM

**Project:** 24050235

**Lab ID:** 24050488-002

**Matrix:** SOLID

**Client Sample ID:** 24050235-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 ANALYSIS (9315)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.130 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RAD226/228** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 ANALYSIS (9320)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.270 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050488**

Date Reported: **5/23/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 3:00:00 PM

**Project:** 24050235

**Lab ID:** 24050488-003

**Matrix:** SOLID

**Client Sample ID:** 24050235-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RAD226/228** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-226 ANALYSIS (9315)** | | | | | | | |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.160 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RAD226/228** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| **RADIUM-228 ANALYSIS (9320)** | | | | | | | |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.300 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050235 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043898**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043899**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 2.00 | 5.000 | 0 | 72.4 | 50 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043900**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.01 | 2.00 | 5.000 | 0 | 60.2 | 50 | 130 | 3.620 | 18.4 | 20 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050235 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**

Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 8.89 | 2.00 | 10.00 | 0 | 88.9 | 0 | 0 | 6.490 | 31.2 | 20 | RS |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050235 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044082**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044083**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.20 | 1.00 | 5.000 | 0 | 124 | 70 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044084**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 60 | 140 | 6.200 | 7.36 | 40 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050488**

***23-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050235 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.51 | 1.00 | | | | | | 6.960 | 6.68 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

W.8-0.2=

Cooler Temp: 26.6°C Sampler: Client QC Level: 2

Fedex, Cooler

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Project# 24050235

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy
Requested Due Date: Standard TAT

Email: shennessy@TekLabInc.com
Billing/PO: 36226

Phone: (618) 344-1004 ext. 36

24050488

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 |
|---|---|---|---|---|---|
| | 24050235-001 | 4/29/24 1000 | Unpres | Soil | ✔ 38 |
| | 24050235-002 | 4/29/24 1530 | Unpres | Soil | ✔ 34 |
| | 24050235-004 | 4/30/24 1500 | Unpres | Soil | ✔ 38 |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |
| | | | Other | Aqueous | |

CPM

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5/3/24 1700 | | 5/7/24, 1130 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights.

SubCocRevA

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050488 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Christina N. Gemma | 5/7/2024 11:30:00 AM | C. Gemma |
| Completed By: | Christina N. Gemma | 5/7/2024 5:25:54 PM | C. Gemma |
| Reviewed By: | Jennifer Woolf | 5/8/2024 11:11:39 AM | Jennifer Woolf |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 20.6 | Good | Not Present | | | |

June 05, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050346

Dear Eric Staley:

TEKLAB, INC received 10 samples on 5/3/2024 1:50:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050346
**Report Date:** 05-Jun-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 17 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050346

**Client Project:** CWLP Borings **Report Date:** 05-Jun-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050346
**Report Date:** 05-Jun-24

**Cooler Receipt Temp:** 3.3 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Work Order:** 24050346

**Client Project:** CWLP Borings

**Report Date:** 05-Jun-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-001
**Client Sample ID:** L4 10ft-15.3ft
**Matrix:** SOLID
**Collection Date:** 05/02/2024 8:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **149** | mg/L | 10 | 05/09/2024 14:49 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.42** | mg/L | 1 | 05/09/2024 13:52 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **25** | mg/L | 1 | 05/09/2024 14:44 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.49** | | 1 | 05/06/2024 11:10 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Barium | NELAP | 0.0150 | 0.0450 | | **1.04** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.59** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0077** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:00 | 222742 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0012** | mg/L | 5 | 05/14/2024 9:03 | 222742 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0034** | mg/L | 5 | 05/14/2024 9:03 | 222742 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0015** | mg/L | 5 | 05/15/2024 12:16 | 222742 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/16/2024 7:17 | 222743 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **< 1.00** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:13 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | J | **0.0009** | mg/L | 5 | 05/14/2024 12:23 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **< 0.0030** | mg/L | 5 | 05/14/2024 12:23 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0011** | mg/L | 5 | 05/15/2024 14:31 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:27 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-002
**Client Sample ID:** L3 29.5-32.7
**Matrix:** SOLID
**Collection Date:** 05/02/2024 11:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 307 | 500 | | **574** | mg/L | 50 | 05/10/2024 13:21 | R347112 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.20** | mg/L | 1 | 05/09/2024 13:53 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **13** | mg/L | 1 | 05/09/2024 14:52 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.79** | | 1 | 05/06/2024 11:12 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0337** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.470** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0054** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Boron | NELAP | 0.250 | 1.00 | | **1.23** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0397** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0185** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0161** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Lead | NELAP | 0.0040 | 0.0075 | | **0.0247** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:01 | 222742 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0024** | mg/L | 5 | 05/14/2024 9:57 | 222742 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0061** | mg/L | 5 | 05/14/2024 9:57 | 222742 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0060** | mg/L | 5 | 05/15/2024 12:31 | 222742 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/16/2024 7:20 | 222743 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/16/2024 17:50 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.025** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.60** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0169** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:14 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0037** | mg/L | 5 | 05/14/2024 12:28 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0030** | mg/L | 5 | 05/14/2024 12:28 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:36 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:29 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/31/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/31/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-003
**Client Sample ID:** L3 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 05/02/2024 11:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **224** | mg/L | 10 | 05/09/2024 15:05 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.20** | mg/L | 1 | 05/09/2024 13:56 | R347045 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **4** | mg/L | 1 | 05/09/2024 15:00 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.14** | | 1 | 05/06/2024 11:14 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0279** | mg/L | 1 | 05/16/2024 17:49 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.635** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.69** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0154** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0065** | mg/L | 1 | 05/14/2024 12:11 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0307** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0066** | mg/L | 5 | 05/14/2024 9:42 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0053** | mg/L | 5 | 05/14/2024 9:42 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0086** | mg/L | 5 | 05/15/2024 13:21 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **0.00028** | mg/L | 1 | 05/14/2024 14:21 | 222612 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0195** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.028** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.32** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0111** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:15 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0054** | mg/L | 5 | 05/14/2024 12:33 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0015** | mg/L | 5 | 05/14/2024 12:33 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:41 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:36 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-004
**Client Sample ID:** L1 24.5-31.5
**Matrix:** SOLID
**Collection Date:** 05/02/2024 15:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **139** | mg/L | 10 | 05/09/2024 15:29 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.21** | mg/L | 1 | 05/10/2024 9:32 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **5** | mg/L | 1 | 05/09/2024 15:24 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.14** | | 1 | 05/06/2024 11:15 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.172** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0015** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Boron | NELAP | 0.250 | 1.00 | | **17.2** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0045** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0033** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0118** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:56 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0064** | mg/L | 5 | 05/14/2024 9:47 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0087** | mg/L | 5 | 05/14/2024 9:47 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0041** | mg/L | 5 | 05/15/2024 13:26 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 16:51 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.026** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **2.69** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0012** | mg/L | 5 | 05/14/2024 12:39 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0030** | mg/L | 5 | 05/14/2024 12:39 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:45 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:43 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-005
**Client Sample ID:** L1 14.5-21.5
**Matrix:** SOLID
**Collection Date:** 05/02/2024 14:50

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **103** | mg/L | 10 | 05/09/2024 15:37 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.37** | mg/L | 1 | 05/10/2024 9:35 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **1** | mg/L | 1 | 05/09/2024 15:32 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.13** | | 1 | 05/06/2024 11:16 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.345** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | J | **0.0007** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Boron | NELAP | 0.25 | 1.0 | J | **0.32** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0045** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0054** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:57 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0019** | mg/L | 5 | 05/14/2024 10:18 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0036** | mg/L | 5 | 05/14/2024 10:18 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0023** | mg/L | 5 | 05/15/2024 13:36 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 16:54 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0276** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **< 1.00** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0145** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.019** | mg/L | 1 | 05/10/2024 14:16 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0114** | mg/L | 5 | 05/14/2024 13:05 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **< 0.0030** | mg/L | 5 | 05/14/2024 13:05 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 15:05 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:45 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-006
**Client Sample ID:** D3 9.5-11.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-007
**Client Sample ID:** D3 4.5-6.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 6 | 10 | | **45** | mg/L | 1 | 05/09/2024 15:42 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | J | **0.08** | mg/L | 1 | 05/10/2024 9:36 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **< 4** | mg/L | 1 | 05/09/2024 15:42 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.93** | | 1 | 05/06/2024 11:18 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.492** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0114** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Boron | NELAP | 0.500 | 2.00 | | **25.9** | mg/L | 2 | 05/13/2024 11:33 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0302** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0692** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0118** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0375** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:59 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0178** | mg/L | 5 | 05/14/2024 9:52 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0131** | mg/L | 5 | 05/14/2024 9:52 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0252** | mg/L | 5 | 05/15/2024 13:31 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 16:56 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/16/2024 17:50 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **2.65** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0138** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:24 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0029** | mg/L | 5 | 05/14/2024 12:44 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0033** | mg/L | 5 | 05/14/2024 12:44 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:50 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:47 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-008
**Client Sample ID:** D1 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 15:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **65** | mg/L | 5 | 05/10/2024 13:23 | R347112 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.13** | mg/L | 1 | 05/10/2024 9:39 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **1** | mg/L | 1 | 05/09/2024 15:50 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **10.0** | | 1 | 05/06/2024 11:20 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.358** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0145** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Boron | NELAP | 0.500 | 2.00 | | **26.6** | mg/L | 2 | 05/13/2024 11:33 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0293** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.105** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0145** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0402** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.017** | mg/L | 1 | 05/10/2024 15:06 | 222740 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0170** | mg/L | 5 | 05/14/2024 11:46 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0112** | mg/L | 5 | 05/14/2024 11:46 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0229** | mg/L | 5 | 05/15/2024 14:26 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/15/2024 17:07 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **5.11** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Chromium | NELAP | 0.0034 | 0.010 | J | **0.0049** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.216** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.030** | mg/L | 1 | 05/10/2024 14:25 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0035** | mg/L | 5 | 05/14/2024 12:49 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0033** | mg/L | 5 | 05/14/2024 12:49 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 14:55 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:49 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-009
**Client Sample ID:** D2 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 04/29/2024 9:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 61 | 100 | | **226** | mg/L | 10 | 05/09/2024 16:20 | R347057 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.20** | mg/L | 1 | 05/10/2024 9:42 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **7** | mg/L | 1 | 05/09/2024 16:14 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.25** | | 1 | 05/06/2024 11:21 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0505** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.556** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0231** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Boron | NELAP | 0.250 | 1.00 | | **9.63** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0638** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.116** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0182** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0571** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| Selenium | NELAP | 0.017 | 0.050 | J | **0.017** | mg/L | 1 | 05/10/2024 14:03 | 222742 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0163** | mg/L | 5 | 05/14/2024 9:36 | 222742 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0228** | mg/L | 5 | 05/14/2024 9:36 | 222742 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0257** | mg/L | 5 | 05/15/2024 12:11 | 222742 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/16/2024 7:24 | 222743 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.021** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **4.20** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.155** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0141** | mg/L | 5 | 05/14/2024 12:54 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0078** | mg/L | 5 | 05/14/2024 12:54 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/15/2024 15:00 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:54 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

**Client:** City Water, Light & Power
**Work Order:** 24050346
**Client Project:** CWLP Borings
**Report Date:** 05-Jun-24
**Lab ID:** 24050346-010
**Client Sample ID:** D4 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 04/30/2024 14:45

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **70** | mg/L | 5 | 05/10/2024 13:26 | R347112 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | J | **0.06** | mg/L | 1 | 05/10/2024 9:52 | R347102 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | J | **2** | mg/L | 1 | 05/09/2024 16:22 | R347069 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **9.63** | | 1 | 05/06/2024 11:22 | R346778 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.238** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0056** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Boron | NELAP | 0.500 | 2.00 | S | **26.9** | mg/L | 2 | 05/13/2024 11:34 | 222740 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0422** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **0.0151** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0107** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.105** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 15:07 | 222740 |
| *Matrix spike control limits are not applicable due to high sample/spike ratio.* | | | | | | | | | |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0395** | mg/L | 5 | 05/14/2024 11:51 | 222740 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0192** | mg/L | 5 | 05/14/2024 11:51 | 222740 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0225** | mg/L | 5 | 05/15/2024 13:55 | 222740 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **0.00029** | mg/L | 1 | 05/15/2024 17:12 | 222741 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Barium | NELAP | 0.0150 | 0.0450 | | **< 0.0450** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Boron | NELAP | 0.250 | 1.00 | | **3.77** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0495** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/10/2024 14:26 | 222744 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0034** | mg/L | 5 | 05/14/2024 14:18 | 222744 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0075** | mg/L | 5 | 05/14/2024 14:18 | 222744 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0017** | mg/L | 5 | 05/15/2024 16:15 | 222744 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 16:56 | 223131 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R348283 |

# Receiving Check List

Teklab, Inc. Environmental Laboratory

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050346
**Report Date:** 05-Jun-24

**Carrier:** Paul Reeves

**Received By:** LM

**Completed by:** Amber Dilallo
**On:** 03-May-24

**Reviewed by:** Ellie Hopkins
**On:** 03-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 25

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.3 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

| | | | |
|---|---|---|---|
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | NA ☑ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

**Any No responses must be detailed below or on the COC.**

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 5/3/2024 2:35:35 PM

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050346

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Are these samples known to be involved in litigation? If yes, a surcharge will apply: ☐ Yes ☐ No
Are these samples known to be hazardous? ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: ☐ Yes ☐ No

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 3.3 °C LT6475
Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY
LAB NOTES:

TEKLAB

Client Comments:
TCLP & SPLP for all metals

Courier

email results to C. Grey and datamanagement@andrews-eng.com SAV 5/6/24
*Add'l volume for 24050235-003; use ID D3 9.5-11.5 per Steve Van Hook

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

RESULTS REQUESTED
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ☐ 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | TCLP & SPLP Sb, As, Ba, Be | TCLP & SPLP B, Cd, Cr, Co, Pb, Se, Tl | TCLP & SPLP Li, Mo | TCLP & SPLP Hg | Neutral Leach Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050346 001 | L4 10'-15.5' | 5/2/24 8:15am | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | L3 29.5-32' | 5/2/24 11AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | L3 19.5-21.5 | 5/2/24 11:15AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | L4 24.5-31.5 | 5/2/24 3:30pm | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 005 | L1 14.5-21.5 | 5/2/24 2:50PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| * 006 | D3 9.5'-29.5' | 4/30/24 10:15AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ RAD ONLY SAV 5/6/24 |
| 007 | D3 4.5-6.5 | 4/30/24 10:15AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 008 | D1 19.5-21.5 | 4/29/24 3:00PM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 009 | D2 19.5-21.5 | 4/29/24 9:30am | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 010 | D4 19.5-21.5 | 4/30/24 2:45pm | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5/2/24 7:00pm | AEI Secure Storage | 5/2/24 1900 |
| AEI Secure Storage | 5/3/24 07:28 | [signature] | 5.3.24 0728 |
| [signature] | 5.3.24 1350 | [signature] | 5/3/24 1350 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

5/3

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

June 05, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050346

Dear Shelly Hennessy:

Order No.: 24050783

Summit Environmental Technologies, Inc. received 10 sample(s) on 5/9/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24050783**
Date: **6/5/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050346

WorkOrder Narrative:
24050783: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050783**
Date: **6/5/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050783**
***05-Jun-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050346

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050783-001 | 24050346-001 | | 5/2/2024 8:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-002 | 24050346-002 | | 5/2/2024 11:00:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-003 | 24050346-003 | | 5/2/2024 11:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-004 | 24050346-004 | | 5/2/2024 3:30:00 PM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-005 | 24050346-005 | | 5/2/2024 2:50:00 PM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-006 | 24050346-006 | | 4/30/2024 10:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-007 | 24050346-007 | | 4/30/2024 10:15:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-008 | 24050346-008 | | 4/30/2024 3:00:00 PM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-009 | 24050346-009 | | 4/30/2024 9:30:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050783-010 | 24050346-010 | | 4/30/2024 2:45:00 PM | 5/9/2024 11:40:00 AM | Solid |

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# DATES REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,

**Project:** 24050346

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050783-001A | 24050346-001 | 5/2/2024 8:15:00 AM | Solid | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-002A | 24050346-002 | 5/2/2024 11:00:00 AM | | Radium-226 Analysis (9315) | | 5/28/2024 1:38:00 PM | 6/3/2024 11:07:59 AM |
| | | | | Radium-228 Analysis (9320) | | 5/28/2024 1:38:00 PM | 5/31/2024 1:16:12 PM |
| 24050783-003A | 24050346-003 | 5/2/2024 11:15:00 AM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-004A | 24050346-004 | 5/2/2024 3:30:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-005A | 24050346-005 | 5/2/2024 2:50:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-006A | 24050346-006 | 4/30/2024 10:15:00 AM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-007A | 24050346-007 | | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-008A | 24050346-008 | 4/30/2024 3:00:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-009A | 24050346-009 | 4/30/2024 9:30:00 AM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050783-010A | 24050346-010 | 4/30/2024 2:45:00 PM | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 8:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-001

**Matrix:** SOLID

**Client Sample ID:** 24050346-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.0700 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.290 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 11:00:00 AM

**Project:** 24050346

**Lab ID:** 24050783-002

**Matrix:** SOLID

**Client Sample ID:** 24050346-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.0800 | 1 | 6/3/2024 11:07:59 AM |
| Yield | 1.00 | | | | | 1 | 6/3/2024 11:07:59 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.260 | 1 | 5/31/2024 1:16:12 PM |
| Yield | 1.00 | | | | | 1 | 5/31/2024 1:16:12 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 11:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-003

**Matrix:** SOLID

**Client Sample ID:** 24050346-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.140 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.300 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 3:30:00 PM

**Project:** 24050346

**Lab ID:** 24050783-004

**Matrix:** SOLID

**Client Sample ID:** 24050346-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.100 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.250 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 2:50:00 PM

**Project:** 24050346

**Lab ID:** 24050783-005

**Matrix:** SOLID

**Client Sample ID:** 24050346-005

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.0800 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.210 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 10:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-006

**Matrix:** SOLID

**Client Sample ID:** 24050346-006

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.140 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.280 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 10:15:00 AM

**Project:** 24050346

**Lab ID:** 24050783-007

**Matrix:** SOLID

**Client Sample ID:** 24050346-007

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.100 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.380 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 3:00:00 PM

**Project:** 24050346

**Lab ID:** 24050783-008

**Matrix:** SOLID

**Client Sample ID:** 24050346-008

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.160 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.290 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 9:30:00 AM

**Project:** 24050346

**Lab ID:** 24050783-009

**Matrix:** SOLID

**Client Sample ID:** 24050346-009

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.120 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.290 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050783**

Date Reported: **6/5/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 2:45:00 PM

**Project:** 24050346

**Lab ID:** 24050783-010

**Matrix:** SOLID

**Client Sample ID:** 24050346-010

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | | **SW9315** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | ND | 1.00 | | pCi/g | ± 0.120 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.00 | | | | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | | **SW9320** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | ND | 2.00 | | pCi/g | ± 0.280 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.00 | | | | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

| Sample ID: **MB-75515** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043898** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

| Sample ID: **LCS-75515** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 2.00 | 5.000 | 0 | 72.4 | 50 | 130 | | | | |

| Sample ID: **LCSD-75515** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/g** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.01 | 2.00 | 5.000 | 0 | 60.2 | 50 | 130 | 3.620 | 18.4 | 20 | |

| Sample ID: **24041932-001ADUP** | SampType: **DUP** | TestCode: **Radium-228_** | Units: **pCi/g-dry** | Prep Date: **5/16/2024** | RunNo: **186135** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75515** | TestNo: **SW9320** | **E903-904** | Analysis Date: **5/22/2024** | SeqNo: **5043905** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 10.4 | 2.34 | 11.68 | 0 | 88.9 | 0 | 0 | 7.583 | 31.2 | 20 | RS |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044082**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044083**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.20 | 1.00 | 5.000 | 0 | 124 | 70 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044084**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 60 | 140 | 6.200 | 7.36 | 40 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 7.61 | 1.17 | | | | | | 8.133 | 6.68 | 20 | |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

Sample ID: **MB-75738** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186695**
Client ID: **PBS** Batch ID: **75738** TestNo: **SW9320** **E903-904** Analysis Date: **5/31/2024** SeqNo: **5059001**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75738** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186695**
Client ID: **LCSS** Batch ID: **75738** TestNo: **SW9320** **E903-904** Analysis Date: **5/31/2024** SeqNo: **5059002**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.33 | 2.00 | 5.000 | 0 | 66.6 | 50 | 130 | | | | |

Sample ID: **LCSD-75738** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186695**
Client ID: **LCSS02** Batch ID: **75738** TestNo: **SW9320** **E903-904** Analysis Date: **5/31/2024** SeqNo: **5059003**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.40 | 2.00 | 5.000 | 0 | 68.0 | 50 | 130 | 3.330 | 2.08 | 20 | |

Sample ID: **24050783-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186695**
Client ID: **24050346-002** Batch ID: **75738** TestNo: **SW9320** **E903-904** Analysis Date: **5/31/2024** SeqNo: **5059008**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

Sample ID: **24050783-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186695**
Client ID: **24050346-002** Batch ID: **75738** TestNo: **SW9320** **E903-904** Analysis Date: **5/31/2024** SeqNo: **5059008**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | 10.00 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

Sample ID: **MB-75738** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186696**
Client ID: **PBS** Batch ID: **75738** TestNo: **SW9315** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5059009**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75738** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186696**
Client ID: **LCSS** Batch ID: **75738** TestNo: **SW9315** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5059010**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.94 | 1.00 | 5.000 | 0 | 98.8 | 70 | 130 | | | | |

Sample ID: **LCSD-75738** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186696**
Client ID: **LCSS02** Batch ID: **75738** TestNo: **SW9315** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5059011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.81 | 1.00 | 5.000 | 0 | 96.2 | 60 | 140 | 4.940 | 2.67 | 40 | |

Sample ID: **24050783-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186696**
Client ID: **24050346-002** Batch ID: **75738** TestNo: **SW9315** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5059016**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050783**

***05-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050346 **BatchID:** **75738**

Sample ID: **24050783-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/28/2024** RunNo: **186696**
Client ID: **24050346-002** Batch ID: **75738** TestNo: **SW9315** **E903-904** Analysis Date: **6/3/2024** SeqNo: **5059016**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

Pg 1 of 1

24050783

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

18.4-0.2 Cooler Temp: 18.2c Sampler: Client QC Level: 2

Fedex, Cooler

Project# 24050346

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36236 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | CPM | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050346-001 | 5/2/24 0815 | Unpres | Soil | ✔ | | 24 | | | | | | | | | |
| | 24050346-002 | 5/2/24 1100 | Unpres | Soil | ✔ | | 36 | | | | | | | | | |
| | 24050346-003 | 5/2/24 1115 | Unpres | Soil | ✔ | | 24 | | | | | | | | | |
| | 24050346-004 | 5/2/24 1530 | Unpres | Soil | ✔ | | 24 | | | | | | | | | |
| | 24050346-005 | 5/2/24 1450 | Unpres | Soil | ✔ | | 28 | | | | | | | | | |
| | 24050346-006 | 4/30/24 1015 | Unpres | Soil | ✔ | | 20 | | | | | | | | | |
| | 24050346-007 | 4/30/24 1015 | Unpres | Soil | ✔ | | 30 | | | | | | | | | |
| | 24050346-008 | 4/29/24 1500 | Unpres | Soil | ✔ | | 24 | | | | | | | | | |
| | 24050346-009 | 4/29/24 0930 | Unpres | Soil | ✔ | | 38 | | | | | | | | | |
| | 24050346-010 | 4/30/24 1445 | Unpres | Soil | ✔ | | 34 | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5/16/24 1700 | [signature] | 5/19/24, 1140 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050783 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/9/2024 11:40:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/10/2024 12:09:39 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/10/2024 5:04:45 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 18.2 | Good | Not Present | | | |

May 28, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050428

Dear Eric Staley:

TEKLAB, INC received 2 samples on 5/6/2024 12:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050428
**Report Date:** 28-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 9 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050428

**Client Project:** CWLP Borings **Report Date:** 28-May-24

## Abbr Definition

| Abbr | Definition |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050428
**Client Project:** CWLP Borings
**Report Date:** 28-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050428
**Report Date:** 28-May-24

**Cooler Receipt Temp:** 3.5 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

| | |
|---|---|
| **Address** | 3920 Pintail Dr<br>Springfield, IL 62711-9415 |
| **Phone** | (217) 698-1004 |
| **Fax** | (217) 698-1005 |
| **Email** | KKlostermann@teklabinc.com |

### Kansas City

| | |
|---|---|
| **Address** | 8421 Nieman Road<br>Lenexa, KS 66214 |
| **Phone** | (913) 541-1998 |
| **Fax** | (913) 541-1998 |
| **Email** | jhriley@teklabinc.com |

### Collinsville Air

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | EHurley@teklabinc.com |

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@teklabinc.com |

**Client:** City Water, Light & Power

**Work Order:** 24050428

**Client Project:** CWLP Borings

**Report Date:** 28-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050428
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050428-001
**Client Sample ID:** L5 19.5-21.5
**Matrix:** SOLID
**Collection Date:** 05/03/2024 8:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **67** | mg/L | 5 | 05/15/2024 13:32 | R347372 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | | **0.36** | mg/L | 1 | 05/13/2024 9:06 | R347147 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **6** | mg/L | 1 | 05/14/2024 20:03 | R347274 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.14** | | 1 | 05/07/2024 10:21 | R346852 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0276** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.574** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0049** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Boron | NELAP | 0.250 | 1.00 | | **2.32** | mg/L | 1 | 05/21/2024 8:27 | 223096 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.149** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Chromium | NELAP | 0.0034 | 0.010 | J | **0.0082** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **0.0218** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Molybdenum | NELAP | 0.0037 | 0.010 | J | **0.0081** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/15/2024 12:27 | 222893 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0072** | mg/L | 5 | 05/16/2024 18:27 | 222893 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0153** | mg/L | 5 | 05/16/2024 18:27 | 222893 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0199** | mg/L | 5 | 05/16/2024 18:27 | 222893 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 12:42 | 222892 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **0.0331** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Barium | NELAP | 0.0150 | 0.0450 | | **0.0596** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Boron | NELAP | 0.250 | 1.00 | | **1.05** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Molybdenum | NELAP | 0.0037 | 0.010 | J | **0.0076** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/17/2024 17:00 | 222963 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0067** | mg/L | 5 | 05/17/2024 9:22 | 222963 |
| Lithium | * | 0.0015 | 0.0030 | J | **0.0027** | mg/L | 5 | 05/16/2024 14:37 | 222963 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **< 0.0020** | mg/L | 5 | 05/16/2024 14:37 | 222963 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 14:08 | 222116 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

**Client:** City Water, Light & Power
**Work Order:** 24050428
**Client Project:** CWLP Borings
**Report Date:** 28-May-24
**Lab ID:** 24050428-002
**Client Sample ID:** L5 32.5-35.2
**Matrix:** SOLID
**Collection Date:** 05/03/2024 9:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)** | | | | | | | | | |
| Sulfate, SHAKE | * | 31 | 50 | | **73** | mg/L | 5 | 05/15/2024 13:35 | R347372 |
| **ASTM D3987, SW-846 9214, IN SHAKE EXTRACT** | | | | | | | | | |
| Fluoride | * | 0.04 | 0.10 | J | **0.08** | mg/L | 1 | 05/13/2024 9:11 | R347147 |
| **ASTM D3987, SW-846 9251, IN SHAKE EXTRACT** | | | | | | | | | |
| Chloride, SHAKE | * | 1 | 4 | | **11** | mg/L | 1 | 05/14/2024 20:11 | R347274 |
| **SW-846 9045C** | | | | | | | | | |
| pH (1:1) | NELAP | 0 | 1.00 | | **8.27** | | 1 | 05/07/2024 10:22 | R346852 |
| **SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:06 | 222894 |
| Barium | NELAP | 0.0150 | 0.0450 | | **1.24** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Boron | NELAP | 0.250 | 1.00 | | **2.79** | mg/L | 1 | 05/20/2024 9:22 | 223102 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **0.0022** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Cobalt | NELAP | 0.0020 | 0.0060 | J | **0.0043** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Lead | NELAP | 0.0045 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0375** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/15/2024 12:38 | 222894 |
| **SW-846 1311, 3010A, 6020A, METALS IN TCLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0017** | mg/L | 5 | 05/16/2024 18:07 | 222894 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0183** | mg/L | 5 | 05/16/2024 18:07 | 222894 |
| Thallium | NELAP | 0.0010 | 0.0020 | | **0.0021** | mg/L | 5 | 05/16/2024 18:07 | 222894 |
| **SW-846 1311, 7470A IN TCLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00010 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 13:19 | 222895 |
| **SW-846 1312, 3005A, 6010B, METALS IN SPLP EXTRACT BY ICP** | | | | | | | | | |
| Arsenic | NELAP | 0.0087 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Barium | NELAP | 0.015 | 0.045 | J | **0.023** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **< 0.0010** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Boron | NELAP | 0.250 | 1.00 | | **2.15** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Cadmium | NELAP | 0.0005 | 0.0020 | | **< 0.0020** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Chromium | NELAP | 0.0034 | 0.0100 | | **< 0.0100** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Cobalt | NELAP | 0.0020 | 0.0060 | | **< 0.0060** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Lead | NELAP | 0.0040 | 0.0075 | | **< 0.0075** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Molybdenum | NELAP | 0.0037 | 0.0100 | | **0.0904** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| Selenium | NELAP | 0.0170 | 0.0500 | | **< 0.0500** | mg/L | 1 | 05/17/2024 17:02 | 222963 |
| **SW-846 1312, 3005A, 6020A, METALS IN SPLP EXTRACT BY ICPMS** | | | | | | | | | |
| Antimony | NELAP | 0.0005 | 0.0010 | | **0.0025** | mg/L | 5 | 05/16/2024 14:21 | 222963 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0033** | mg/L | 5 | 05/16/2024 14:21 | 222963 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0019** | mg/L | 5 | 05/16/2024 14:21 | 222963 |
| **SW-846 1312, 7470A IN SPLP EXTRACT** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **< 0.00020** | mg/L | 1 | 05/18/2024 14:11 | 222116 |
| **EPA 903/904, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pCi/Kg | 1 | 05/22/2024 0:00 | R347896 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050428
**Report Date:** 28-May-24

**Carrier:** Paul Reeves

**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 06-May-24

**Reviewed by:** Ellie Hopkins
**On:** 06-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 16

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.5 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☑ | No ☐ | | |
| Reported field parameters measured: | Field ☐ | Lab ☐ | NA ☑ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | | |
| *When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.* | | | | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ | |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ | |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | NA ☑ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ | |

**Any No responses must be detailed below or on the COC.**

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 5/6/2024 1:04:15 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050424

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3-5 °C CT6 #7
Preserved in: [ ] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: TEKLAB

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

Client Comments: Courier
TCLP & SPLP for all metals

email results to C. Grey and datamanagement@andrews-eng.com

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

RESULTS REQUESTED
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other ____ [ ] 3 Day (50% Surcharge)

BILLING INSTRUCTIONS

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | TCLP & SPLP Sb, As, Ba, Be | TCLP & SPLP B, Cd, Cr, Co, Pb, Se, Tl | TCLP & SPLP Li, Mo | TCLP & SPLP Hg | Neutral Leach Cl, F-, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050424-01 | LS 19.5 - 21.5 | 5/3/2024 8:30AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| -02 | LS 32.5 - 35.2 | 5/3/2024 9:00AM | Soil | 2 | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |
| | | | Soil | 2 | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steve Van Hook | 5/3/2024 12:30pm | Paul Mix | 5.6.24 0820 |
| Paul Mix | 5.6.24 1200 | Rich Reed | 5/6/24 1200 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

MR 5/6

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 28, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050428

Dear Shelly Hennessy:

Order No.: 24050795

Summit Environmental Technologies, Inc. received 2 sample(s) on 5/9/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24050795**
Date: **5/28/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050428

WorkOrder Narrative:
24050795: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
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*Cuyahoga Falls, Ohio 4422*
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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050795**
Date: **5/28/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

*Summit Environmental Technologies, Inc.*
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*Website: http://www.settek.com*

# Workorder Sample Summary

WO#: **24050795**

***28-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050428

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050795-001 | 24050428-001 | | 5/3/2024 8:30:00 AM | 5/9/2024 11:40:00 AM | Solid |
| 24050795-002 | 24050428-002 | | 5/3/2024 9:00:00 AM | 5/9/2024 11:40:00 AM | Solid |

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# DATES REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050428

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050795-001A | 24050428-001 | 5/3/2024 8:30:00 AM | Solid | Percent Moisture by SM2540Mod | | | 5/25/2024 3:45:00 PM |
| | | | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |
| 24050795-002A | 24050428-002 | 5/3/2024 9:00:00 AM | | Percent Moisture by SM2540Mod | | | 5/25/2024 3:45:00 PM |
| | | | | Radium-226 Analysis (9315) | | 5/16/2024 11:10:22 AM | 5/23/2024 10:51:41 AM |
| | | | | Radium-228 Analysis (9320) | | 5/16/2024 11:10:22 AM | 5/22/2024 3:06:59 PM |

Original

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# Analytical Report

(consolidated)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/3/2024 8:30:00 AM

**Project:** 24050428

**Lab ID:** 24050795-001

**Matrix:** SOLID

**Client Sample ID:** 24050428-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | **SW9315** | **E903-904** | Analyst: **SMZ** | |
| Radium-226 | ND | 1.66 | | pCi/g-dry | ± 0.160 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.66 | | | -dry | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | **SW9320** | **E903-904** | Analyst: **SMZ** | |
| Radium-228 | ND | 3.31 | | pCi/g-dry | ± 0.320 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.66 | | | -dry | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# Analytical Report

(consolidated)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/3/2024 9:00:00 AM

**Project:** 24050428

**Lab ID:** 24050795-002

**Matrix:** SOLID

**Client Sample ID:** 24050428-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 ANALYSIS (9315)** | | | | **SW9315** | **E903-904** | | Analyst: **SMZ** |
| Radium-226 | ND | 1.77 | | pCi/g-dry | ± 0.0600 | 1 | 5/23/2024 10:51:41 AM |
| Yield | 1.77 | | | -dry | | 1 | 5/23/2024 10:51:41 AM |
| **RADIUM-228 ANALYSIS (9320)** | | | | **SW9320** | **E903-904** | | Analyst: **SMZ** |
| Radium-228 | ND | 3.55 | | pCi/g-dry | ± 0.320 | 1 | 5/22/2024 3:06:59 PM |
| Yield | 1.77 | | | -dry | | 1 | 5/22/2024 3:06:59 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(base report)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,
**Matrix:** SOLID
**Lab ID:** 24050795-001A
**Project:** 24050428
**Client Sample ID** 24050428-001

**Tag Number:**
**Collection Date:** 5/3/2024 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PERCENT MOISTURE BY SM2540MOD** | | | | **A2540B** | | Analyst: **AAA** |
| Percent Moisture | 39.6 | 0.500 | | % | 1 | 5/25/2024 3:45:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |



Original

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# Analytical Report

(base report)

WO#: **24050795**

Date Reported: **5/28/2024**

**CLIENT:** TEKLAB Inc,
**Matrix:** SOLID
**Lab ID:** 24050795-002A
**Project:** 24050428
**Client Sample ID** 24050428-002

**Tag Number:**
**Collection Date:** 5/3/2024 9:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PERCENT MOISTURE BY SM2540MOD** | | | | **A2540B** | | Analyst: **AAA** |
| Percent Moisture | 43.6 | 0.500 | | % | 1 | 5/25/2024 3:45:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |



Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043898**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 2.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043899**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.62 | 2.00 | 5.000 | 0 | 72.4 | 50 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043900**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.01 | 2.00 | 5.000 | 0 | 60.2 | 50 | 130 | 3.620 | 18.4 | 20 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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*Cuyahoga Falls, Ohio 44223*
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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186135**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9320** **E903-904** Analysis Date: **5/22/2024** SeqNo: **5043905**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 10.4 | 2.34 | 11.68 | 0 | 88.9 | 0 | 0 | 7.583 | 31.2 | 20 | RS |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

Sample ID: **MB-75515** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **PBS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044082**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75515** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044083**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 6.20 | 1.00 | 5.000 | 0 | 124 | 70 | 130 | | | | |

Sample ID: **LCSD-75515** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/g** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **LCSS02** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044084**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.76 | 1.00 | 5.000 | 0 | 115 | 60 | 140 | 6.200 | 7.36 | 40 | |

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **75515**

Sample ID: **24041932-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **5/16/2024** RunNo: **186145**
Client ID: **BatchQC** Batch ID: **75515** TestNo: **SW9315** **E903-904** Analysis Date: **5/23/2024** SeqNo: **5044089**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 7.61 | 1.17 | | | | | | 8.133 | 6.68 | 20 | |
| Yield | 1.17 | | | | | | | 1.168 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050795**

***28-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050428 **BatchID:** **R186329**

Sample ID: **MB-R186329** SampType: **MBLK** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **186329**
Client ID: **PBS** Batch ID: **R186329** TestNo: **A2540B** Analysis Date: **5/25/2024** SeqNo: **5049039**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | ND | 0.500 | | | | | | | | | |

Sample ID: **24051805-006ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **186329**
Client ID: **BatchQC** Batch ID: **R186329** TestNo: **A2540B** Analysis Date: **5/25/2024** SeqNo: **5049048**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | 17.8 | 0.500 | | | | | | 17.37 | 2.41 | 5 | |

Sample ID: **24051777-003ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **186329**
Client ID: **BatchQC** Batch ID: **R186329** TestNo: **A2540B** Analysis Date: **5/25/2024** SeqNo: **5049058**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | 7.92 | 0.500 | | | | | | 7.909 | 0.187 | 5 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

Pg ___ of ___ 24050795

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

18.4-0.2 = 18.2

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: 18.2 Sampler: Client QC Level: 2

Fedex, Cooler

Project# 24050428

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36234 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | CPM | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050428-001 | 5/3/24 0830 | Unpres | Soil | ✔ | | 32 | | | | | | | | | |
| | 24050428-002 | 5/3/24 0900 | Unpres | Soil | ✔ | | 22 | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Omar Rivera | 5/9/24 1200 | | 5/9/24, 1140 |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights,

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050795 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/9/2024 11:40:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/10/2024 12:25:27 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/10/2024 5:06:15 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 18.2 | Good | Not Present | | | |

**Shallow Borehole Grab Sample Analyses**

May 29, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050236

Dear Eric Staley:

TEKLAB, INC received 4 samples on 5/2/2024 1:11:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 11 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050236

**Client Project:** CWLP Borings **Report Date:** 29-May-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050236
**Report Date:** 29-May-24

**Cooler Receipt Temp:** 5.9 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power

**Client Project:** CWLP Borings

**Work Order:** 24050236

**Report Date:** 29-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-001
**Client Sample ID:** D-2 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/29/2024 9:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1720** | mg/L | 50 | 05/09/2024 11:05 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **9.27** | | 1 | 05/03/2024 10:33 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.21** | mg/L | 1 | 05/09/2024 12:19 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **236** | mg/L | 10 | 05/07/2024 18:33 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.022 | 0.050 | J | **0.024** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Arsenic | NELAP | 0.0200 | 0.0500 | | **0.279** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Barium | NELAP | 0.0350 | 0.0500 | | **1.13** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Beryllium | NELAP | 0.0125 | 0.0500 | | **0.0640** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Boron | NELAP | 0.462 | 1.25 | | **89.0** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Cadmium | NELAP | 0.0075 | 0.0500 | | **0.0541** | mg/L | 250 | 05/13/2024 13:49 | 222410 |
| Chromium | NELAP | 0.0350 | 0.0750 | | **0.902** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Cobalt | NELAP | 0.0058 | 0.0500 | | **0.0579** | mg/L | 250 | 05/13/2024 13:49 | 222410 |
| Lead | NELAP | 0.0300 | 0.0500 | | **0.199** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Lithium | * | 0.0725 | 0.150 | | **0.154** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Molybdenum | NELAP | 0.0300 | 0.0750 | | **8.04** | mg/L | 250 | 05/15/2024 3:31 | 222410 |
| Selenium | NELAP | 0.0300 | 0.0500 | | **< 0.0500** | mg/L | 250 | 05/10/2024 14:10 | 222410 |
| Thallium | NELAP | 0.048 | 0.10 | J | **0.049** | mg/L | 250 | 05/10/2024 14:10 | 222410 |

*Elevated reporting limit due to matrix interference.*

*Contamination present in the CCB for Sb. Sample results below the reporting limit are reportable per the TNI Standard.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00046** | mg/L | 1 | 05/24/2024 12:57 | 223373 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-002
**Client Sample ID:** D-1 25ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/29/2024 15:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1740** | mg/L | 50 | 05/09/2024 11:08 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **9.85** | | 1 | 05/03/2024 10:34 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.32** | mg/L | 1 | 05/09/2024 12:22 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **63** | mg/L | 10 | 05/07/2024 18:41 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.060 | 0.10 | J | **0.061** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Arsenic | NELAP | 0.0400 | 0.100 | | **1.17** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Barium | NELAP | 0.0700 | 0.100 | | **2.48** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Beryllium | NELAP | 0.0250 | 0.100 | | **0.254** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Boron | NELAP | 0.925 | 2.50 | | **78.6** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Cadmium | NELAP | 0.0150 | 0.100 | | **0.222** | mg/L | 500 | 05/13/2024 17:43 | 222414 |
| Chromium | NELAP | 0.0700 | 0.150 | | **3.91** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Cobalt | NELAP | 0.0115 | 0.100 | | **0.241** | mg/L | 500 | 05/13/2024 17:43 | 222414 |
| Lead | NELAP | 0.0600 | 0.100 | | **1.04** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Lithium | * | 0.145 | 0.300 | | **0.428** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Molybdenum | NELAP | 0.0600 | 0.150 | | **15.7** | mg/L | 500 | 05/15/2024 5:53 | 222414 |
| Selenium | NELAP | 0.060 | 0.10 | J | **0.10** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| Thallium | NELAP | 0.095 | 0.20 | J | **0.13** | mg/L | 500 | 05/10/2024 13:02 | 222414 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00562** | mg/L | 1 | 05/14/2024 17:39 | 222568 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-003
**Client Sample ID:** D-3 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/30/2024 10:00

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1000** | mg/L | 50 | 05/09/2024 11:13 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **10.1** | | 1 | 05/03/2024 10:36 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.33** | mg/L | 1 | 05/09/2024 12:23 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 1 | 4 | | **41** | mg/L | 1 | 05/07/2024 18:43 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0650 | 0.100 | | **0.230** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Arsenic | NELAP | 0.0800 | 0.200 | | **2.33** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Barium | NELAP | 0.0700 | 0.100 | | **3.51** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Beryllium | NELAP | 0.0250 | 0.100 | | **0.439** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Boron | NELAP | 0.925 | 2.50 | | **105** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Cadmium | NELAP | 0.0300 | 0.200 | | **0.492** | mg/L | 1000 | 05/14/2024 15:24 | 222461 |
| Chromium | NELAP | 0.140 | 0.300 | | **6.25** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Cobalt | NELAP | 0.0230 | 0.200 | | **0.323** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Lead | NELAP | 0.0600 | 0.100 | | **1.46** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Lithium | * | 0.145 | 0.300 | | **0.571** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| Molybdenum | NELAP | 0.140 | 0.300 | | **2.61** | mg/L | 1000 | 05/16/2024 7:35 | 222461 |
| Selenium | NELAP | 0.12 | 0.20 | J | **0.13** | mg/L | 1000 | 05/10/2024 9:43 | 222461 |
| Thallium | NELAP | 0.0950 | 0.200 | | **0.274** | mg/L | 500 | 05/10/2024 10:39 | 222461 |
| *Elevated reporting limit due to matrix interference.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00055 | 0.00200 | H | **0.00685** | mg/L | 10 | 05/29/2024 12:19 | 223513 |
| *Sample required re-analysis out of hold time.* | | | | | | | | | |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050236
**Client Project:** CWLP Borings
**Report Date:** 29-May-24
**Lab ID:** 24050236-004
**Client Sample ID:** D-4 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 04/30/2024 14:45

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **2050** | mg/L | 50 | 05/09/2024 11:16 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **9.10** | | 1 | 05/03/2024 10:37 | R346719 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.43** | mg/L | 1 | 05/09/2024 12:25 | R347045 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **139** | mg/L | 10 | 05/07/2024 18:57 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0180 | 0.0400 | | **0.0812** | mg/L | 200 | 05/15/2024 10:35 | 222764 |
| Arsenic | NELAP | 0.0400 | 0.100 | | **0.378** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Barium | NELAP | 0.0350 | 0.0500 | | **0.975** | mg/L | 250 | 05/16/2024 9:42 | 222764 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0674** | mg/L | 5 | 05/14/2024 23:46 | 222764 |
| Boron | NELAP | 0.462 | 1.25 | | **73.1** | mg/L | 250 | 05/16/2024 9:42 | 222764 |
| Cadmium | NELAP | 0.015 | 0.10 | J | **0.068** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Chromium | NELAP | 0.0700 | 0.150 | | **1.03** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Cobalt | NELAP | 0.012 | 0.10 | J | **0.061** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Lead | NELAP | 0.0240 | 0.0400 | | **0.266** | mg/L | 200 | 05/15/2024 10:35 | 222764 |
| Lithium | * | 0.0725 | 0.150 | | **0.228** | mg/L | 250 | 05/16/2024 9:42 | 222764 |
| Molybdenum | NELAP | 0.0600 | 0.150 | | **2.30** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Selenium | NELAP | 0.060 | 0.10 | J | **0.090** | mg/L | 500 | 05/15/2024 10:29 | 222764 |
| Thallium | NELAP | 0.038 | 0.080 | J | **0.066** | mg/L | 200 | 05/15/2024 10:35 | 222764 |
| *Elevated reporting limit due to sample composition.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00717** | mg/L | 1 | 05/14/2024 17:44 | 222568 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050236
**Report Date:** 29-May-24

**Carrier:** Paul Reeves
**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 02-May-24

**Reviewed by:** Ellie Hopkins
**On:** 02-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 18

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 5.9 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☐ | No ☑ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☐ | No ☑ | | |
| Reported field parameters measured: | Field ☐ | Lab ☑ | NA ☐ | |

*Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.*

| | | | |
|---|---|---|---|
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

**Any No responses must be detailed below or on the COC.**

Samples were preserved with Nitric Acid (97606) upon arrival at the laboratory. - amberdilallo - 5/2/2024 3:15:00 PM

pH strip #96651. - amberdilallo - 5/2/2024 3:15:13 PM

D-1 25ft. labeled as collected at 1430 rather than 1500. Collen Grey was notified of this error via work order summary. - amberdilallo - 5/2/2024 3:15:45 PM

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 240502360

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 5.9 °C #7
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (970600) to all um 5/2 *14:30 on container (ump) 960057

Client Comments:
email results to C. Grey and datamanagement@andrews-eng.com

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | Sb, As, Ba, Be | B, Cd, Cr, Co, Pb, Se, Tl | Li, Mo | Hg | Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 240502360-001 | D-2 20ft. | 4/29/24 9:30am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 | D-1 25ft. | 4/29/24 3pm* | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 003 | D-3 20ft. | 4/30/24 10am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 004 | D-4 20ft. | 4/30/24 2:45pm | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steven Van Hook | 4/30/24 5:30pm | ASI Secure Storage | 4/30/24 17:30 |
| eurofins Custody Seal #1697609 | | | |
| ASI Secure Storage cmg | 5/2/24 7:40 | | 5-2-24 0746 |
| | 5-2-24 1311 | Mark Reed | 5/2/24 1311 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 22, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050236

Dear Shelly Hennessy:

Order No.: 24050483

Summit Environmental Technologies, Inc. received 4 sample(s) on 5/6/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Case Narrative

WO#: **24050483**
Date: **5/22/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050236

WorkOrder Narrative:
24050483: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Sample Fraction:
Per Chain of Custody note: Analyze Aqueous layer only.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, In*
*3310 Win S*
*Cuyahoga Falls, Ohio 4422*
*TEL: (330) 253-8211 FAX: (330) 253-44&*
*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050483**
Date: **5/22/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24050483**

***22-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050236

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050483-001 | 24050236-001 | | 4/29/2024 9:30:00 AM | 5/6/2024 10:00:00 AM | Non-Potable Water |
| 24050483-002 | 24050236-002 | | 4/29/2024 3:00:00 PM | 5/6/2024 10:00:00 AM | Non-Potable Water |
| 24050483-003 | 24050236-003 | | 4/30/2024 10:00:00 AM | 5/6/2024 10:00:00 AM | Non-Potable Water |
| 24050483-004 | 24050236-004 | | 4/30/2024 2:45:00 PM | 5/6/2024 10:00:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050236

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050483-001A | 24050236-001 | 4/29/2024 9:30:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050483-002A | 24050236-002 | 4/29/2024 3:00:00 PM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050483-003A | 24050236-003 | 4/30/2024 10:00:00 AM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050483-004A | 24050236-004 | 4/30/2024 2:45:00 PM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |

Original

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 9:30:00 AM

**Project:** 24050236

**Lab ID:** 24050483-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | 4.63 | 1.67 | | pCi/L | ± 0.590 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | 2.18 | 1.67 | | pCi/L | ± 0.800 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/29/2024 3:00:00 PM

**Project:** 24050236

**Lab ID:** 24050483-002

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.43 | | pCi/L | ± 0.250 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.43 | | pCi/L | ± 0.570 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 10:00:00 AM

**Project:** 24050236

**Lab ID:** 24050483-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 2.50 | | pCi/L | ± 0.470 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 2.50 | | pCi/L | ± 0.800 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

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# Analytical Report

(consolidated)

WO#: **24050483**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 4/30/2024 2:45:00 PM

**Project:** 24050236

**Lab ID:** 24050483-004

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050236-004

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 3.34 | | pCi/L | ± 0.580 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 3.34 | | pCi/L | ± 1.24 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040013**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

| Sample ID: **MB-75217** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040004** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75217** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040005** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.36 | 1.00 | 5.000 | 0 | 67.2 | 50 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75217** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040006** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.00 | 1.00 | 5.000 | 0 | 100 | 50 | 130 | 3.360 | 39.2 | 20 | R |
| Yield | 0.960 | | | 0 | 0 | | | 1.000 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |



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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

| Sample ID: **RLC-75217** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040008** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.14 | 1.00 | 1.000 | 0 | 114 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **RLCD-75217** | SampType: **RLC** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **BatchQC** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040009** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 87.0 | 50 | 150 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040150**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040152**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

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# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **MB-75217** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **PBW** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040143**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.980 | | | | | | | | | | |

Sample ID: **LCS-75217** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **LCSW** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040144**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.38 | 1.00 | 5.000 | 0 | 87.6 | 70 | 130 | | | | |

Sample ID: **LCSD-75217** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **LCSS02** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040145**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.67 | 1.00 | 5.000 | 0 | 93.4 | 70 | 130 | 4.380 | 6.41 | 20 | |

Sample ID: **RLC-75217** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040147**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050483**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050236 **BatchID:** **75217**

Sample ID: **RLC-75217** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040147**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 95.0 | 50 | 150 | | | | |

Sample ID: **RLCD-75217** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040148**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | 1.000 | 0 | 99.0 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Pg __ of 24050483

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: 19.5 19.7 0.2 Sampler: Client QC Level: 2

Fedex, Cooler

Project# 24050236

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site. Analyze aqueous layers only.

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36223 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CAM | | | | | pH | | | | | |
| | 24050236-001 | 4/29/24 0930 | HNO3 | Groundwater | ✔ | 42, 22 | | | | | 1,3 | | | | | |
| | 24050236-002 | 4/29/24 1500 | HNO3 | Groundwater | ✔ | 34, 38 | | | | | 1,2 | | | | | |
| | 24050236-003 | 4/30/24 1000 | HNO3 | Groundwater | ✔ | 16, ~~5~~ TR $ 7/24 | | | | | 4, | | | | | |
| | 24050236-004 | 4/30/24 1445 | HNO3 | Groundwater | ✔ | 34, ~~32~~ | | | | | 4,5 | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| [signature] | 5/2/24 1700 | [signature] | 5/6/24 1000 |

One container - 003 arrived broken



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sample information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws.. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050483 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/6/2024 10:00:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/7/2024 5:18:50 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/8/2024 10:44:21 AM | Jennifer Woolf |

## Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

## Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☐ No ☑
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☑ No ☐
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

pH for all but 2 containers >2, one container -003 received broken

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

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*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050483 RcptNo: 1

May 23, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050347

Dear Eric Staley:

TEKLAB, INC received 3 samples on 5/3/2024 1:50:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050347
**Report Date:** 23-May-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 10 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050347

**Client Project:** CWLP Borings **Report Date:** 23-May-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050347
**Report Date:** 23-May-24

**Cooler Receipt Temp:** 3.7 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | jhriley@teklabinc.com |

### Springfield

| | |
|---|---|
| **Address** | 3920 Pintail Dr<br>Springfield, IL 62711-9415 |
| **Phone** | (217) 698-1004 |
| **Fax** | (217) 698-1005 |
| **Email** | KKlostermann@teklabinc.com |

### Kansas City

| | |
|---|---|
| **Address** | 8421 Nieman Road<br>Lenexa, KS 66214 |
| **Phone** | (913) 541-1998 |
| **Fax** | (913) 541-1998 |
| **Email** | jhriley@teklabinc.com |

### Collinsville Air

| | |
|---|---|
| **Address** | 5445 Horseshoe Lake Road<br>Collinsville, IL 62234-7425 |
| **Phone** | (618) 344-1004 |
| **Fax** | (618) 344-1005 |
| **Email** | EHurley@teklabinc.com |

### Chicago

| | |
|---|---|
| **Address** | 1319 Butterfield Rd.<br>Downers Grove, IL 60515 |
| **Phone** | (630) 324-6855 |
| **Fax** | |
| **Email** | arenner@teklabinc.com |

**Client:** City Water, Light & Power

**Work Order:** 24050347

**Client Project:** CWLP Borings

**Report Date:** 23-May-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24
**Lab ID:** 24050347-001
**Client Sample ID:** L4 18ft.
**Matrix:** GROUNDWATER
**Collection Date:** 05/02/2024 8:40

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1050** | mg/L | 50 | 05/09/2024 11:21 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **7.35** | | 1 | 05/06/2024 14:09 | R346778 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **1.19** | mg/L | 1 | 05/10/2024 14:31 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **154** | mg/L | 10 | 05/07/2024 19:05 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0004 | 0.0010 | | **0.0020** | mg/L | 5 | 05/16/2024 10:42 | 222862 |
| Arsenic | NELAP | 0.0004 | 0.0010 | | **0.0512** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Barium | NELAP | 0.0008 | 0.0010 | | **0.308** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Beryllium | NELAP | 0.0002 | 0.0010 | | **0.0024** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Boron | NELAP | 0.0092 | 0.0250 | | **2.15** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Cadmium | NELAP | 0.0002 | 0.0010 | | **0.0019** | mg/L | 5 | 05/14/2024 4:27 | 222470 |
| Chromium | NELAP | 0.0009 | 0.0015 | | **0.0632** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Cobalt | NELAP | 0.0002 | 0.0010 | | **0.0213** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Lead | NELAP | 0.0006 | 0.0010 | | **0.0526** | mg/L | 5 | 05/15/2024 14:55 | 222862 |
| Lithium | * | 0.0015 | 0.0030 | | **0.0288** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Molybdenum | NELAP | 0.0006 | 0.0015 | | **0.0218** | mg/L | 5 | 05/10/2024 18:38 | 222470 |
| Selenium | NELAP | 0.0006 | 0.0010 | | **0.0066** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| Thallium | NELAP | 0.0010 | 0.0020 | J | **0.0012** | mg/L | 5 | 05/08/2024 20:10 | 222470 |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00050** | mg/L | 1 | 05/20/2024 14:24 | 223152 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24
**Lab ID:** 24050347-002
**Client Sample ID:** L3-20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 05/02/2024 10:15

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 614 | 1000 | | **2660** | mg/L | 100 | 05/10/2024 12:35 | R347112 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **8.10** | | 1 | 05/06/2024 14:10 | R346778 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **1.07** | mg/L | 1 | 05/10/2024 10:26 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **269** | mg/L | 10 | 05/07/2024 19:26 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0180 | 0.0400 | B | **0.0655** | mg/L | 200 | 05/14/2024 15:36 | 222470 |
| Arsenic | NELAP | 0.0080 | 0.0200 | | **2.43** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Barium | NELAP | 0.0140 | 0.0200 | | **1.49** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Beryllium | NELAP | 0.0050 | 0.0200 | | **0.102** | mg/L | 100 | 05/14/2024 4:33 | 222470 |
| Boron | NELAP | 0.370 | 1.00 | | **25.8** | mg/L | 200 | 05/14/2024 15:36 | 222470 |
| Cadmium | NELAP | 0.0060 | 0.0400 | | **0.260** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Chromium | NELAP | 0.0280 | 0.0600 | | **2.08** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Cobalt | NELAP | 0.0046 | 0.0400 | | **0.336** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Lead | NELAP | 0.0120 | 0.0200 | B | **3.40** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Lithium | * | 0.0290 | 0.0600 | | **0.621** | mg/L | 100 | 05/14/2024 4:33 | 222470 |
| Molybdenum | NELAP | 0.0240 | 0.0600 | | **0.218** | mg/L | 200 | 05/17/2024 13:03 | 222470 |
| Selenium | NELAP | 0.0120 | 0.0200 | | **0.158** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| Thallium | NELAP | 0.0190 | 0.0400 | | **0.0433** | mg/L | 100 | 05/10/2024 19:03 | 222470 |
| *Sample result for Sb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | | |
| *Sample result for Pb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.* | | | | | | | | | |
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00926** | mg/L | 1 | 05/20/2024 15:07 | 223152 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

**Client:** City Water, Light & Power
**Work Order:** 24050347
**Client Project:** CWLP Borings
**Report Date:** 23-May-24
**Lab ID:** 24050347-003
**Client Sample ID:** L1-20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 05/02/2024 14:50

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 307 | 500 | | **1080** | mg/L | 50 | 05/09/2024 11:29 | R347057 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **7.86** | | 1 | 05/06/2024 14:12 | R346778 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **0.50** | mg/L | 1 | 05/10/2024 10:28 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **122** | mg/L | 10 | 05/07/2024 19:34 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.018 | 0.040 | BJ | **0.027** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Arsenic | NELAP | 0.0080 | 0.0200 | | **0.717** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Barium | NELAP | 0.0140 | 0.0200 | | **3.48** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Beryllium | NELAP | 0.0050 | 0.0200 | | **0.0542** | mg/L | 100 | 05/14/2024 4:39 | 222470 |
| Boron | NELAP | 0.370 | 1.00 | | **4.91** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Cadmium | NELAP | 0.0060 | 0.0400 | | **0.0776** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Chromium | NELAP | 0.0280 | 0.0600 | | **0.993** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Cobalt | NELAP | 0.0046 | 0.0400 | | **0.154** | mg/L | 200 | 05/14/2024 15:42 | 222470 |
| Lead | NELAP | 0.0120 | 0.0200 | B | **0.655** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Lithium | * | 0.0290 | 0.0600 | | **0.172** | mg/L | 100 | 05/14/2024 4:39 | 222470 |
| Molybdenum | NELAP | 0.0120 | 0.0300 | | **0.161** | mg/L | 100 | 05/17/2024 12:28 | 222470 |
| Selenium | NELAP | 0.0120 | 0.0200 | | **0.0906** | mg/L | 100 | 05/10/2024 19:09 | 222470 |
| Thallium | NELAP | 0.0190 | 0.0400 | | **< 0.0400** | mg/L | 100 | 05/10/2024 19:09 | 222470 |

*Elevated reporting limit for Sb & Tl due to matrix interference.*
*Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.*
*Sample result for Pb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00198** | mg/L | 1 | 05/20/2024 15:09 | 223152 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 05/20/2024 0:00 | R347715 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050347
**Report Date:** 23-May-24

**Carrier:** Paul Reeves

**Received By:** LM

**Completed by:** Amber Dilallo
**On:** 03-May-24

**Reviewed by:** Ellie Hopkins
**On:** 03-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 15

| | | | | |
|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ | Temp °C 3.7 |
| Type of thermal preservation? | None ☐ | Ice ☑ | Blue Ice ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | | |
| Sample containers intact? | Yes ☑ | No ☐ | | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | | |
| All samples received within holding time? | Yes ☐ | No ☑ | | |
| Reported field parameters measured: | Field ☐ | Lab ☑ | NA ☐ | |

*Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.*

| | | | |
|---|---|---|---|
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Water – at least one vial per sample has zero headspace? | Yes ☐ | No ☐ | No VOA vials ☑ |
| Water - TOX containers have zero headspace? | Yes ☐ | No ☐ | No TOX containers ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | NA ☐ |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes ☐ | No ☐ | NA ☑ |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

**Any No responses must be detailed below or on the COC.**

pH strip #96651. - amberdilallo - 5/3/2024 2:40:59 PM

Samples were preserved with Nitric Acid (97606) upon arrival at the laboratory. - amberdilallo - 5/3/2024 2:47:30 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050347

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.2 °C #7
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added $HNO_3$ (97606) 96517

Client Comments:
email results to C. Grey and datamanagement@andrews-eng.com

TEKLAB
Courier

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers | | | | | | | | | INDICATE ANALYSIS REQUESTED | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | Rad 226 and 228 | Sb, As, Ba, Be | B, Cd, Cr, Co, Pb, Se, Tl | Li, Mo | Hg | Cl, F+, SO4 | pH | | | | | | | |
| 24050347 001 | L4 18ft. | 5/2/24 8:40am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 002 | L3-20ft | 5/2/24 10:15am | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 003 | L1-20ft | 5/2/24 2:50pm | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5/2/24 7:00pm | AEI Secure Storage | 5/2/24 19:00 |
| AEI Secure Storage | 5/3/24 07:28 | | 5.3.24 0728 |
| | 5.3.24 1350 | | 5/3/24 1350 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

May 22, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050347

Dear Shelly Hennessy:

Order No.: 24050485

Summit Environmental Technologies, Inc. received 3 sample(s) on 5/7/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24050485**
Date: **5/22/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050347

WorkOrder Narrative:
24050485: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-75217 Radium-228_DW(904.0): LCS and LCSD exhibited a high RPD, individually each LCS/LCSD meets the required criteria.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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# Qualifiers and Acronyms

WO#: **24050485**
Date: **5/22/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24050485**

***22-May-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050347

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050485-001 | 24050347-001 | | 5/2/2024 8:40:00 AM | 5/7/2024 11:30:00 AM | Non-Potable Water |
| 24050485-002 | 24050347-002 | | 5/2/2024 10:15:00 AM | 5/7/2024 11:30:00 AM | Non-Potable Water |
| 24050485-003 | 24050347-003 | | 5/2/2024 2:50:00 PM | 5/7/2024 11:30:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,

**Project:** 24050347

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050485-001A | 24050347-001 | 5/2/2024 8:40:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050485-002A | 24050347-002 | 5/2/2024 10:15:00 AM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |
| 24050485-003A | 24050347-003 | 5/2/2024 2:50:00 PM | | Radium-226 (EPA 903.0) | | 5/9/2024 12:47:56 PM | 5/21/2024 10:28:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 5/9/2024 12:47:56 PM | 5/20/2024 3:04:00 PM |

Original

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# Analytical Report

(consolidated)

WO#: **24050485**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 8:40:00 AM

**Project:** 24050347

**Lab ID:** 24050485-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050347-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.00 | | pCi/L | ± 0.170 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 0.980 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | 1.05 | 1.00 | | pCi/L | ± 0.400 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050485**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 10:15:00 AM

**Project:** 24050347

**Lab ID:** 24050485-002

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050347-002

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | 2.50 | 2.00 | | pCi/L | ± 0.480 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 2.00 | | pCi/L | ± 0.720 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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# Analytical Report

(consolidated)

WO#: **24050485**

Date Reported: **5/22/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/2/2024 2:50:00 PM

**Project:** 24050347

**Lab ID:** 24050485-003

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050347-003

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **DHF** |
| Radium-226 | ND | 1.25 | | pCi/L | ± 0.230 | 1 | 5/21/2024 10:28:00 AM |
| Yield | 1.00 | | | | | 1 | 5/21/2024 10:28:00 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **DHF** |
| Radium-228 | ND | 1.25 | | pCi/L | ± 0.380 | 1 | 5/20/2024 3:04:00 PM |
| Yield | 1.00 | | | | | 1 | 5/20/2024 3:04:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response |
| ND | Not Detected | PL | Permit Limit |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | |

Original

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# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040011**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185962**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E904.0** **E903-904** Analysis Date: **5/20/2024** SeqNo: **5040013**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 30 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

| Sample ID: **MB-75217** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040004** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75217** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040005** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.36 | 1.00 | 5.000 | 0 | 67.2 | 50 | 130 | | | | QLR |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75217** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **5/9/2024** | RunNo: **185962** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75217** | TestNo: **E904.0** | **E903-904** | Analysis Date: **5/20/2024** | SeqNo: **5040006** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 5.00 | 1.00 | 5.000 | 0 | 100 | 50 | 130 | 3.360 | 39.2 | 20 | R |
| Yield | 0.960 | | | 0 | 0 | | | 1.000 | 4.08 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

Sample ID: **24050495-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040150**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24050495-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **BatchQC** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040152**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 30 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050485**

***22-May-24***

**Client:** TEKLAB Inc,
**Project:** 24050347 **BatchID:** **75217**

Sample ID: **MB-75217** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **PBW** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040143**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 0.980 | | | | | | | | | | |

Sample ID: **LCS-75217** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **LCSW** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040144**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.38 | 1.00 | 5.000 | 0 | 87.6 | 70 | 130 | | | | |

Sample ID: **LCSD-75217** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/9/2024** RunNo: **185975**
Client ID: **LCSS02** Batch ID: **75217** TestNo: **E903.0** **E903-904** Analysis Date: **5/21/2024** SeqNo: **5040145**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.67 | 1.00 | 5.000 | 0 | 93.4 | 70 | 130 | 4.380 | 6.41 | 20 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| W | Sample container temperature is out of limit as specified at testcode | | | | |

Original

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

Cooler Temp: Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24050347

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36229 Phone: (618) 344-1004 ext. 43

24050485

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | COM | pH | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050347-001 | 05/02/2024 0840 | HNO3 | Groundwater | ✔ | 32 | 4 | | | | | | | | | | |
| | 24050347-002 | 05/02/2024 1015 | HNO3 | Groundwater | ✔ | 20 | 7.7 | | | | | | | | | | |
| | 24050347-003 | 05/02/2024 1450 | HNO3 | Groundwater | ✔ | 20 | 5 | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| | 5/3/24 | | |
| | | 5/7/24 1130 FedEx ground cooler, no ice 19.9-0.2=19.7 | |
| | | | |
| | | | |
| | | | |



Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights.

SubCocRevA

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050485 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Christina N. Gemma | 5/7/2024 11:30:00 AM | C. Gemma |
| Completed By: | Christina N. Gemma | 5/7/2024 5:22:56 PM | C. Gemma |
| Reviewed By: | Jennifer Woolf | 5/8/2024 10:54:58 AM | Jennifer Woolf |

## Chain of Custody

| | | | | |
|---|---|---|---|---|
| 1. | Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 2. | How was the sample delivered? | FedEx | | |

## Log In

| | | | | |
|---|---|---|---|---|
| 3. | Coolers are present? | Yes ☑ | No ☐ | NA ☐ |
| 4. | Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| | Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| | No. Seal Date: Signed By: | | | |
| 5. | Was an attempt made to cool the samples? | Yes ☐ | No ☑ | NA ☐ |
| 6. | Were all samples received at a temperature of >0° C to 6.0°C | Yes ☐ | No ☑ | NA ☐ |
| | | Not required | | |
| 7. | Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. | Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. | Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. | Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. | Is the headspace in the VOA vials less than 1/4 inch or 6 mm? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. | Were any sample containers received broken? | Yes ☑ | No ☐ | |
| 13. | Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. | Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. | Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. | Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | | |
|---|---|---|---|---|
| 17. | Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

pH received >2, one of two containers of 003 received broken (no volume remains).

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050485 RcptNo: 1

June 18, 2024

Eric Staley
City Water, Light & Power
3100 Stevenson Drive
2nd Floor Maintenance Building
Springfield, IL 62712
TEL: (217) 757-8610
FAX: (217) 757-8615

| | |
|---|---|
| Illinois | 100226 |
| Illinois | 1004652024-2 |
| Kansas | E-10374 |
| Louisiana | 05002 |
| Louisiana | 05003 |
| Oklahoma | 9978 |

**RE:** CWLP Borings **WorkOrder:** 24050429

Dear Eric Staley:

TEKLAB, INC received 1 sample on 5/6/2024 12:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Shelly A Hennessy

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com

# Report Contents



**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050429
**Report Date:** 18-Jun-24

**This reporting package includes the following:**


| | |
|---|---|
| Cover Letter | 1 |
| Report Contents | 2 |
| Definitions | 3 |
| Case Narrative | 5 |
| Accreditations | 6 |
| Laboratory Results | 7 |
| Receiving Check List | 8 |
| Chain of Custody | Appended |

**Client:** City Water, Light & Power **Work Order:** 24050429

**Client Project:** CWLP Borings **Report Date:** 18-Jun-24

## Abbr Definition

| | |
|---|---|
| * | Analytes on report marked with an asterisk are not NELAP accredited |
| CCV | Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration. |
| CRQL | A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL. |
| DF | Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors. |
| DNI | Did not ignite |
| DUP | Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision. |
| ICV | Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated. |
| IDPH | IL Dept. of Public Health |
| LCS | Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. |
| LCSD | Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MBLK | Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses. |
| MDL | "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results." |
| MS | Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MSD | Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request). |
| MW | Molecular weight |
| NC | Data is not acceptable for compliance purposes |
| ND | Not Detected at the Reporting Limit |
| NELAP | NELAP Accredited |
| PQL | Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. |
| RL | The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL. |
| RPD | Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request). |
| SPK | The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes. |
| Surr | Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. |
| TIC | Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET" |
| TNTC | Too numerous to count ( > 200 CFU ) |

# Definitions



**Client:** City Water, Light & Power
**Work Order:** 24050429
**Client Project:** CWLP Borings
**Report Date:** 18-Jun-24

## Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

# Case Narrative

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050429
**Report Date:** 18-Jun-24

**Cooler Receipt Temp:** 3.5 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

## Locations


### Collinsville

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** jhriley@teklabinc.com

### Springfield

**Address** 3920 Pintail Dr
Springfield, IL 62711-9415
**Phone** (217) 698-1004
**Fax** (217) 698-1005
**Email** KKlostermann@teklabinc.com

### Kansas City

**Address** 8421 Nieman Road
Lenexa, KS 66214
**Phone** (913) 541-1998
**Fax** (913) 541-1998
**Email** jhriley@teklabinc.com

### Collinsville Air

**Address** 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
**Phone** (618) 344-1004
**Fax** (618) 344-1005
**Email** EHurley@teklabinc.com

### Chicago

**Address** 1319 Butterfield Rd.
Downers Grove, IL 60515
**Phone** (630) 324-6855
**Fax**
**Email** arenner@teklabinc.com

**Client:** City Water, Light & Power
**Work Order:** 24050429
**Client Project:** CWLP Borings
**Report Date:** 18-Jun-24

| State | Dept | Cert # | NELAP | Exp Date | Lab |
|---|---|---|---|---|---|
| Illinois | IEPA | 100226 | NELAP | 1/31/2025 | Collinsville |
| Illinois | IEPA | 1004652024-2 | NELAP | 4/30/2025 | Collinsville |
| Kansas | KDHE | E-10374 | NELAP | 4/30/2025 | Collinsville |
| Louisiana | LDEQ | 05002 | NELAP | 6/30/2024 | Collinsville |
| Louisiana | LDEQ | 05003 | NELAP | 6/30/2024 | Collinsville |
| Oklahoma | ODEQ | 9978 | NELAP | 8/31/2024 | Collinsville |
| Arkansas | ADEQ | 88-0966 | | 3/14/2025 | Collinsville |
| Illinois | IDPH | 17584 | | 5/31/2025 | Collinsville |
| Iowa | IDNR | 430 | | 6/1/2026 | Collinsville |
| Kentucky | UST | 0073 | | 1/31/2025 | Collinsville |
| Mississippi | MSDH | | | 4/30/2025 | Collinsville |
| Missouri | MDNR | 930 | | 1/31/2025 | Collinsville |
| Missouri | MDNR | 00930 | | 10/31/2026 | Collinsville |

**Client:** City Water, Light & Power
**Work Order:** 24050429
**Client Project:** CWLP Borings
**Report Date:** 18-Jun-24
**Lab ID:** 24050429-001
**Client Sample ID:** L5 20ft.
**Matrix:** GROUNDWATER
**Collection Date:** 05/03/2024 8:30

| Analyses | Certification | MDL | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 9036 (TOTAL)** | | | | | | | | | |
| Sulfate | NELAP | 614 | 1000 | | **2620** | mg/L | 100 | 05/10/2024 12:38 | R347112 |
| **SW-846 9040B, LABORATORY ANALYZED** | | | | | | | | | |
| Lab pH | NELAP | 0 | 1.00 | H | **7.62** | | 1 | 05/07/2024 13:01 | R346852 |
| **SW-846 9214 (TOTAL)** | | | | | | | | | |
| Fluoride | NELAP | 0.04 | 0.10 | | **1.32** | mg/L | 1 | 05/10/2024 11:43 | R347102 |
| **SW-846 9251 (TOTAL)** | | | | | | | | | |
| Chloride | NELAP | 5 | 40 | | **202** | mg/L | 10 | 05/07/2024 19:42 | R346935 |
| **SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)** | | | | | | | | | |
| Antimony | NELAP | 0.0450 | 0.100 | B | **< 0.100** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Arsenic | NELAP | 0.0400 | 0.100 | | **2.58** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Barium | NELAP | 0.0350 | 0.0500 | | **1.60** | mg/L | 250 | 05/14/2024 4:51 | 222636 |
| Beryllium | NELAP | 0.0125 | 0.0500 | | **0.0911** | mg/L | 250 | 05/14/2024 4:51 | 222636 |
| Boron | NELAP | 0.925 | 2.50 | | **28.9** | mg/L | 500 | 05/14/2024 15:30 | 222636 |
| Cadmium | * | 0.0150 | 0.100 | | **0.296** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Chromium | NELAP | 0.0750 | 0.150 | | **1.81** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Cobalt | NELAP | 0.0115 | 0.100 | | **0.296** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Lead | NELAP | 0.0300 | 0.0500 | | **2.78** | mg/L | 250 | 05/14/2024 4:51 | 222636 |
| Lithium | * | 0.145 | 0.300 | | **0.613** | mg/L | 500 | 05/14/2024 15:30 | 222636 |
| Molybdenum | NELAP | 0.0600 | 0.150 | | **0.282** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Selenium | NELAP | 0.0600 | 0.100 | | **0.205** | mg/L | 500 | 05/14/2024 4:45 | 222636 |
| Thallium | NELAP | 0.0475 | 0.100 | | **< 0.100** | mg/L | 250 | 05/14/2024 4:51 | 222636 |

*Sample result for Sb exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.*

*LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SW-846 7470A (TOTAL)** | | | | | | | | | |
| Mercury | NELAP | 0.00006 | 0.00020 | | **0.00559** | mg/L | 1 | 05/15/2024 15:55 | 222725 |
| **EPA 903.0/904.0, RADIUM 226/228** | | | | | | | | | |
| Radium-226 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 06/13/2024 0:00 | R348957 |
| Radium-228 | * | 0 | 0 | | **See Attached** | pci/L | 1 | 06/13/2024 0:00 | R348957 |

# Receiving Check List

http://www.teklabinc.com/

**Client:** City Water, Light & Power
**Client Project:** CWLP Borings

**Work Order:** 24050429
**Report Date:** 18-Jun-24

**Carrier:** Paul Reeves
**Received By:** NR

**Completed by:** Amber Dilallo
**On:** 06-May-24

**Reviewed by:** Ellie Hopkins
**On:** 06-May-24

**Pages to follow:** Chain of custody 1 Extra pages included 15

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Shipping container/cooler in good condition? | Yes | ☑ | No | ☐ | Not Present | ☐ | Temp °C 3.5 |
| Type of thermal preservation? | None | ☐ | Ice | ☑ | Blue Ice | ☐ | Dry Ice ☐ |
| Chain of custody present? | Yes | ☑ | No | ☐ | | | |
| Chain of custody signed when relinquished and received? | Yes | ☑ | No | ☐ | | | |
| Chain of custody agrees with sample labels? | Yes | ☑ | No | ☐ | | | |
| Samples in proper container/bottle? | Yes | ☑ | No | ☐ | | | |
| Sample containers intact? | Yes | ☑ | No | ☐ | | | |
| Sufficient sample volume for indicated test? | Yes | ☑ | No | ☐ | | | |
| All samples received within holding time? | Yes | ☐ | No | ☑ | | | |
| Reported field parameters measured: | Field | ☐ | Lab | ☑ | NA | ☐ | |

*Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Container/Temp Blank temperature in compliance? | Yes | ☑ | No | ☐ | | | |
| Water – at least one vial per sample has zero headspace? | Yes | ☐ | No | ☐ | No VOA vials | ☑ | |
| Water - TOX containers have zero headspace? | Yes | ☐ | No | ☐ | No TOX containers | ☑ | |
| Water - pH acceptable upon receipt? | Yes | ☐ | No | ☑ | NA | ☐ | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes | ☐ | No | ☐ | NA | ☑ | |

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

**Any No responses must be detailed below or on the COC.**

Sample was preserved with Nitric Acid (97606) upon arrival at the laboratory. - amberdilallo - 5/6/2024 1:07:35 PM

pH strip #96651. - amberdilallo - 5/6/2024 1:07:37 PM

Print PDF

# CHAIN OF CUSTODY

Pg __ of __ Workorder # 24050429

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: City, Water, Light & Power
Address: 3100 Stevenson Dr.
City/State/Zip: Springfield, IL 62712
Contact: Colleen Grey Phone: 217-787-2334
Email: cgrey@andrews-eng.com Fax:

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 3.5 °C LG#7
Preserved in: [X] LAB [ ] FIELD FOR LAB USE ONLY
LAB NOTES: Added HNO3 (971 lot) pH ✓ 9/16/24 SM

TEKLAB

Client Comments: Courier
email results to C. Grey and datamanagement@andrews-eng.com

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [ ] Yes [ ] No
Are these samples known to be hazardous? [ ] Yes [ ] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [ ] Yes [ ] No

| PROJECT NAME/NUMBER | SAMPLE COLLECTOR'S NAME |
|---|---|
| CWLP Borings | S. Van Hook |

**RESULTS REQUESTED**
[✓] Standard [ ] 1-2 Day (100% Surcharge)
[ ] Other _____ [ ] 3 Day (50% Surcharge)

**BILLING INSTRUCTIONS**

| Lab Use Only | Sample ID | Date/Time Sampled | Matrix | # and Type of Containers: UNP | HNO3 | NaOH | H2SO4 | HCL | MeOH | NaHSO4 | TSP | Other | INDICATE ANALYSIS REQUESTED: Rad 226 and 228 | Sb, As, Ba, Be | B, Cd, Cr, Co, Pb, Se, Tl | Li, Mo | Hg | Cl, F+, SO4 | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24050429-001 | LS 20ft. | 5/3/24 8:30AM | Groundwater | 3 | 1 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |
| | | | Groundwater | 3 | 1 | | | | | | | | | | | | | | |

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Steve Van Hook | 5/3/2024 12:30 pm | Paul M Yr | 5.6.24 0820 |
| Paul M Yr | 5.6.24 1200 | Mitch Reed | 5/6/24 1200 |

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

MK 5/6

*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

June 18, 2024

Shelly Hennessy
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 24050429

Dear Shelly Hennessy:

Order No.: 24050786

Summit Environmental Technologies, Inc. received 1 sample(s) on 5/9/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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# Case Narrative

WO#: **24050786**
Date: **6/18/2024**

**CLIENT:** TEKLAB Inc,
**Project:** 24050429

WorkOrder Narrative:
24050786: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

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*Website: http://www.settek.co*

# Qualifiers and Acronyms

WO#: **24050786**
Date: **6/18/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

| | |
|---|---|
| **U** | The compound was analyzed for but was not detected above the MDL. |
| **J** | The reported value is greater than the Method Detection Limit but less than the Reporting Limit. |
| **H** | The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant. |
| **D** | The result is reported from a dilution. |
| **E** | The result exceeded the linear range of the calibration or is estimated due to interference. |
| **MC** | The result is below the Minimum Compound Limit. |
| ***** | The result exceeds the Regulatory Limit or Maximum Contamination Limit. |
| **m** | Manual integration was used to determine the area response. |
| **d** | Manual integration in which peak was deleted |
| **N** | The result is presumptive based on a Mass Spectral library search assuming a 1:1 response. |
| **P** | The second column confirmation exceeded 25% difference. |
| **C** | The result has been confirmed by GC/MS. |
| **X** | The result was not confirmed when GC/MS Analysis was performed. |
| **B** | The analyte was detected in the Method Blank at a concentration greater than the RL. |
| **MB+** | The analyte was detected in the Method Blank at a concentration greater than the MDL. |
| **G** | The ICB or CCB contained reportable amounts of analyte. |
| **QC-/+** | The CCV recovery failed low (-) or high (+). |
| **R/QDR** | The RPD was outside of accepted recovery limits. |
| **QL-/+** | The LCS or LCSD recovery failed low (-) or high (+). |
| **QLR** | The LCS/LCSD RPD was outside of accepted recovery limits. |
| **QM-/+** | The MS or MSD recovery failed low (-) or high (+). |
| **QMR** | The MS/MSD RPD was outside of accepted recovery limits. |
| **QV-/+** | The ICV recovery failed low (-) or high (+). |
| **S** | The spike result was outside of accepted recovery limits. |
| **W** | Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant. |
| **Z** | Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information |

**Acronyms**

| | | | |
|---|---|---|---|
| **ND** | Not Detected | **RL** | Reporting Limit |
| **QC** | Quality Control | **MDL** | Method Detection Limit |
| **MB** | Method Blank | **LOD** | Level of Detection |
| **LCS** | Laboratory Control Sample | **LOQ** | Level of Quantitation |
| **LCSD** | Laboratory Control Sample Duplicate | **PQL** | Practical Quantitation Limit |
| **QCS** | Quality Control Sample | **CRQL** | Contract Required Quantitation Limit |
| **DUP** | Duplicate | **PL** | Permit Limit |
| **MS** | Matrix Spike | **RegLvl** | Regulatory Limit |
| **MSD** | Matrix Spike Duplicate | **MCL** | Maximum Contamination Limit |
| **RPD** | Relative Percent Different | **MinCL** | Minimum Compound Limit |
| **ICV** | Initial Calibration Verification | **RA** | Reanalysis |
| **ICB** | Initial Calibration Blank | **RE** | Reextraction |
| **CCV** | Continuing Calibration Verification | **TIC** | Tentatively Identified Compound |
| **CCB** | Continuing Calibration Blank | **RT** | Retention Time |
| **RLC** | Reporting Limit Check | **CF** | Calibration Factor |

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

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# Workorder Sample Summary

WO#: **24050786**

***18-Jun-24***

**CLIENT:** TEKLAB Inc,
**Project:** 24050429

| Lab SampleID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 24050786-001 | 24050429-001 | | 5/3/2024 8:30:00 AM | 5/9/2024 11:40:00 AM | Non-Potable Water |

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# DATES REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,

**Project:** 24050429

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 24050786-001A | 24050429-001 | 5/3/2024 8:30:00 AM | Non-Potable Water | Radium-226 (EPA 903.0) | | 6/10/2024 3:03:24 PM | 6/14/2024 11:38:39 AM |
| | | | | Radium-226 (EPA 903.0) | | 5/29/2024 12:23:00 PM | 6/5/2024 10:01:00 AM |
| | | | | Radium-228 (EPA 904.0) | | 6/10/2024 3:03:24 PM | 6/13/2024 2:27:54 PM |
| | | | | Radium-228 (EPA 904.0) | | 5/29/2024 12:23:00 PM | 6/4/2024 2:54:00 PM |

Original

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Analytical Laboratories

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# Analytical Report

(consolidated)

WO#: **24050786**

Date Reported: **6/18/2024**

**CLIENT:** TEKLAB Inc,

**Collection Date:** 5/3/2024 8:30:00 AM

**Project:** 24050429

**Lab ID:** 24050786-001

**Matrix:** NON-POTABLE WATER

**Client Sample ID:** 24050429-001

| Analyses | Result | RL | Qual | Units | Uncertainty | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **RADIUM-226 (EPA 903.0)** | | | | | **E903.0** | **E903-904** | Analyst: **SMZ** |
| Radium-226 | 12.3 | 5.00 | * | pCi/L | ± 1.15 | 1 | 6/14/2024 11:38:39 AM |
| Yield | 1.00 | | | | | 1 | 6/14/2024 11:38:39 AM |
| **RADIUM-228 (EPA 904.0)** | | | | | **E904.0** | **E903-904** | Analyst: **SMZ** |
| Radium-228 | 5.44 | 5.00 | * | pCi/L | ± 3.56 | 1 | 6/13/2024 2:27:54 PM |
| Yield | 0.580 | | | | | 1 | 6/13/2024 2:27:54 PM |

**Qualifiers:**

| | |
|---|---|
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected |
| R | RPD outside accepted recovery limits |
| W | Sample container temperature is out of limit as specified at testcode |
| M | Manual Integration used to determine area response |
| PL | Permit Limit |
| RL | Reporting Detection Limit |

Original

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Website: http://www.settek.com

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

| Sample ID: **MB-75975** | SampType: **MBLK** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **PBW** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081626** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCS-75975** | SampType: **LCS** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **LCSW** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081627** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.51 | 1.00 | 5.000 | 0 | 70.2 | 50 | 130 | | | | |
| Yield | 1.00 | | | 0 | 0 | | | | | | |

| Sample ID: **LCSD-75975** | SampType: **LCSD** | TestCode: **Radium-228_** | Units: **pCi/L** | Prep Date: **6/10/2024** | RunNo: **187502** |
|---|---|---|---|---|---|
| Client ID: **LCSS02** | Batch ID: **75975** | TestNo: **E904.0** | **E903-904** | Analysis Date: **6/13/2024** | SeqNo: **5081628** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 3.55 | 1.00 | 5.000 | 0 | 71.0 | 50 | 130 | 3.510 | 1.13 | 20 | |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **RLC-75975** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187502**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E904.0** **E903-904** Analysis Date: **6/13/2024** SeqNo: **5081630**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | 1.97 | 1.00 | 1.000 | 0 | 197 | 50 | 150 | | | | S |

Sample ID: **RLCD-75975** SampType: **RLC** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187502**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E904.0** **E903-904** Analysis Date: **6/13/2024** SeqNo: **5081631**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | 1.000 | 0 | 0 | 50 | 150 | | | | S |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



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# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **24060255-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187502**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E904.0** **E903-904** Analysis Date: **6/13/2024** SeqNo: **5081633**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | ND | 1.00 | | 0 | 0 | | | 0 | 0 | 20 | R |
| Yield | 1.00 | | | 0 | 0 | | | 1.000 | 0 | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **MB-75975** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **PBW** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081731**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | | | | |
| Yield | 1.00 | | | | | | | | | | |

Sample ID: **LCS-75975** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **LCSW** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081732**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 4.85 | 1.00 | 5.000 | 0 | 97.0 | 70 | 130 | | | | |

Sample ID: **LCSD-75975** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **LCSS02** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081733**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 5.36 | 1.00 | 5.000 | 0 | 107 | 70 | 130 | 4.850 | 9.99 | 20 | |

Sample ID: **RLC-75975** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081735**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
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*Summit Environmental Technologies, Inc.*
*3310 Win St.*
*Cuyahoga Falls, Ohio 44223*
*TEL: (330) 253-8211 FAX: (330) 253-4489*
*Website: http://www.settek.com*

# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **RLC-75975** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081735**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.10 | 1.00 | 1.000 | 0 | 110 | 50 | 150 | | | | |

Sample ID: **RLCD-75975** SampType: **RLC** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081736**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | 1.07 | 1.00 | 1.000 | 0 | 107 | 50 | 150 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

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# QC SUMMARY REPORT

WO#: **24050786**

***18-Jun-24***

**Client:** TEKLAB Inc,
**Project:** 24050429 **BatchID:** **75975**

Sample ID: **24060255-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081738**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

Sample ID: **24060255-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/10/2024** RunNo: **187509**
Client ID: **BatchQC** Batch ID: **75975** TestNo: **E903.0** **E903-904** Analysis Date: **6/14/2024** SeqNo: **5081740**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | ND | 1.00 | | | | | | 0 | 0 | 20 | |
| Yield | 1.00 | | | | | | | 1.000 | 0 | 0 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| H | Holding times for preparation or analysis exceeded | M | Manual Integration used to determine area response | ND | Not Detected |
| PL | Permit Limit | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | W | Sample container temperature is out of limit as specified at testcode | | |



Original

Pg ___ of ___

# TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

24050786

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

**Teklab Inc**
**5445 Horseshoe Lake Road**
**Collinsville, IL 62234**

18.4-0.2: Cooler Temp: 18.2 Sampler: Client QC Level: 2

Fedex, Cooler

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.
Samples collected from an IL site.

Project# 24050429

Contact: Shelly Hennessy Email: shennessy@TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 36235 Phone: (618) 344-1004 ext. 36

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

| Lab Use | Sample ID | Sample Date/Time | Preservative | Matrix | Radium 226/228 | | CPM | | | | PH | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24050429-001 | 5/3/24 0830 | Unpres | Groundwater | ✔ | | 32, 40 | | | | 1, 1 | | | | |
| | | | Unpres | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |
| | | | Other | Aqueous | | | | | | | | | | | |

| *Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| Umbe Dilallo | 5/6/24 1700 | [signature] | 5/9/24, 1140 |
| | | | |
| | | | |
| | | | |



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SubCocRevA
3/2/2016

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

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# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050786 RcptNo: 1

| | | | |
|---|---|---|---|
| Logged by: | Tegan A. Richards | 5/9/2024 11:40:00 AM | Tegan Richards |
| Completed By: | Tegan A. Richards | 5/10/2024 12:21:48 PM | Tegan Richards |
| Reviewed By: | Jennifer Woolf | 5/10/2024 2:48:57 PM | Jennifer Woolf |

## *Chain of Custody*

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

## *Log In*

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☑
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

## *Special Handling (if applicable)*

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Containers are preserved, CoC states unpreserved

Cooler Information

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | | | | | |

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# Sample Log-In Check List

Client Name: TEK-IL-62234-A Work Order Number: 24050786 RcptNo: 1

# Appendix E

# Ecological and Flood Risk Documentation

**Table 4.1. Retardance Classification of Vegetal Covers**

| Retardance Class | Cover[1] | Condition |
|---|---|---|
| A | Weeping Love Grass | Excellent stand, tall, average 760 mm (30 in) |
| | Yellow Bluestem Ischaemum | Excellent stand, tall, average 910 mm (36 in) |
| B | Kudzu | Very dense growth, uncut |
| | Bermuda Grass | Good stand, tall, average 300 mm (12 in) |
| | Native Grass Mixture (little bluestem, bluestem, blue gamma, and other long and short midwest grasses) | Good stand, unmowed |
| | Weeping lovegrass | Good stand, tall, average 610 mm (24 in) |
| | Lespedeza sericea | Good stand, not woody, tall, average 480 mm (19 in) |
| | Alfalfa | Good stand, uncut, average 280 mm (11 in) |
| | Weeping lovegrass | Good stand, unmowed, average 330 mm (13 in) |
| | Kudzu | Dense growth, uncut |
| | Blue Gamma | Good stand, uncut, average 280 mm (11 in) |
| C | Crabgrass | Fair stand, uncut 250 to 1200 mm (10 to 48 in) |
| | Bermuda grass | Good stand, mowed, average 150 mm (6 in) |
| | Common Lespedeza | Good stand, uncut, average 280 mm (11 in) |
| | Grass-Legume mixture--summer (orchard grass, redtop, Italian ryegrass, and common lespedeza) | Good stand, uncut, 150 to 200 mm (6 to 8 in) |
| | Centipede grass | Very dense cover, average 150 mm (6 in) |
| | Kentucky Bluegrass | Good stand, headed, 150 to 300 mm (6 to 12 in) |
| D | Bermuda Grass | Good stand, cut to 60 mm (2.5 in) height |
| | Common Lespedeza | Excellent stand, uncut, average 110 mm (4.5 in) |
| | Buffalo Grass | Good stand, uncut, 80 to 150 mm (3 to 6 in) |
| | Grass-Legume mixture—fall, spring (orchard grass, redtop, Italian ryegrass, and common lespedeza) | Good stand, uncut, 100 to 130 mm (4 to 5 in) |
| | Lespedeza sericea | After cutting to 50 mm (2 in) height. Very good stand before cutting. |
| E | Bermuda Grass | Good stand, cut to height, 40 mm (1.5 in) |
| | Bermuda Grass | Burned stubble |

[1] Covers classified have been tested in experimental channels. Covers were green and generally uniform.

## 4.1 GRASS LINING PROPERTIES

The density, stiffness, and height of grass stems are the main biomechanical properties of grass that relate to flow resistance and erosion control. The stiffness property (product of elasticity and moment of inertia) of grass is similar for a wide range of species (Kouwen, 1988) and is a basic property of grass linings.

Density is the number of grass stems in a given area, i.e., stems per $m^2$ ($ft^2$). A good grass lining will have about 2,000 to 4,000 stems/$m^2$ (200 to 400 stems/$ft^2$). A poor cover will have about one-third of that density and an excellent cover about five-thirds (USDA, 1987, Table 3.1). While grass density can be determined by physically counting stems, an easier direct method of estimating the density-stiffness property is provided in Appendix E of this manual.

**Table 2. Permissible Shear and Velocity for Selected Lining Materials[1]**

| Boundary Category | Boundary Type | Permissible Shear Stress (lb/sq ft) | Permissible Velocity (ft/sec) | Citation(s) |
|---|---|---|---|---|
| *Soils* | Fine colloidal sand | 0.02 - 0.03 | 1.5 | A |
| | Sandy loam (noncolloidal) | 0.03 - 0.04 | 1.75 | A |
| | Alluvial silt (noncolloidal) | 0.045 - 0.05 | 2 | A |
| | Silty loam (noncolloidal) | 0.045 - 0.05 | 1.75 – 2.25 | A |
| | Firm loam | 0.075 | 2.5 | A |
| | Fine gravels | 0.075 | 2.5 | A |
| | Stiff clay | 0.26 | 3 – 4.5 | A, F |
| | Alluvial silt (colloidal) | 0.26 | 3.75 | A |
| | Graded loam to cobbles | 0.38 | 3.75 | A |
| | Graded silts to cobbles | 0.43 | 4 | A |
| | Shales and hardpan | 0.67 | 6 | A |
| *Gravel/Cobble* | 1-in. | 0.33 | 2.5 – 5 | A |
| | 2-in. | 0.67 | 3 – 6 | A |
| | 6-in. | 2.0 | 4 – 7.5 | A |
| | 12-in. | 4.0 | 5.5 – 12 | A |
| *Vegetation* | Class A turf | 3.7 | 6 – 8 | E, N |
| | Class B turf | 2.1 | 4 - 7 | E, N |
| | Class C turf | 1.0 | 3.5 | E, N |
| | Long native grasses | 1.2 – 1.7 | 4 – 6 | G, H, L, N |
| | Short native and bunch grass | 0.7 - 0.95 | 3 – 4 | G, H, L, N |
| | Reed plantings | 0.1-0.6 | N/A | E, N |
| | Hardwood tree plantings | 0.41-2.5 | N/A | E, N |
| *Temporary Degradable RECPs* | Jute net | 0.45 | 1 – 2.5 | E, H, M |
| | Straw with net | 1.5 – 1.65 | 1 – 3 | E, H, M |
| | Coconut fiber with net | 2.25 | 3 – 4 | E, M |
| | Fiberglass roving | 2.00 | 2.5 – 7 | E, H, M |
| *Non-Degradable RECPs* | Unvegetated | 3.00 | 5 – 7 | E, G, M |
| | Partially established | 4.0-6.0 | 7.5 – 15 | E, G, M |
| | Fully vegetated | 8.00 | 8 – 21 | F, L, M |
| *Riprap* | 6 – in. $d_{50}$ | 2.5 | 5 – 10 | H |
| | 9 – in. $d_{50}$ | 3.8 | 7 – 11 | H |
| | 12 – in. $d_{50}$ | 5.1 | 10 – 13 | H |
| | 18 – in. $d_{50}$ | 7.6 | 12 – 16 | H |
| | 24 – in. $d_{50}$ | 10.1 | 14 – 18 | E |
| *Soil Bioengineering* | Wattles | 0.2 – 1.0 | 3 | C, I, J, N |
| | Reed fascine | 0.6-1.25 | 5 | E |
| | Coir roll | 3 - 5 | 8 | E, M, N |
| | Vegetated coir mat | 4 - 8 | 9.5 | E, M, N |
| | Live brush mattress (initial) | 0.4 – 4.1 | 4 | B, E, I |
| | Live brush mattress (grown) | 3.90-8.2 | 12 | B, C, E, I, N |
| | Brush layering (initial/grown) | 0.4 – 6.25 | 12 | E, I, N |
| | Live fascine | 1.25-3.10 | 6 – 8 | C, E, I, J |
| | Live willow stakes | 2.10-3.10 | 3 – 10 | E, N, O |
| *Hard Surfacing* | Gabions | 10 | 14 – 19 | D |
| | Concrete | 12.5 | >18 | H |

[1] Ranges of values generally reflect multiple sources of data or different testing conditions.

**A**. Chang, H.H. (1988).
**B**. Florineth. (1982)
**C**. Gerstgraser, C. (1998).
**D**. Goff, K. (1999).
**E**. Gray, D.H., and Sotir, R.B. (1996).
**F**. Julien, P.Y. (1995).
**G**. Kouwen, N.; Li, R. M.; and Simons, D.B., (1980).
**H**. Norman, J. N. (1975).
**I**. Schiechtl, H. M. and R. Stern. (1996).
**J**. Schoklitsch, A. (1937).
**K**. Sprague, C.J. (1999).
**L**. Temple, D.M. (1980).
**M**. TXDOT (1999)
**N**. Data from Author (2001)
**O**. USACE (1997).

## Table 3 - Summary of Discharges

| Flooding Source and Location | Drainage Area (square miles) | Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance | 2-Percent-Annual-Chance | 1-Percent-Annual-Chance | 0.2-Percent-Annual-Chance |
|---|---|---|---|---|---|
| **Sugar Creek** | | | | | |
| At Spaulding Dam | 265 | * | * | 27,800 | * |
| At Chatham Road (Glasser Bridge) | 90.9 | 3,510 | 5,140 | 5,710 | 8,170 |
| At West Glenarm Road | 60.7 | 2,740 | 4,100 | 4,470 | 6,470 |
| **Town Branch** | | | | | |
| At mouth | 4.6 | 1,300 | 1,600 | 1,700 | 2,200 |
| **Unnamed Tributary to Lick Creek** | | | | | |
| At Center Street | 7.91 | 756 | 903 | 1,034 | 1,180 |

* Data not available

## Table 4 - Summary of Stillwater Elevations

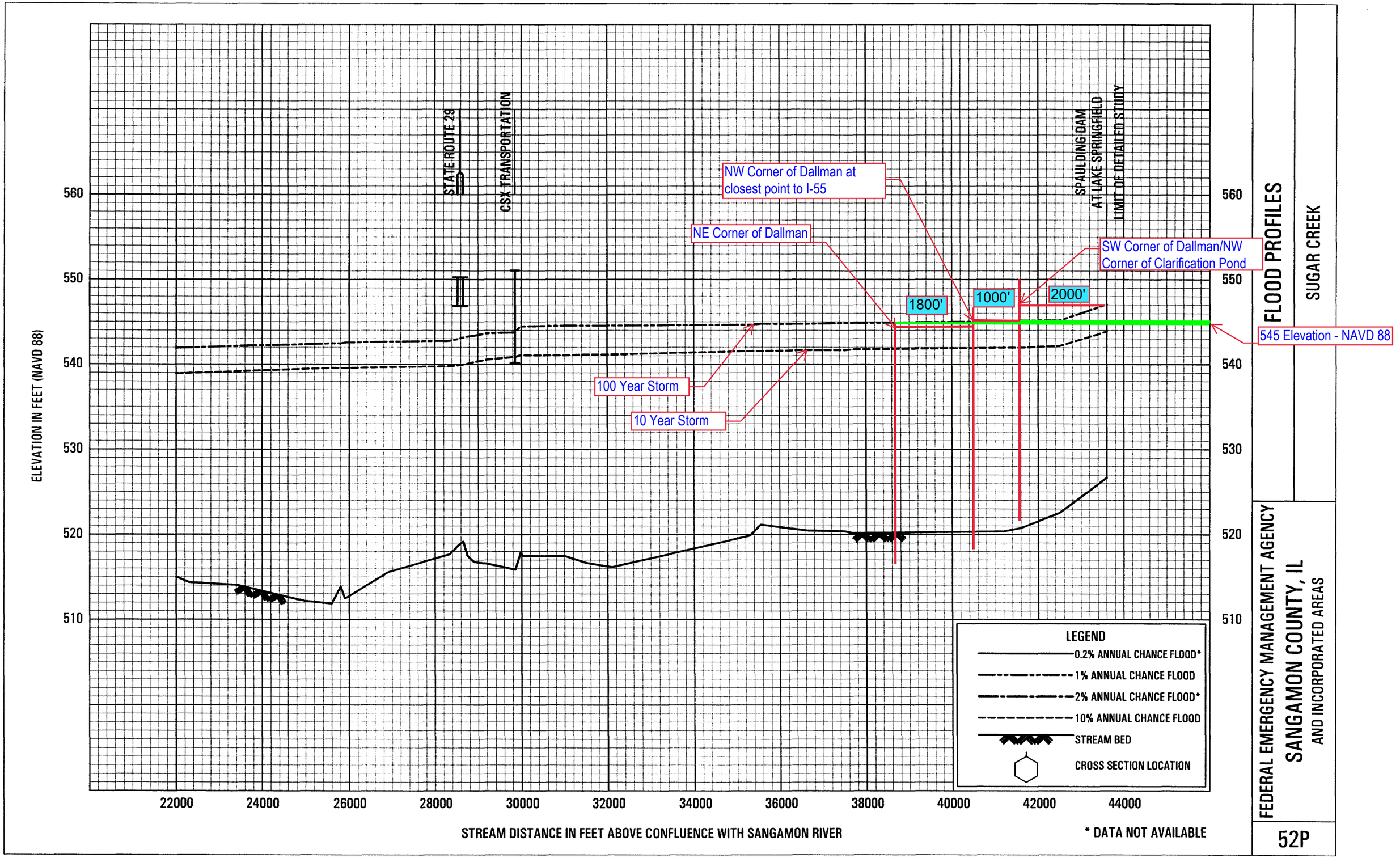
| Flooding Source and Location | Elevation (feet NAVD88) 10-Percent-Annual-Chance | 2-Percent-Annual-Chance | 1-Percent-Annual-Chance | 0.2 Percent Annual-Chance |
|---|---|---|---|---|
| City of Springfield | | | | |
| Lake Springfield | *** | *** | 561.1 | *** |

*** Data not available

### 3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or the Floodway Data Tables in the FIS. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

Cross sections used in the hydraulic analyses were interpolated from field surveys and from USGS topographic maps. The remaining cross sections, including all



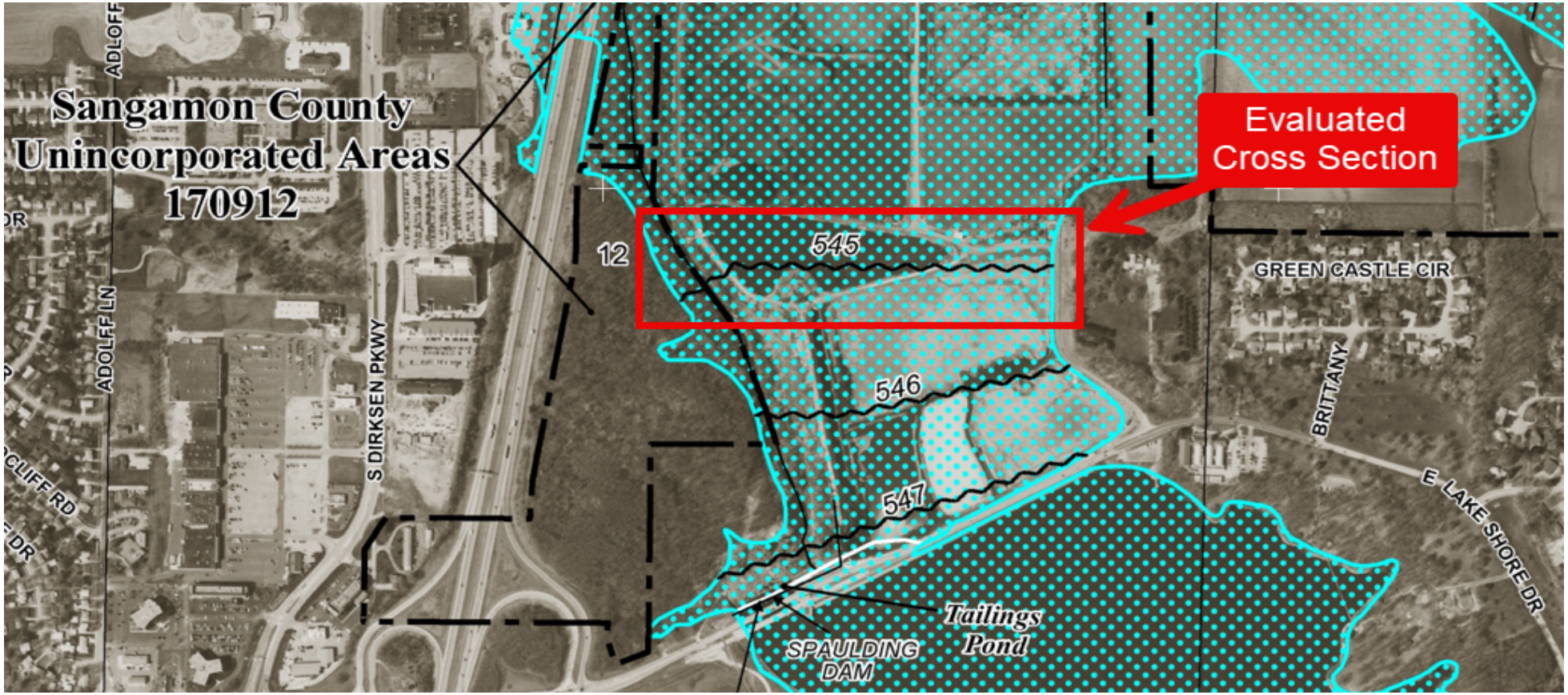

FLOOD PROFILES

SUGAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

SANGAMON COUNTY, IL

AND INCORPORATED AREAS


Sangamon County
Unincorporated Areas
170912
Evaluated
Cross Section
545
546
547
12
ADLOFF
ADOLFF LN
S DIRKSEN PKWY
GREEN CASTLE CIR
BRITTANY
E LAKE SHORE DR
Tailings
Pond
SPAULDING
DAM

Regional Planning Commission in 1961 and 1965 (Reference 11, 12).

The authority and acknowledgments for the city of Auburn, and villages of Loami, Mechanicsburg, Spaulding, and Williamsville are not included because there were no previously printed FIS for those communities.

**May 3, 2004**
**Countywide FIS**

For the 2004 Sangamon County FIS, the updated hydrologic and hydraulic analyses for the detailed study reaches of Spring Creek, Black Branch, Jacksonville Branch, Polecat Creek, and Fox Creek were prepared by the U.S. Army Corps of Engineers (USACE), Rock Island District, for FEMA. This work was completed in July 2000. Also, hydrologic and hydraulic analyses were prepared by Greene & Bradford, Inc., for Unnamed Tributary to Lick Creek for the village of Loami. This work was completed in August 1995.

**August 2, 2007**
**Countywide FIS**

No new hydrologic or hydraulic studies were conducted. However, existing data for Lake Springfield has been incorporated. The 1-percent-annual-chance flood elevation was reported in the USACE, Chicago District report, "Inspection Report for the National Dam Safety Program for Spaulding Dam, Lake Springfield, Sangamon County, Illinois" (Reference 19).

This revision to the previously effective countywide FIS, dated May 3, 2004 (Reference 20, 21), was performed under the Cooperating Technical Partners (CTP) Partnership Agreement (No. EMC-2004-GR-0214 and No. EMC-2005-GR-7026) between the Illinois Department of Natural Resources (hereafter referred to as IDNR) and the Federal Emergency Management Agency (FEMA), per the Mapping Activity Statement (MAS) No. IDNR04-2 and IDNR05-19.

Planimetric base map information was derived from USGS digital orthophoto quarter quadrangles at a one-half-meter ground resolution (Reference 22). USGS 7.5 Minute Series Topographic Maps at a scale of 1:24,000 were also used in the digitization process (Reference 23).

The coordinate system used for the production of the digital FIRMs is Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD 83), Geodetic Reference System 1980 (GRS 80) spheroid.

17. Federal Emergency Management Agency, *Flood Insurance Study, Village of Sherman, Sangamon County, Illinois*. May 16, 1983: Washington, D.C.

18. Federal Emergency Management Agency, *Flood Insurance Study, Village of Thayer, Sangamon County, Illinois*. November 3, 1981: Washington, D.C.

19. U.S. Army Corps of Engineers - Chicago District, *Inspection Report for the National Dam Safety Program for Spaulding Dam, Lake Springfield, Sangamon County, Illinois*. August 1980.

20. Federal Emergency Management Agency, *Flood Insurance Study, Sangamon County, Illinois and Incorporated Areas*. May 3, 2004: Washington, D.C.

21. *Flood Insurance Rate Map: Sangamon County, Illinois and Incorporated Areas*. May 2004, Federal Emergency Management Agency. Washington, D.C. 1 map on 41 sheets.

22. Surdex Corporation and Science Applications International. *USGS Digital Orthophoto Quarter-Quadrangles*. 2005, U.S. Geological Survey. Sioux Falls, SD.

23. Illinois State Geological Survey. *Statewide ArcSDE Raster Mosaic of USGS DRGs*. 2003, Illinois State Geological Survey. Champaign, IL.

24. Prepared under the supervision of the Illinois Sesquicentennial Commission, *Illinois: Guide and Gazetter*, ed. Paul M. Angle. 1969, Chicago: Rand McNally and Company.

25. U.S. Census Bureau. *State and County QuickFacts - Sangamon County, Illinois*. 2004-2005 January 12, 2006 [cited May 5, 2006]; Available from: http://www.quickfacts.census.gov.

26. Hornickel, James K. and James F. Steinkamp, *Soil survey of Sangamon County, Illinois*. 2004: U.S. Dept. of Agriculture, Natural Resources Conservation Service.

27. U.S. Department of Agriculture-Soil Conservation Service in cooperation with Illinois Agricultural Experiment Station, *Soil Survey of Sangamon County, Illinois*. May 1980.

28. U.S. Department of the Interior - Geological Society, *Water Resources Data Illinois: Water Year 2005 (Includes historical data)*, J.K. LaTour, E.A. Weldon, D.H. Dupre, and T.M. Halfar, Editors. 2005.

29. Illinois Department of natural Resources, *River Stages in Illinois: Flood and Damage Data*. August 2004: Springfield, Illinois.

30. Carns, Jack M., *Magnitude and Frequency of Floods in Illinois*. 1973, Illinois Department of Transportation, Division of Water Resource Management.

31. Curtis, G. W., *Technique for Estimating Magnitude and Frequency of Floods in Illinois*. 1977, U.S. Geological Survey, Water-Resources Investigations Report Open-File Report 77-117.

32. Mitchell, William D., *Floods in Illinois: Magnitude and Frequency*. 1954, State of Illinois, Department of Public Works and Buildings, Division of Waterways.

Apparent Cross Section
Lakeside Pre-Construction Contours
585 ft
585 ft
E Lake Shore Dr
43

**NOAA Atlas 14, Volume 2, Version 3**
**Location name: Springfield, Illinois, USA***
**Latitude: 39.765°, Longitude: -89.5946°**
**Elevation: 579 ft****
* source: ESRI Maps
** source: USGS

## POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

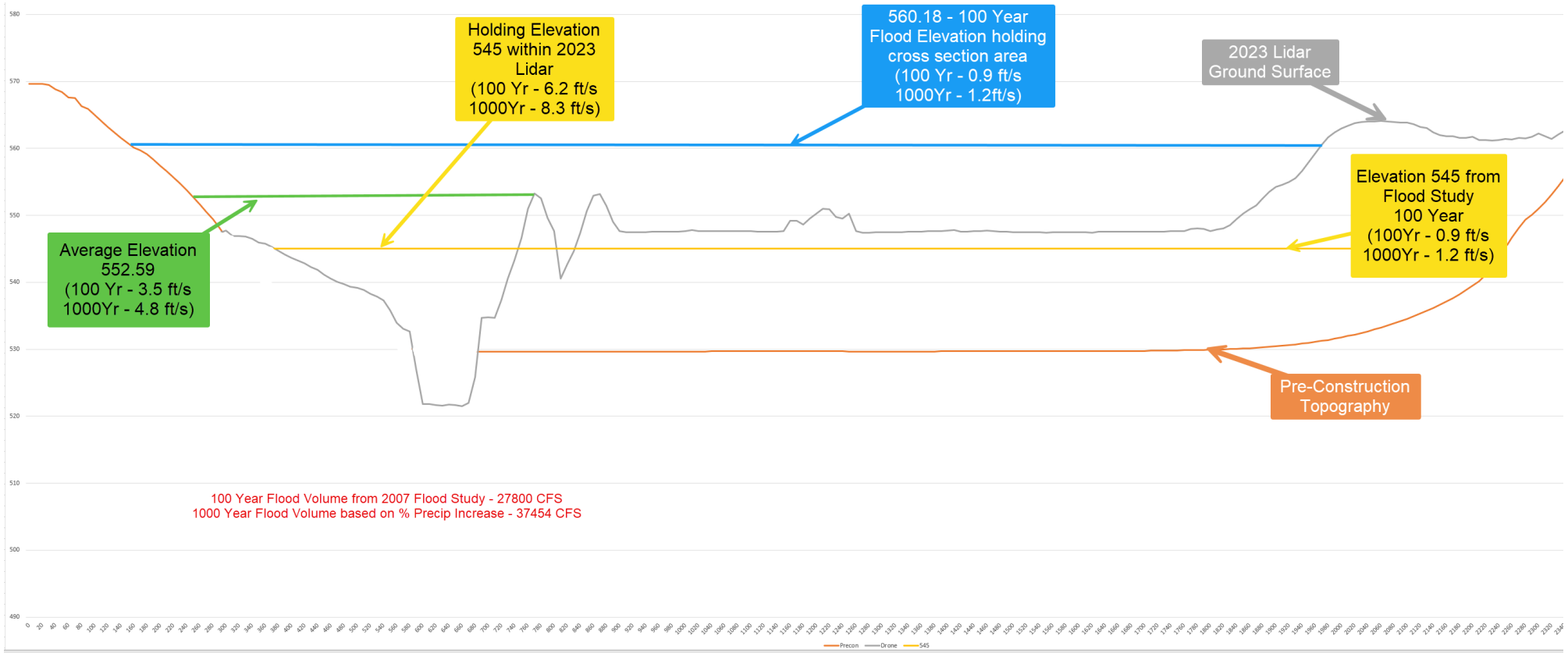
PF_tabular | PF_graphical | Maps_&_aerials

# PF tabular

**PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]**

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 0.398 (0.365-0.438) | 0.474 (0.434-0.522) | 0.566 (0.518-0.621) | 0.637 (0.581-0.699) | 0.726 (0.660-0.794) | 0.796 (0.721-0.872) | 0.863 (0.778-0.944) | 0.933 (0.837-1.02) | 1.03 (0.913-1.12) | 1.10 (0.969-1.20) |
| 10-min | 0.619 (0.567-0.681) | 0.741 (0.677-0.814) | 0.879 (0.805-0.966) | 0.983 (0.897-1.08) | 1.11 (1.01-1.22) | 1.21 (1.09-1.32) | 1.30 (1.17-1.42) | 1.39 (1.25-1.52) | 1.51 (1.34-1.65) | 1.60 (1.41-1.74) |
| 15-min | 0.759 (0.695-0.834) | 0.906 (0.828-0.996) | 1.08 (0.988-1.19) | 1.21 (1.10-1.33) | 1.37 (1.25-1.50) | 1.49 (1.35-1.64) | 1.61 (1.46-1.76) | 1.73 (1.55-1.89) | 1.88 (1.68-2.06) | 1.99 (1.76-2.18) |
| 30-min | 1.00 (0.919-1.10) | 1.21 (1.11-1.33) | 1.48 (1.35-1.62) | 1.68 (1.53-1.84) | 1.94 (1.76-2.12) | 2.14 (1.93-2.34) | 2.33 (2.10-2.55) | 2.53 (2.27-2.76) | 2.79 (2.48-3.05) | 2.99 (2.64-3.27) |
| 60-min | 1.23 (1.12-1.35) | 1.49 (1.36-1.64) | 1.86 (1.70-2.04) | 2.14 (1.95-2.34) | 2.51 (2.28-2.75) | 2.81 (2.55-3.08) | 3.12 (2.81-3.41) | 3.43 (3.08-3.75) | 3.86 (3.43-4.22) | 4.20 (3.71-4.59) |
| 2-hr | 1.45 (1.33-1.59) | 1.76 (1.61-1.94) | 2.21 (2.02-2.42) | 2.56 (2.33-2.80) | 3.03 (2.76-3.32) | 3.42 (3.10-3.73) | 3.81 (3.44-4.16) | 4.23 (3.79-4.61) | 4.81 (4.28-5.24) | 5.28 (4.66-5.76) |
| 3-hr | 1.54 (1.41-1.69) | 1.87 (1.71-2.05) | 2.34 (2.14-2.58) | 2.72 (2.48-2.99) | 3.25 (2.95-3.56) | 3.68 (3.32-4.03) | 4.13 (3.70-4.51) | 4.61 (4.11-5.04) | 5.29 (4.66-5.79) | 5.85 (5.12-6.40) |
| 6-hr | 1.81 (1.66-1.98) | 2.18 (2.00-2.40) | 2.74 (2.51-3.00) | 3.18 (2.91-3.49) | 3.80 (3.46-4.15) | 4.31 (3.90-4.69) | 4.84 (4.35-5.27) | 5.40 (4.83-5.88) | 6.21 (5.49-6.75) | 6.87 (6.03-7.48) |
| 12-hr | 2.11 (1.94-2.29) | 2.54 (2.34-2.77) | 3.16 (2.92-3.45) | 3.66 (3.37-3.99) | 4.35 (3.99-4.73) | 4.92 (4.48-5.34) | 5.50 (4.98-5.96) | 6.12 (5.51-6.63) | 6.99 (6.24-7.58) | 7.71 (6.82-8.35) |
| 24-hr | 2.42 (2.26-2.61) | 2.93 (2.73-3.16) | 3.67 (3.42-3.95) | 4.24 (3.94-4.56) | 5.00 (4.65-5.38) | 5.61 (5.20-6.03) | 6.22 (5.76-6.68) | 6.85 (6.33-7.36) | 7.70 (7.10-8.28) | 8.38 (7.71-8.98) |
| 2-day | 2.84 (2.64-3.06) | 3.43 (3.20-3.70) | 4.26 (3.97-4.60) | 4.91 (4.57-5.28) | 5.77 (5.35-6.20) | 6.44 (5.97-6.92) | 7.12 (6.58-7.65) | 7.82 (7.21-8.40) | 8.76 (8.06-9.40) | (8.72-10.2) |
| 3-day | 3.01 (2.80-3.23) | 3.63 (3.39-3.90) | 4.51 (4.20-4.84) | 5.18 (4.83-5.56) | 6.08 (5.65-6.52) | 6.79 (6.30-7.28) | 7.50 (6.95-8.04) | 8.23 (7.61-8.82) | 9.20 (8.49-9.86) | 9.97 (9.18-10.7) |
| 4-day | 3.17 (2.96-3.40) | 3.82 (3.58-4.10) | 4.75 (4.44-5.09) | 5.45 (5.09-5.84) | 6.40 (5.96-6.85) | 7.14 (6.64-7.63) | 7.88 (7.31-8.43) | 8.64 (8.00-9.24) | 9.65 (8.92-10.3) | 10.4 (9.64-11.2) |
| 7-day | 3.75 (3.51-4.00) | 4.50 (4.22-4.81) | 5.51 (5.16-5.89) | 6.27 (5.86-6.70) | 7.26 (6.77-7.75) | 8.02 (7.47-8.56) | 8.77 (8.16-9.36) | 9.53 (8.85-10.2) | 10.5 (9.76-11.2) | 11.3 (10.5-12.1) |
| 10-day | 4.24 (3.98-4.52) | 5.08 (4.77-5.43) | 6.19 (5.81-6.61) | 7.01 (6.56-7.48) | 8.08 (7.56-8.62) | 8.90 (8.31-9.50) | 9.71 (9.06-10.4) | 10.5 (9.80-11.2) | 11.6 (10.8-12.4) | 12.4 (11.5-13.3) |
| 20-day | 5.72 (5.41-6.06) | 6.84 (6.46-7.26) | 8.24 (7.78-8.75) | 9.25 (8.73-9.81) | 10.6 (9.94-11.2) | 11.6 (10.9-12.2) | 12.5 (11.8-13.3) | 13.5 (12.6-14.3) | 14.7 (13.8-15.6) | 15.7 (14.7-16.7) |
| 30-day | 7.12 (6.74-7.53) | 8.50 (8.05-8.99) | 10.1 (9.60-10.7) | 11.3 (10.7-12.0) | 12.8 (12.1-13.5) | 13.9 (13.1-14.7) | 15.0 (14.1-15.9) | 16.1 (15.1-17.0) | 17.4 (16.3-18.5) | 18.5 (17.3-19.6) |
| 45-day | 8.96 (8.51-9.44) | 10.7 (10.1-11.2) | 12.6 (12.0-13.3) | 14.0 (13.3-14.7) | 15.7 (14.9-16.5) | 17.0 (16.1-17.9) | 18.2 (17.2-19.2) | 19.4 (18.3-20.5) | 21.0 (19.8-22.1) | 22.1 (20.8-23.3) |
| 60-day | 10.6 (10.1-11.2) | 12.6 (12.0-13.3) | 14.8 (14.1-15.6) | 16.4 (15.5-17.2) | 18.4 (17.4-19.3) | 19.8 (18.7-20.8) | 21.2 (20.0-22.3) | 22.5 (21.3-23.7) | 24.3 (22.9-25.6) | 25.6 (24.1-26.9) |

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates


Holding Elevation 545 within 2023 Lidar (100 Yr - 6.2 ft/s 1000Yr - 8.3 ft/s)
560.18 - 100 Year Flood Elevation holding cross section area (100 Yr - 0.9 ft/s 1000Yr - 1.2ft/s)
2023 Lidar Ground Surface
Elevation 545 from Flood Study 100 Year (100Yr - 0.9 ft/s 1000Yr - 1.2 ft/s)
Average Elevation 552.59 (100 Yr - 3.5 ft/s 1000Yr - 4.8 ft/s)
Pre-Construction Topography
100 Year Flood Volume from 2007 Flood Study - 27800 CFS
1000 Year Flood Volume based on % Precip Increase - 37454 CFS
580
570
560
550
540
530
520
510
500
490
Precon
Drone
545

HANSON

**MEMORANDUM**

| |
|---|
| Date: 4/30/2025 |
| To: Matt Heyen, Hanson |
| From: Preston Marucco, Hanson |
| Project No.: 19E0107 |
| Project Name: City Water, Light and Power (CWLP) Dallman FGD Waste Water Treatment |
| Subject: Sugar Creek Habitat Assessment |
| Copy to File, Others: |

The Endangered Species Act (ESA) (16 U.S.C. 1531-1544) establishes protections for fish, wildlife, and plants that are listed as threatened or endangered. The law, among other things, prohibits any action that causes a "taking" of any listed species of endangered fish or wildlife. The ESA defines the term "take" as harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

Hanson Professional Services Inc. (Hanson), at the direction of CWLP, performed a habitat assessment of Sugar Creek and adjacent riparian areas. The purpose of this assessment was to determine the presence of preferred habitat for threatened and endangered species known or expected to occur in or near the project area based on database records including the United States Fish and Wildlife Service's (USFWS's) Information for Planning and Consultation (IPaC) and the Illinois Department of Natural Resource's (IDNR's) Ecological Compliance Assessment Tool (EcoCAT).

**Preliminary Habitat Assessment**

On April 16, 2025, Hanson performed a preliminary habitat assessment of Sugar Creek and adjacent riparian and wetland areas to determine the presence of suitable habitat for federally- and state-listed threatened and endangered species (**see attached Location Map**). The length of Sugar Creek along the western limits of the study area was walked and photographed, and areas of potentially suitable habitat for federally- and state-listed species were documented and inventoried. Sugar Creek is a perennial stream occurring along the western limits of the study area and was determined to have an ordinary high water mark (OHWM) depth of 5.5 feet and width of 50 feet. The substrate of the creek consisted of mostly silt with some interspersed gravel and the stream displayed riffling and pooling in shallower areas. Live fish including grass carp (*Ctenopharyngodon Idella)* and shortnose gar (*Lepisosteus platostomus)* were observed in the stream. Turtles of unknown species were also observed. The stream was determined to have little canopy cover for the length of the project area with dominant tree species including American sycamore (*Platanus occidentalis)*, eastern cottonwood (*Populus deltoides),* white oak (*Quercus alba*), and American elm (*Ulmus americana*). The riparian plant community surrounding the stream was dominated by common reed (*Phragmites australis),* reed canary grass (*Phalaris arundinacea*) and Morrow's honeysuckle (*Lonicera morrowii)*. The banks of the stream ranged from shallow to steep slopes with most the bank along the length of the project area being a sheer drop off of about 6 feet from top of slope to water. Stone riprap has been placed along much of the shallower sloped bank areas to prevent erosion, which has inhibited

plant communities from growing in these areas. Several apparent wetland areas were observed along the riparian zone of Sugar Creek, but delineation of wetland boundaries was not performed.

**Database Records - IPaC**

The USFWS's IPaC tool was utilized to determine the potential presence of federally-listed threatened or endangered species within the project area, and species that may not occur within the project area but may be affected directly or indirectly by project activities. IPaC did not identify any critical habitats within or near the project area. **Table 1** lists species identified by IPaC as having potential to be affected by project activities and their associated listing status.

**Table 1: IPaC Listings**

| Species | Scientific Name | Status |
|---|---|---|
| Indiana bat | *Myotis sodalis* | Endangered |
| Eastern prairie fringed orchid | *Platanthera leucophaea* | Threatened |

Indiana Bat

The Indiana bat is a small, migratory bat species that forages on insects and utilizes caves and mines in the winter months to hibernate in colonies. According to information provided by the USFWS, the Indiana bat requires forested areas for foraging, roosting and reproduction in the summer months. Reproductive females roost in forested areas utilizing exfoliating bark of dead or dying trees that exhibit large slabs of peeling bark (i.e., oaks, ash, hickory). Maternity roosts typically occur in riparian zones, bottomland and floodplain habitats; and they prefer areas near running water.

Based on this information and a field assessment completed on April 16, 2025, riparian areas surrounding Sugar Creek present suitable habitat to support the Indiana bat's spring and summer roosting and maternity needs. No bats were observed during the field assessment.

Eastern Prairie Fringed Orchid

The eastern prairie fringed orchid is a perennial tuberous-rooted plant with creamy white flowers. According to information provided by the USFWS, this plant occurs in a wide variety of habitats including wet to mesic prairies and other wet or seasonally wet habitats. The plant requires full sun for optimal growth, but can also be located along the edge of, or interspersed among more densely vegetated plant communities. Early- or mid- successional sedge meadow and marsh habitats are the preferred habitat for this species because they provide reduced competition from established plants and sunlight exposure.

Based on this information and a field assessment completed on April 16, 2025, riparian and early-successional wetland areas surrounding Sugar Creek present suitable habitat to support the lifecycle of this species. No eastern prairie fringed orchids were observed during the field assessment.

**Database Records – EcoCAT**

The IDNR's EcoCAT tool was utilized to determine the potential presence of state-listed threatened or endangered species within the project area, and species that may not occur within the project area but may be affected directly or indirectly by project activities. EcoCAT did not identify any critical habitats within or near the project area. **Table 2** lists species identified by

EcoCAT as having potential to be affected by project activities and their associated listing status.

**Table 2: EcoCAT Listings**

| Species | Scientific Name | Status |
|---|---|---|
| Kirtland's snake | *Clonophis kirtlandi* | State threatened |

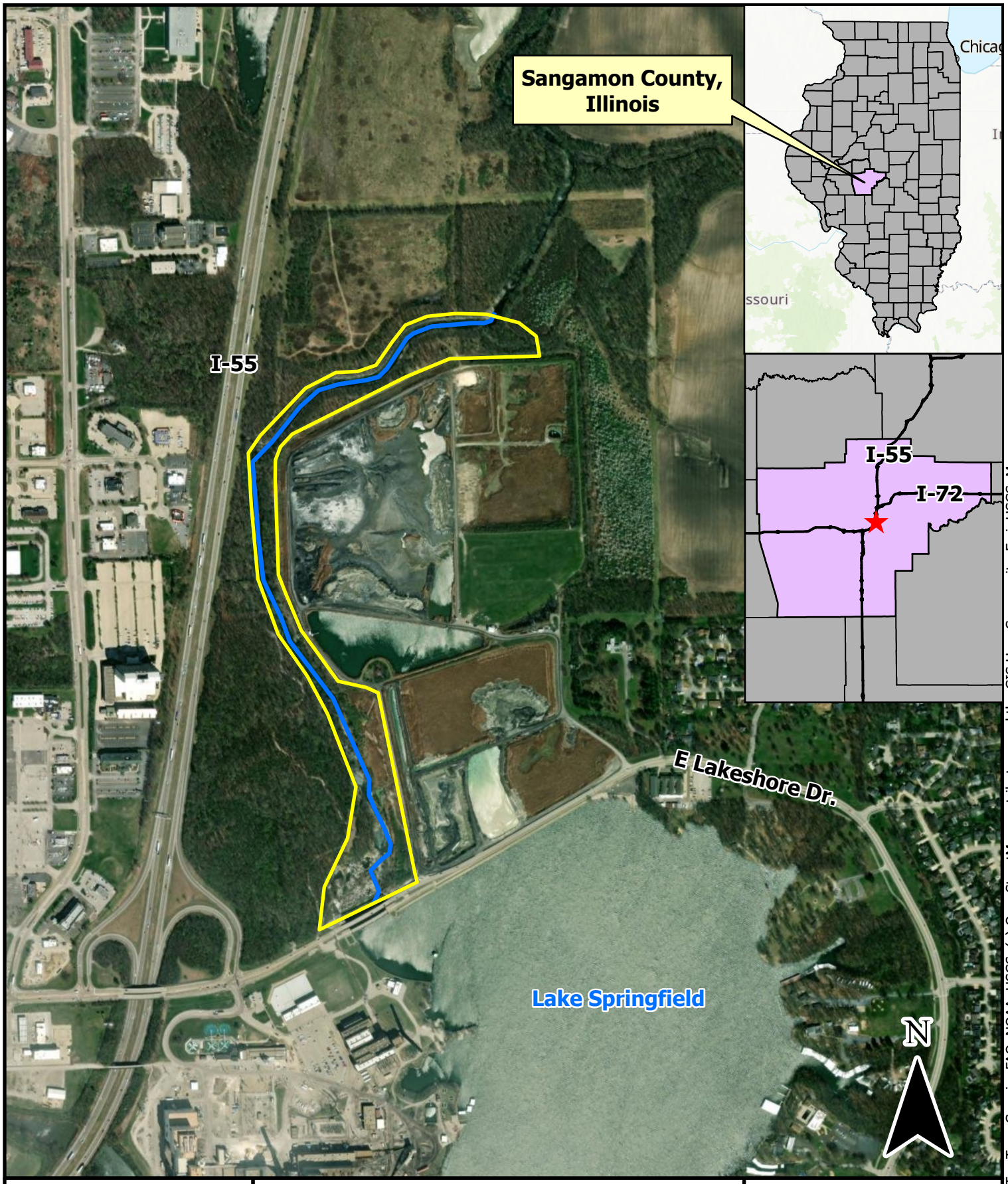
Kirtland's Snake

The Kirtland's snake is a snake averaging 14 to 18 inches in length with a red belly and a row of round, black spots down each of its sides. The dorsal portion of the snake is gray or brown with four rows of black blotches that may be difficult to discern. According to information provided by the IDNR, this snake is aquatic, but can often be found on land in or near wet meadows and swamps, or in areas adjacent to these habitat types. During the day the snake often utilizes rocks or hillside burrows for cover to hide. The species mates in May and females typically give birth in August or September.

Based on this information and a field assessment completed on April 16, 2025, Sugar Creek and adjacent wetland and riparian areas present suitable habitat to support the lifecycle of this species. No Kirtland's snakes were observed during the field assessment.

**Summary**

This summary is based on information provided by the USFWS's IPaC and IDNR's EcoCAT assessment tools and information gathered during an April 16, 2025 field assessment. Hanson has determined that suitable habitat for the federally-listed Indiana bat (endangered) and eastern prairie fringed orchid (threatened), as well as the state-listed Kirtland's snake, is present within and surrounding Sugar Creek.




## Figure 1: Location Map

Sugar Creek Habitat Assessment
Springfield, Sangamon County, Illinois

Hanson No. 19E0107 Created: 4/30/2025

★ Project Location
Sugar Creek
Study Area

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Maxar

**IPaC** **U.S. Fish & Wildlife Service**

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

## Location

Sangamon County, Illinois

## Local office

Illinois-Iowa Ecological Services Field Office

(309) 757-5800
(309) 757-5807

Illinois & Iowa Ecological Services Field Office
1511 47th Ave

Moline, IL 61265-7022

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NOT FOR CONSULTATION

The following species are potentially affected by activities in this location:

# Mammals

| NAME | STATUS |
|---|---|
| Indiana Bat Myotis sodalis<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/5949 | Endangered |

# Birds

| NAME | STATUS |
|---|---|
| Whooping Crane Grus americana<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/758 | EXPN |

# Insects

| NAME | STATUS |
|---|---|
| Monarch Butterfly Danaus plexippus<br>Wherever found<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/9743 | Proposed Threatened |
| Western Regal Fritillary Argynnis idalia occidentalis<br>Wherever found<br>No critical habitat has been designated for this species. | Proposed Threatened |

# Flowering Plants

| NAME | STATUS |
|---|---|
| Eastern Prairie Fringed Orchid Platanthera leucophaea<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/601 | Threatened |

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# Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

# Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

**Measures for Proactively Minimizing Eagle Impacts**
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

NOT FOR CONSULTATION

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

**Ensure Your Eagle List is Accurate and Complete**

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

**Review the FAQs**

The FAQs below provide important additional information and resources.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle Haliaeetus leucocephalus<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. | Breeds Oct 15 to Aug 31 |

NOT FOR CONSULTATION

# Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

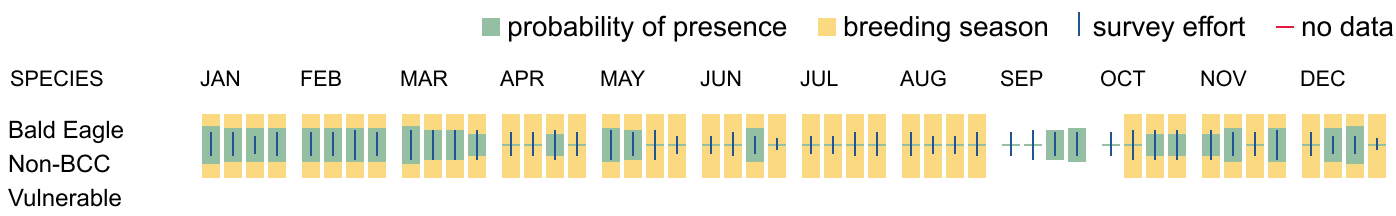
**Breeding Season** (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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# Bald & Golden Eagles FAQs

**What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?**

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

**Proper interpretation and use of your eagle report**
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

**How do I know if eagles are breeding, wintering, or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**Interpreting the Probability of Presence Graphs**

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

***How is the probability of presence score calculated? The calculation is done in three steps:***
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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**Breeding Season ()**
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort ()**
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data ()**
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

# Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

### Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

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**Ensure Your Migratory Bird List is Accurate and Complete**

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

**Review the FAQs**

The FAQs below provide important additional information and resources.

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| NAME | BREEDING SEASON |
|---|---|
| American Golden-plover Pluvialis dominica<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| Bald Eagle Haliaeetus leucocephalus<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. | Breeds Oct 15 to Aug 31 |
| Black-billed Cuckoo Coccyzus erythropthalmus<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9399 | Breeds May 15 to Oct 10 |
| Bobolink Dolichonyx oryzivorus<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 20 to Jul 31 |
| Cerulean Warbler Setophaga cerulea<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/2974 | Breeds Apr 21 to Jul 20 |
| Chimney Swift Chaetura pelagica<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Mar 15 to Aug 25 |

Grasshopper Sparrow Ammodramus savannarum perpallidus — Breeds Jun 1 to Aug 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8329

Henslow's Sparrow Centronyx henslowii — Breeds May 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3941

Kentucky Warbler Geothlypis formosa — Breeds Apr 20 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Loggerhead Shrike Lanius ludovicianus excubitorides — Breeds Feb 1 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8833

Prothonotary Warbler Protonotaria citrea — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

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| | |
|---|---|
| Rusty Blackbird Euphagus carolinus<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds elsewhere |
| Semipalmated Sandpiper Calidris pusilla<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds elsewhere |
| Short-billed Dowitcher Limnodromus griseus<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9480 | Breeds elsewhere |
| Wood Thrush Hylocichla mustelina<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 10 to Aug 31 |

# Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (▬)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the

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maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

**Breeding Season** (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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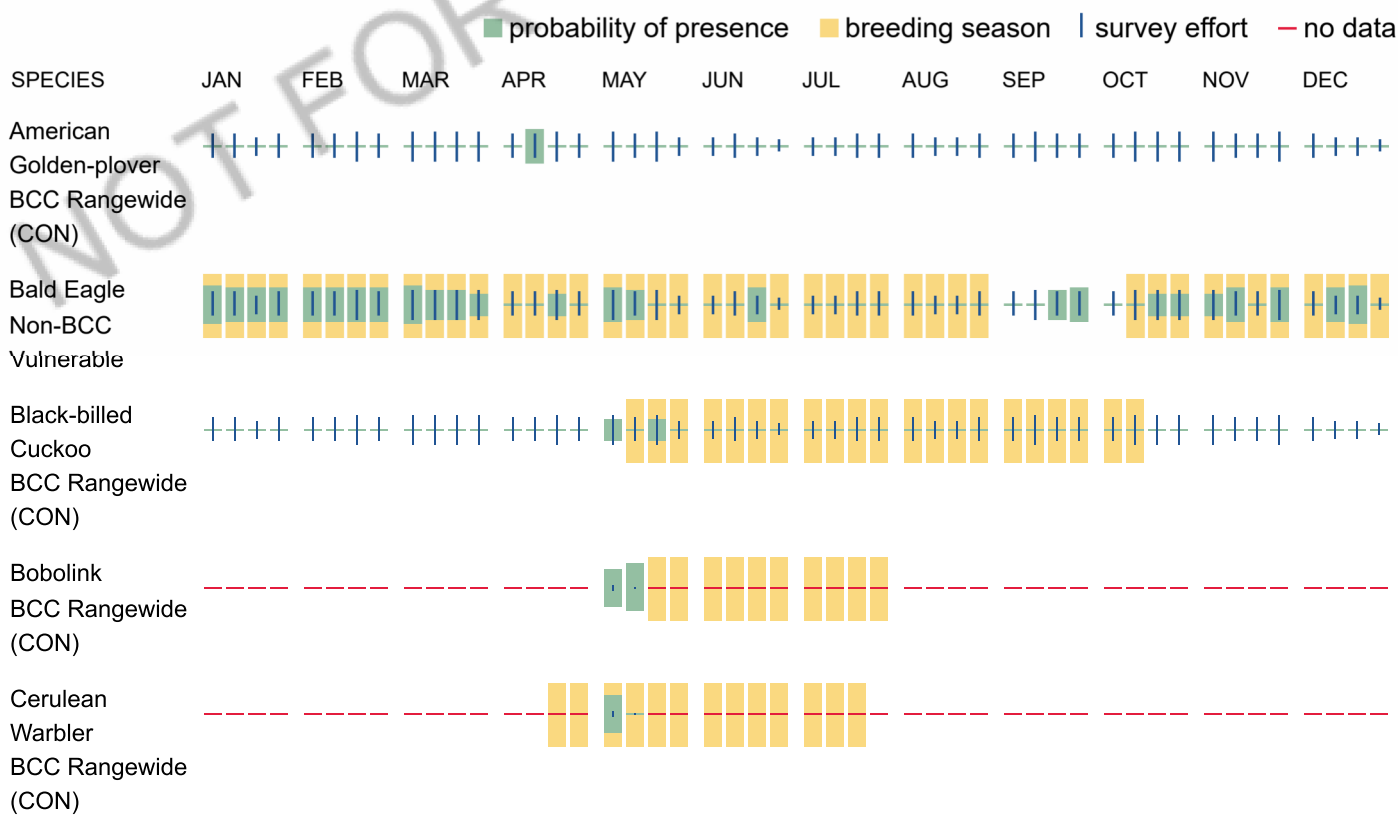

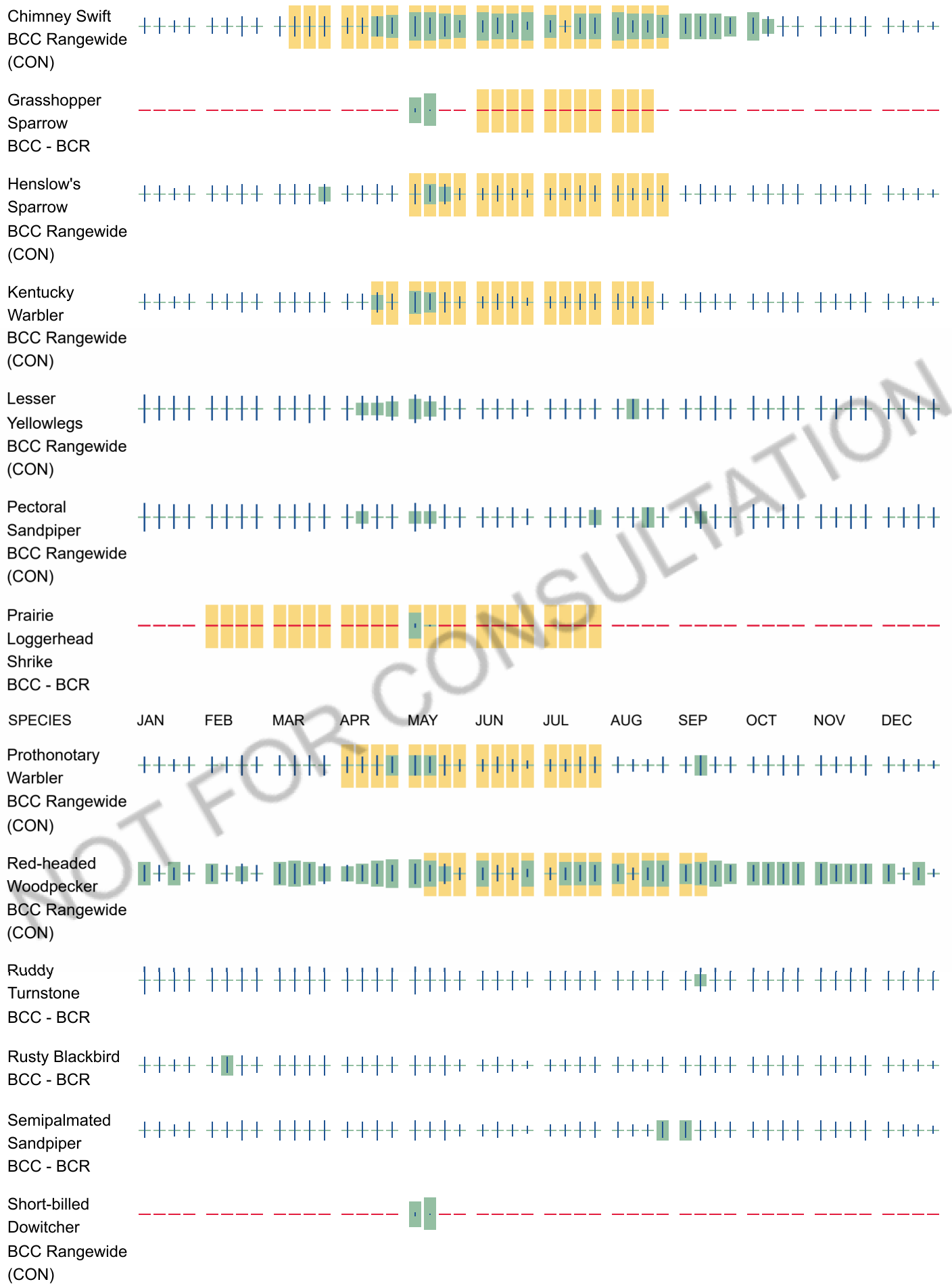


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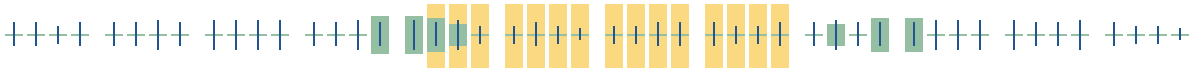
Wood Thrush
BCC Rangewide
(CON)



## Migratory Bird FAQs

**Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.**

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

**Why are subspecies showing up on my list?**

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

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Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering, or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

**Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

**Proper interpretation and use of your migratory bird report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then

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the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

**Interpreting the Probability of Presence Graphs**
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

***How is the probability of presence score calculated? The calculation is done in three steps:***
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

**Breeding Season ()**
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort ()**
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data ()**
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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# Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1K
- PEM1Cx

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A

FRESHWATER POND

- PUBK

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PUBKx
PUSK

LAKE
L1UBK
L2USK

RIVERINE
R2UBH
R4SBC
R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

**Data limitations**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

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**Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in

activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

*Applicant:* Hanson Professional Services Inc.
*Contact:* Seth Owens
*Address:* 1525 South Sixth Street
Springfield, IL 62703

*IDNR Project Number:* 2507405
*Date:* 12/12/2024
*Alternate Number:* 24E0022_00, 2201776

*Project:* NPDES Permit Renewal
*Address:* 3100 Adlai Stevenson Dr, SPRINGFIELD

*Description:* Permit update

## Natural Resource Review Results

**Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)**

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Kirtland's Snake *(Clonophis kirtlandi)*

**An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.**

### Location

The applicant is responsible for the accuracy of the location submitted for the project.

*County:* Sangamon

*Township, Range, Section:*
15N, 5W, 12

**IL Department of Natural Resources Contact**
Adam Rawe
217-785-5500
Division of Ecosystems & Environment

**Government Jurisdiction**
IL Environmental Protection Agency
Permit Section, Div. of Water Pollution Control
1021 North Grand Ave. E. , PO box 19278
SPRINGFIELD, Illinois 62794

**Disclaimer**

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

**Terms of Use**

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1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

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# Appendix F

# Select Closure Plan Drawings and Sections

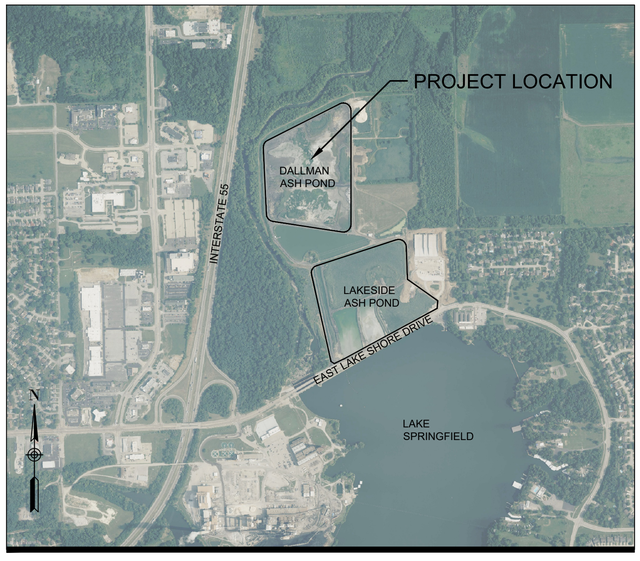
**PRELIMINARY PLANS - ISSUED 09-20-2025**

# ASH POND CLOSURE

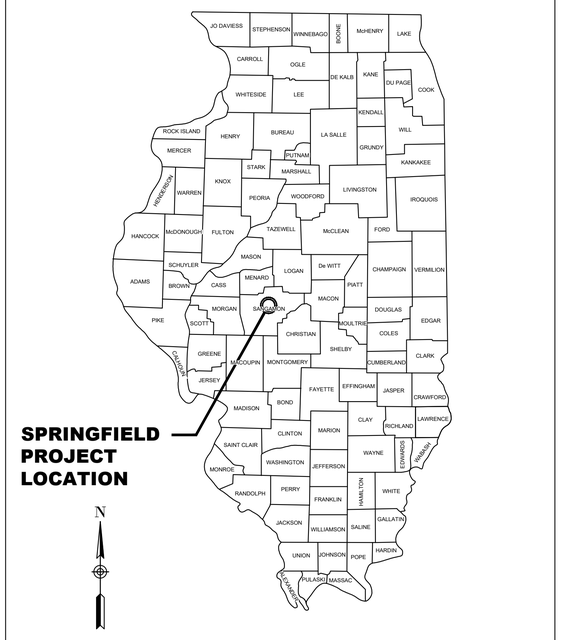
## CWLP
## CITY WATER LIGHT AND POWER
## SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

| SHEET INDEX | |
|---|---|
| Sheet | Sheet Title |
| G001 | COVER SHEET |
| G002 | GENERAL NOTES AND SURVEY DATA |
| C101 | CONSOLIDATION PLAN |
| C102 | DALLMAN ASH POND ALIGNMENT PLAN |
| C103 | DALLMAN ASH POND INTERIM GRADING PLAN |
| C104 | DALLMAN ASH POND CLOSURE PLAN |
| C105 | LAKESIDE CLOSURE PLAN |
| C106 | DALLMAN PUMP WELL LAYOUT |
| C201 | DALLMAN ASH POND VERTICAL ALIGNMENTS |
| C202 | TYPICAL SECTIONS |
| C501 | DEWATERING WELL DETAILS |
| C502 | PUMP DETAILS |
| E101 | ELECTRICAL ONE-LINE DIAGRAM |

**VICINITY MAP**




**LOCATION MAP**




G001



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**BARRY ROWE**, P.E.
Electrical Engineer

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**BRAD HOOTS**, P.E.
Civil Engineer

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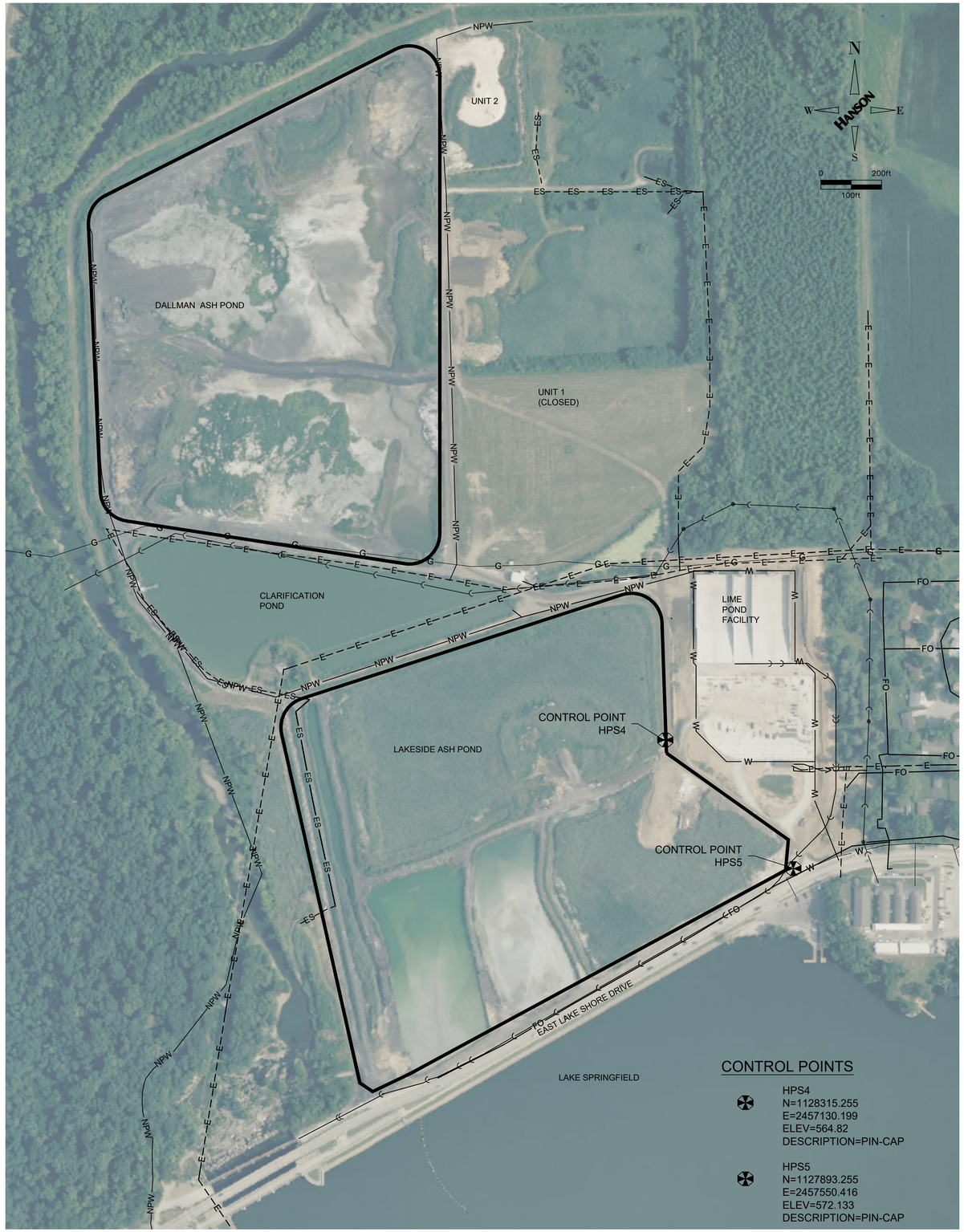
## GENERAL NOTES

1. "IDOT STANDARD SPECIFICATIONS", WHERE REFERENCED IN THE PLANS OR TECHNICAL SPECIFICATIONS, REFERS TO THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2022, PUBLISHED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT).
2. ALL SECTIONS, DETAILS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. IF CONDITIONS VARY FROM THOSE INDICATED ON THE DRAWINGS, OWNER SHALL BE NOTIFIED AND NO WORK SHALL BE DONE IN THE AREA WITHOUT APPROVAL.
4. SCALE FOR THE DRAWINGS IS FOR GENERAL INFORMATION ONLY. LOCATIONS AND DIMENSIONS SHALL BE TAKEN AS SHOWN AND NOT SCALED.
5. IT IS CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT, ORDERING MATERIALS, OR BEGINNING CONSTRUCTION.
6. CONTRACTOR'S WORK ACTIVITIES SHALL BE RESTRICTED TO AREAS WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTOR'S ACTIVITIES AND VEHICLES SHALL NOT BE ALLOWED OUTSIDE OF THESE LIMITS UNLESS APPROVED BY OWNER.
7. DISTURBED EARTH SURFACES SHALL BE SEEDED PER THE PROJECT SPECIFICATIONS.
8. CONTRACTOR IS RESPONSIBLE FOR THE SITE RESTORATION.
9. TEMPORARY EROSION CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH IDOT STANDARD DRAWING 280001-07 TEMPORARY EROSION CONTROL SYSTEMS. AND ARTICLE 280 OF THE IDOT STANDARD SPECIFICATIONS.
10. ALL OPEN EXCAVATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P- "EXCAVATIONS". THE SUBCONTRACTOR SHALL DESIGNATE A QUALIFIED "COMPETENT PERSON" AS DEFINED IN OSHA SECTION 1926.650(b) PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION ACTIVITIES.

## SURVEY AND LAYOUT

1. THE DESIGN PLANS INCLUDED WERE BASED UPON A HORIZONTAL COORDINATE SYSTEM BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83), ILLINOIS STATE PLANE WEST ZONE AND VERTICAL ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING ANY PROPERTY MONUMENTS THAT BECOME DAMAGED OR DESTROYED DURING CONSTRUCTION ACTIVITIES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER ALIGNMENT (VERTICAL AND HORIZONTAL) AT ALL INTERFACES BETWEEN NEW AND EXISTING WORK TO ASSURE PROPER INSTALLATION AND USAGE.
4. MONITORING WELLS IDENTIFIED ON THE PLAN SHEETS SHALL BE PROTECTED FROM DAMAGE DURING THE SITE WORK, EXCEPT THOSE IDENTIFIED FOR REMOVAL.




### CONTROL POINTS

HPS4
N=1128315.255
E=2457130.199
ELEV=564.82
DESCRIPTION=PIN-CAP

HPS5
N=1127893.255
E=2457550.416
ELEV=572.133
DESCRIPTION=PIN-CAP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DALLMAN ASH POND CLOSURE

SPRINGFIELD, ILLINOIS

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ISSUE: 09-20-2025
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SHEET TITLE
GENERAL NOTES AND SURVEY DATA

G002

SHEET 2 OF 14

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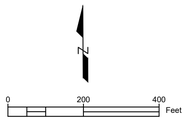


CONSTRUCTION SEQUENCE:

STEP 1
INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

STEP 2
GRADE THE EXISTING SURFACE OF DALLMAN ASH POND TO DRAIN TOWARD THE OUTSIDE EDGES PRIOR TO PLACING FILTER BAGS.

STEP 3
PUMP WATER FROM THE 10 NEW DEWATERING WELLS TO LOWER WATER CONTENT OF THE DALLMAN ASH POND.

STEP 4A
MOVE ENOUGH DRY LAKESIDE ASH POND CCR TO STOCK PILES ON DALLMAN ASH POND SO SLURRY OPERATIONS CAN BEGIN.

STEP 4B
SLURRY LAKESIDE ASH POND AND PUMP INTO FILTER BAGS INSTALLED ON THE SURFACE OF THE DALLMAN ASH POND.

STEP 4C
RAISE THE DEWATERING WELLS AS BAGS ARE BUILT UP AROUND THE WELLS.

STEP 5
USE DRY CCR MATERIAL OR LAKESIDE ASH POND BERM MATERIAL TO COVER THE FILTER BAGS AND GRADE TO THE ELEVATIONS SHOWN ON THE FINAL COMPLETION PLAN.

STEP 6A
COMMENCE ALTERNATE FINAL COVER INSTALLATION (CLOSURETURF) ONCE ALL MATERIAL IS TRANSFERRED FROM THE LAKESIDE ASH POND TO THE DALLMAN ASH POND. THE DEWATERING WELLS WILL BE RAISED TO THE FINAL SURFACE ELEVATION AND WILL REMAIN IN PLACE TO FACILITATE FUTURE DEWATERING OPERATIONS.

STEP 6B
CONSTRUCT LAKESIDE CHANNEL OUTFALL
GRADE THE LAKESIDE ASH POND TO DRAIN VISIBLY REMOVING ALL CCR.
APPLY FERTILIZER, SEED AND MULCH.

STEP 7
ONCE FINAL SEEDING IS ESTABLISHED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.

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DALLMAN ASH POND CLOSURE

SPRINGFIELD, ILLINOIS

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REVIEWED BY: XX

SHEET TITLE

CONSOLIDATION PLAN

C101
SHEET 3 OF 14

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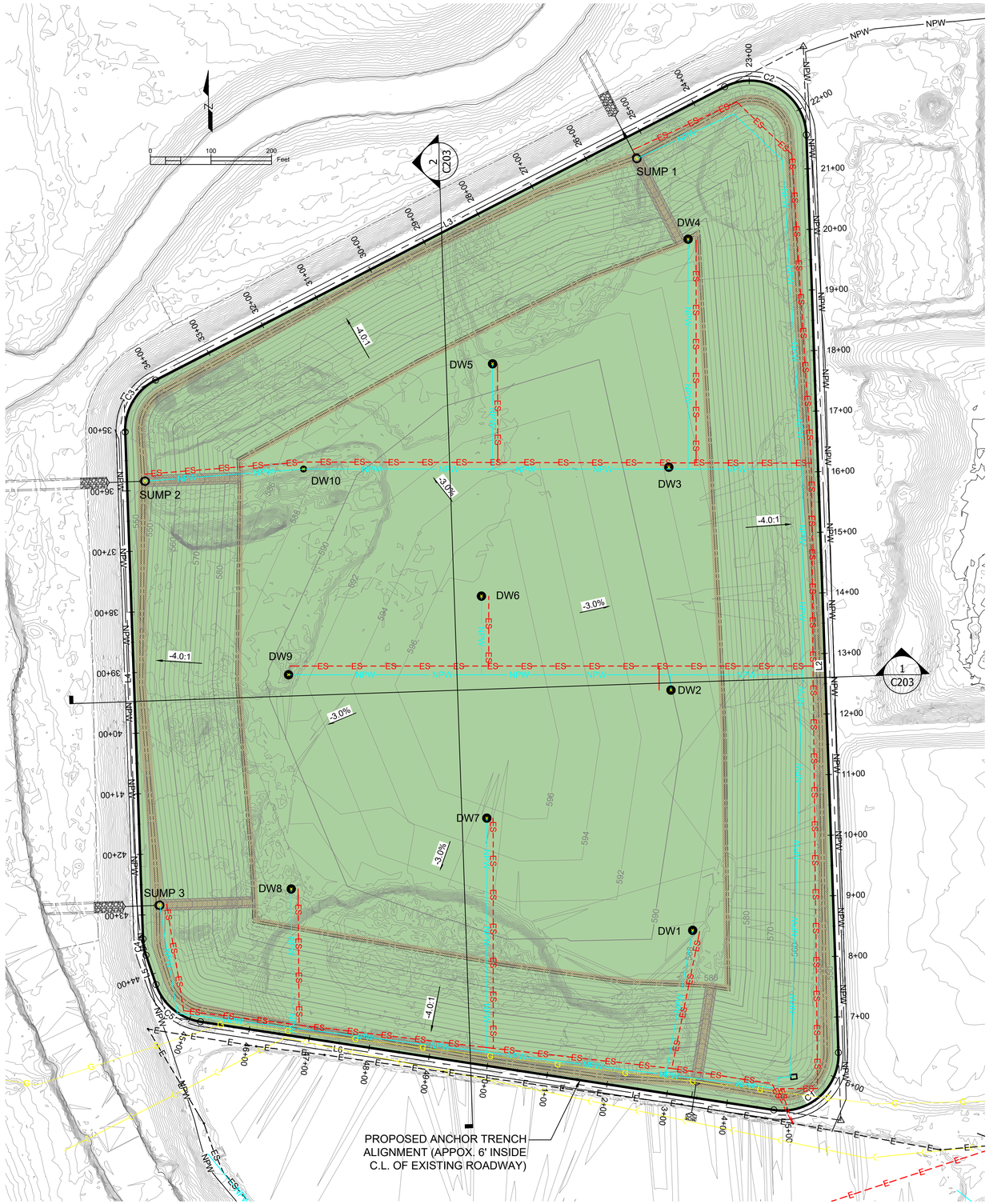
| LINE TABLE: ALIGNMENTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LINE # | LENGTH | DIRECTION | START STA | START NORTHING | START EASTING | END STA | END NORTHING | END EASTING |
| L1 | 478.43' | S81° 15' 03.50"E | 0+00.00 | 1128949.28 | 2455851.68 | 4+78.43 | 1128876.51 | 2456324.53 |
| L2 | 1514.99' | N02° 00' 08.01"W | 6+41.08 | 1128971.17 | 2456431.05 | 21+56.07 | 1130485.23 | 2456378.12 |
| L3 | 1055.98' | S62° 44' 13.04"W | 23+42.15 | 1130564.22 | 2456243.30 | 33+98.13 | 1130080.50 | 2455304.63 |
| L4 | 836.98' | S02° 00' 08.01"E | 35+02.64 | 1129995.04 | 2455254.56 | 43+39.62 | 1129158.58 | 2455283.80 |
| L5 | 51.12' | S19° 00' 09.65"E | 43+67.07 | 1129131.69 | 2455288.78 | 44+18.18 | 1129083.36 | 2455305.43 |
| L6 | 478.43' | S81° 15' 03.50"E | 45+18.68 | 1129022.05 | 2455378.82 | 49+97.10 | 1128949.28 | 2455851.68 |

## CURVE TABLE: ALIGNMENTS

| CURVE # | LENGTH | RADIUS | DELTA | CHORD DIRECTION | CHORD LENGTH |
|---|---|---|---|---|---|
| C1 | 162.66' | 92.50' | 100°45'05" | N48° 22' 24.24"E | 142.49' |
| C2 | 186.08' | 92.50' | 115°15'39" | N59° 37' 57.49"W | 156.25' |
| C3 | 104.52' | 92.50' | 64°44'21" | S30° 22' 02.51"W | 99.05' |
| C4 | 27.45' | 92.50' | 17°00'02" | S10° 30' 08.83"E | 27.35' |
| C5 | 100.50' | 92.50' | 62°14'54" | S50° 07' 36.57"E | 95.63' |

NOTES:

1. SEE SHEET C201 FOR ANCHOR TRENCH AND PERIMETER DITCH PROFILES.





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DALLMAN ASH POND CLOSURE

SPRINGFIELD, ILLINOIS

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SHEET TITLE

DALLMAN ASH POND ALIGNMENT PLAN

C102

SHEET 4 OF 14

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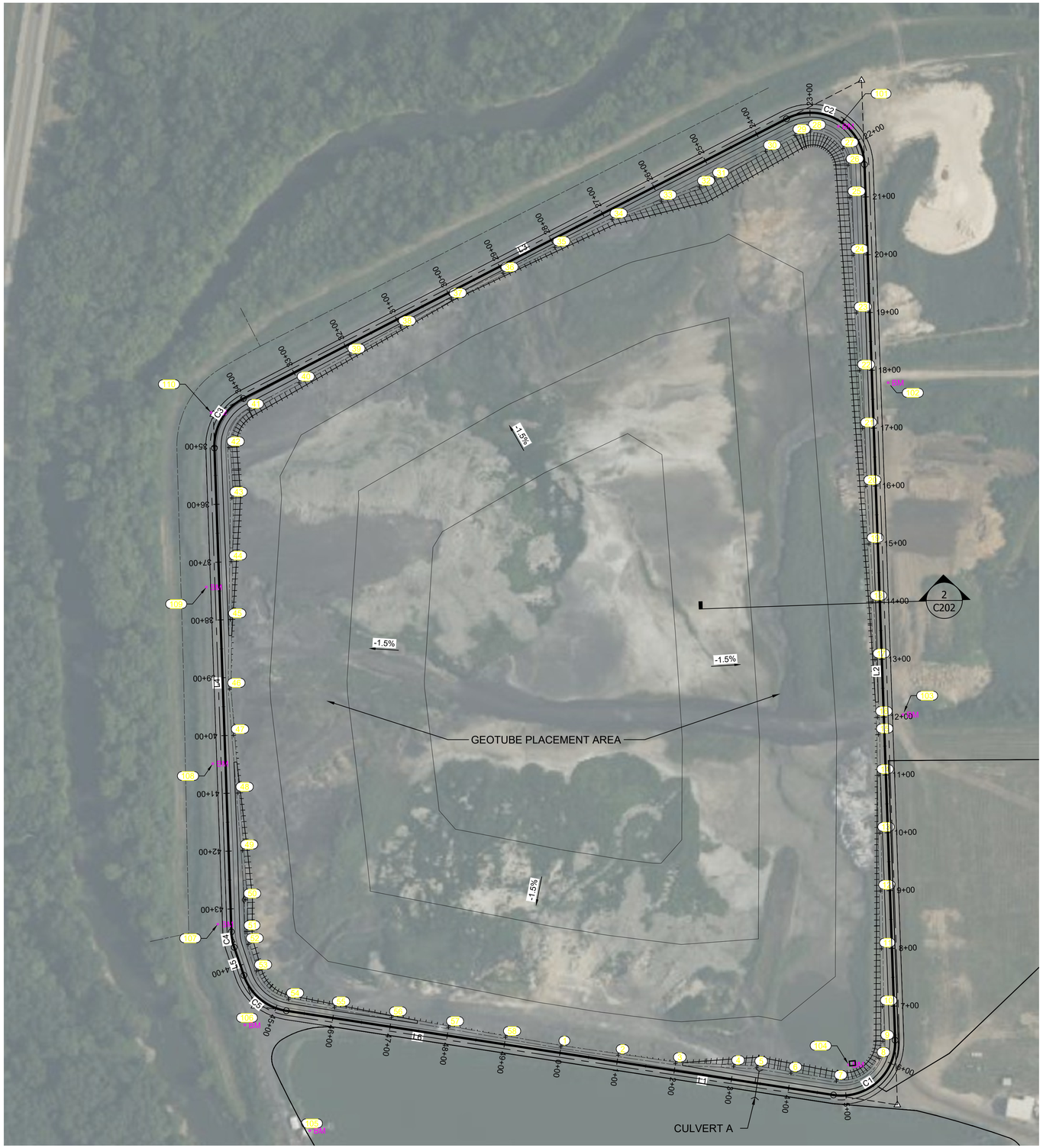
## LEGEND:

- EXISTING UNDERGROUND PRIMARY ELECTRICAL
- EXISTING UNDERGROUND SECONDARY ELECTRICAL
- PROPOSED UNDERGROUND SECONDARY ELECTRICAL
- EXISTING OVERHEAD PRIMARY ELECTRICAL
- EXISTING OVERHEAD SECONDARY ELECTRICAL
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING NON-POTABLE WATER LINE
- PROPOSED NON POTABLE WATER LINE
- EXISTING SEWER LINE
- EXISTING COMMUNICATION LINE
- EXISTING POWER POLE
- PROPOSED DEWATERING WELLS
- PROPOSED INTERIM DITCH SUMP
- EXISTING MONITORING WELLS




NOTES:

1. CONTOURS REPRESENT PERIMETER DRAINAGE DITCH CONSTRUCTION AND GRADING OF EXISTING CCR TO PROMOTE POSITIVE DRAINAGE DURING DEWATERING AND FILL PLACEMENT VIA GEOTUBE.
2. SEE SHEET C102 FOR ANCHOR TRENCH ALIGNMENT AND SHEET C201 FOR PERIMETER DITCH PROFILE.

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DALLMAN ASH POND CLOSURE

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SHEET TITLE

DALLMAN ASH POND INTERIM GRADING PLAN

C103
SHEET 5 OF 14

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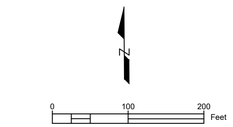


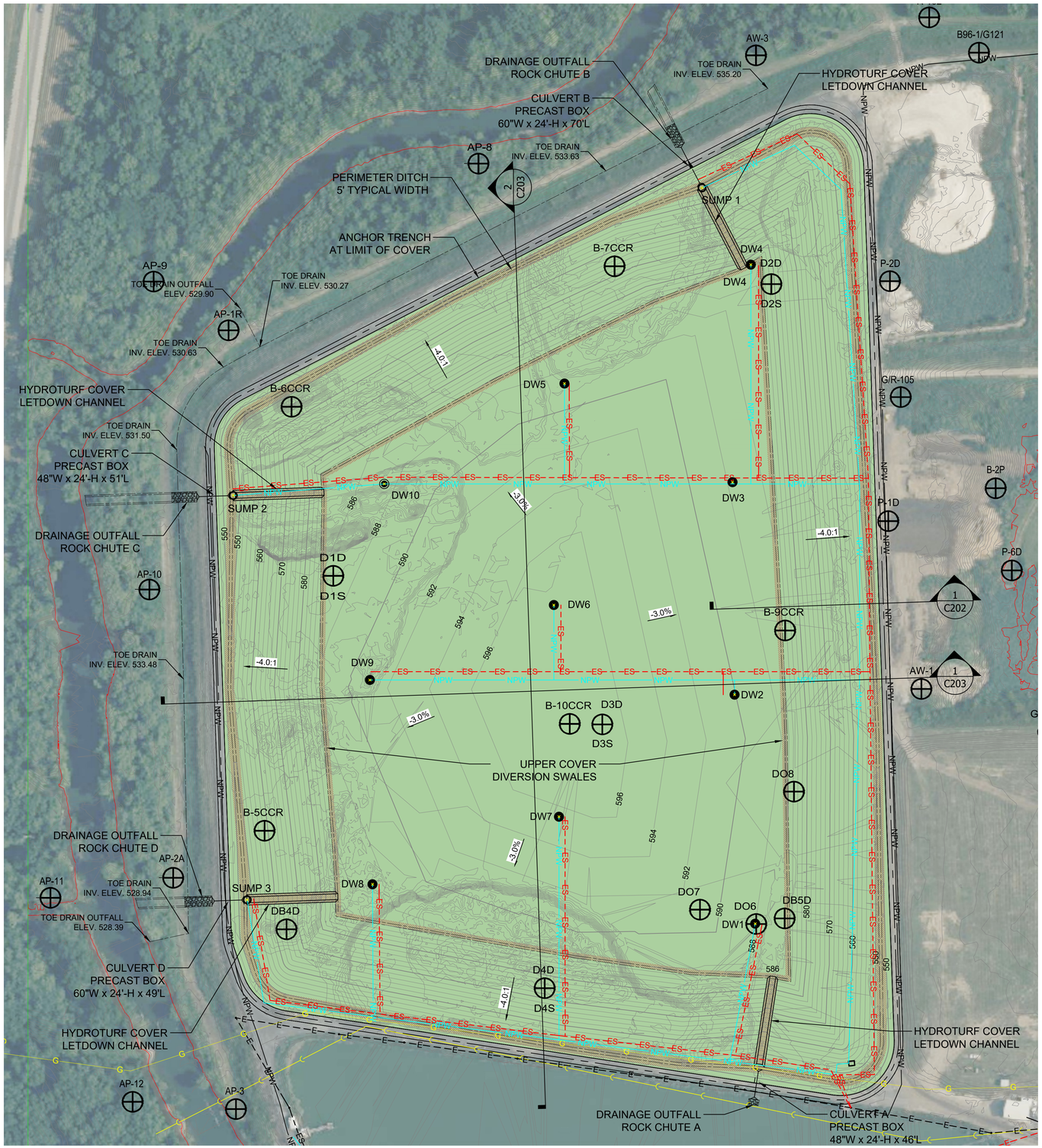

LEGEND

- CLOSURE TURF
- HYDROTURF
- PERMANENT SEEDING
- RIPRAP

NOTES:

1. SEE SHEET C102 FOR ANCHOR TRENCH ALIGNMENT AND SHEET C201 FOR PERIMETER DITCH PROFILE.

| DALLMAN MONITORING WELLS | | |
|---|---|---|
| Short ID | Northing | Easting |
| D1D | 1,129,774.646 | 2,455,460.387 |
| D2D | 1,130,279.471 | 2,456,218.172 |
| D3D | 1,129,517.696 | 2,455,925.821 |
| D4 | 1,129,061.184 | 2,455,862.181 |
| DB4D | 1,129,163.191 | 2,455,379.61 |
| DB5D | 1,129,181.966 | 2,456,241.368 |
| DW1 | 1,129,174.103 | 2,456,191.27 |
| DO6 | 1,129,172.348 | 2,456,192.204 |
| DO7 | 1,129,197.213 | 2,456,094.954 |
| DO8 | 1,129,401.38 | 2,456,257.44 |
| B-5CCR | 1,129,333.75 | 2,455,341.56 |
| B-6CCR | 1,130,067.17 | 2,455,388.17 |
| B-7CCR | 1,130,310.33 | 2,455,947.06 |
| B-9CCR | 1,129,680.19 | 2,456,242.16 |
| B-10CCR | 1,129,518.55 | 2,455,869.56 |
| D1S | 1,129,777.846 | 2,455,464.375 |
| D2S | 1,130,282.963 | 2,456,222.602 |
| D3S | 1,129,514.675 | 2,455,930.029 |
| DB4S | 1,129,157.327 | 2,455,380.777 |
| DB5S | 1,129,176.576 | 2,456,240.522 |

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DALLMAN ASH POND CLOSURE

SPRINGFIELD, ILLINOIS

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SHEET TITLE

DALLMAN ASH POND CLOSURE PLAN

C104

SHEET 6 OF 14

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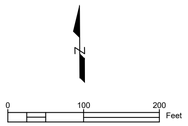


LEGEND

- CLOSURE TURF
- HYDROTURF
- PERMANENT SEEDING
- RIPRAP

NOTES:

1. SEE SHEET C102 FOR ANCHOR TRENCH ALIGNMENT AND SHEET C201 FOR PERIMETER DITCH PROFILE.

| LAKESIDE MONITORING WELLS | | |
|---|---|---|
| Short ID | Northing | Easting |
| L1D | 1,127,471.500 | 2,456,543.151 |
| LB2D | 1,127,826.170 | 2,456,727.264 |
| L3D | 1,128,216.985 | 2,456,765.964 |
| L4 | 1,127,968.131 | 2,457,141.149 |
| L5D | 1,128,308.427 | 2,456,118.312 |
| B-1CCR | 1,127,387.376 | 2,456,173.675 |
| B-2CCR | 1,128,059.370 | 2,456,087.510 |
| B-3CCR | 1,128,336.730 | 2,456,638.090 |
| B-4CCR | 1,127,834.100 | 2,456,152.870 |
| L1S | 1,127,476.295 | 2,456,541.736 |
| LB2S | 1,127,821.347 | 2,456,728.788 |
| L3S | 1,128,212.801 | 2,456,770.611 |
| L5S | 1,128,304.992 | 2,456,121.932 |

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DALLMAN ASH POND CLOSURE

SPRINGFIELD, ILLINOIS

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LAKESIDE ASH POND CLOSURE PLAN

C105

SHEET 7 OF 14

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## LEGEND:

- EXISTING UNDERGROUND PRIMARY ELECTRICAL
- EXISTING UNDERGROUND SECONDARY ELECTRICAL
- PROPOSED UNDERGROUND SECONDARY ELECTRICAL
- EXISTING OVERHEAD PRIMARY ELECTRICAL
- EXISTING OVERHEAD SECONDARY ELECTRICAL
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING NON-POTABLE WATER LINE
- PROPOSED NON POTABLE WATER LINE
- EXISTING SEWER LINE
- EXISTING COMMUNICATION LINE
- EXISTING POWER POLE
- PROPOSED DEWATERING WELLS
- PROPOSED INTERIM DITCH SUMP
- EXISTING MONITORING WELLS

| DEWATERING WELLS | | |
|---|---|---|
| Well ID | Northing | Easting |
| | | |
| DW1 | 1,129,172.894 | 2,456,190.498 |
| DW2 | 1,129,569.144 | 2,456,154.745 |
| DW3 | 1,129,936.797 | 2,456,151.227 |
| DW4 | 1,130,313.072 | 2,456,182.954 |
| DW5 | 1,130,107.459 | 2,455,860.460 |
| DW6 | 1,129,724.222 | 2,455,842.104 |
| DW7 | 1,129,357.981 | 2,455,850.937 |
| DW8 | 1,129,241.101 | 2,455,528.397 |
| DW9 | 1,129,594.511 | 2,455,523.840 |
| DW10 | 1,129,933.797 | 2,455,548.635 |

| SUMPS | | |
|---|---|---|
| ID | Northing | Easting |
| SUMP 1 | 1,130,446.03 | 2,456,098.46 |
| SUMP 2 | 1,129,913.78 | 2,455,287.42 |
| SUMP 3 | 1,129,214.21 | 2,455,311.52 |

N

0 300 600

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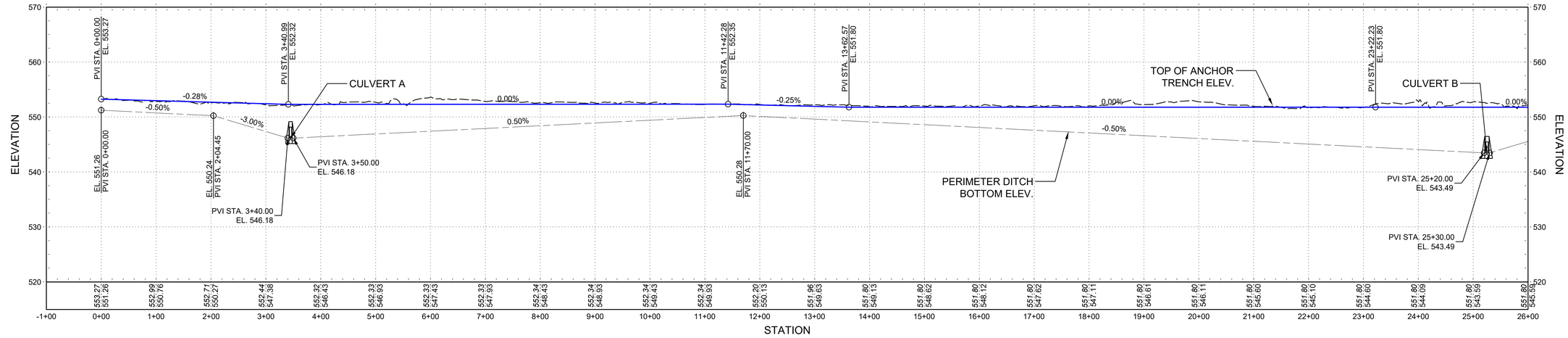
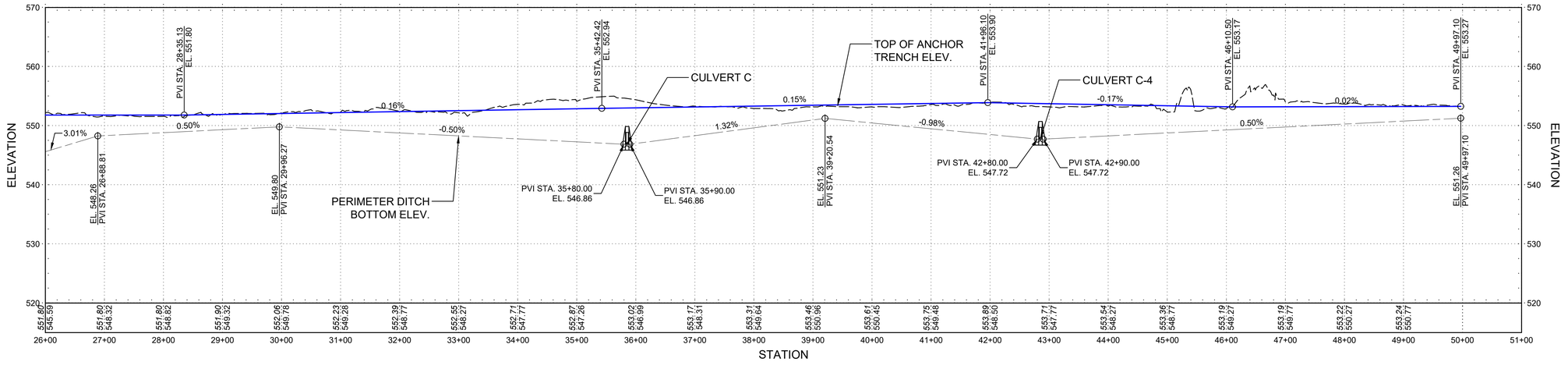
DALLMAN ASH POND DEWATERING WELLS

C106

SHEET 8 OF 14




SCALES

VERTICAL 0 10 20

HORIZONTAL 0 100 200

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# DALLMAN ASH POND VERTICAL ALIGNMENTS

C201

SHEET 9 OF 100

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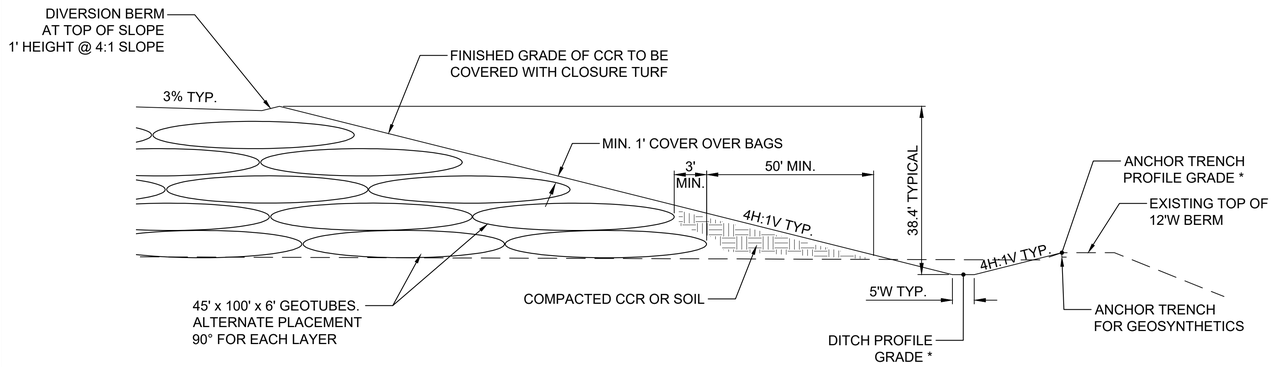
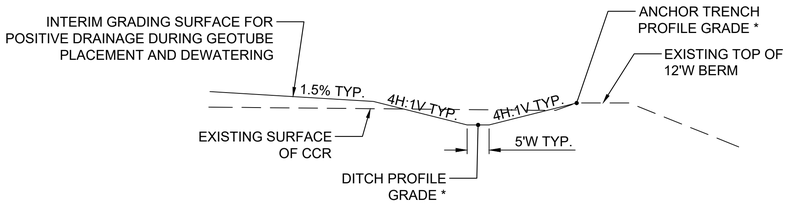



1 DALLMAN FINAL COVER
SECTION - NOT TO SCALE

NOTES:

* SEE SHEET C102 FOR ANCHOR TRENCH ALIGNMENT AND SHEET C201 FOR VERTICAL ALIGNMENT AND DITCH PROFILE GRADES.




2 DALLMAN INTERIM GRADING
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NOTES:

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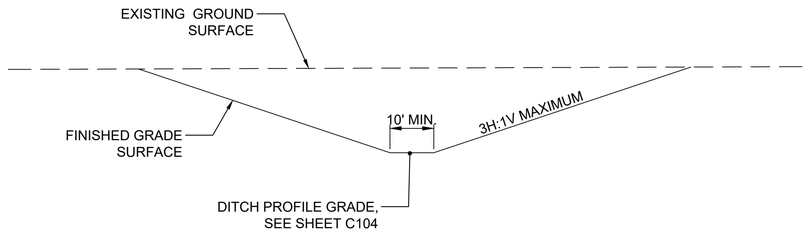


3 LAKESIDE OUTFALL CHANNEL
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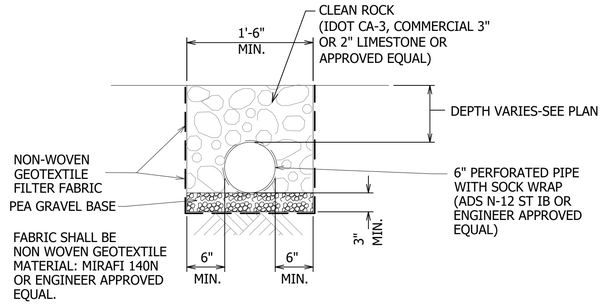
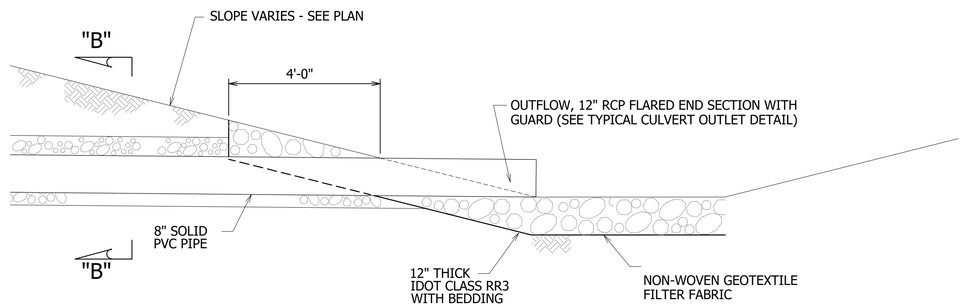



4 TOE DRAIN
SECTION - NOT TO SCALE




6 TOE DRAIN OUTFALL
SECTION - NOT TO SCALE

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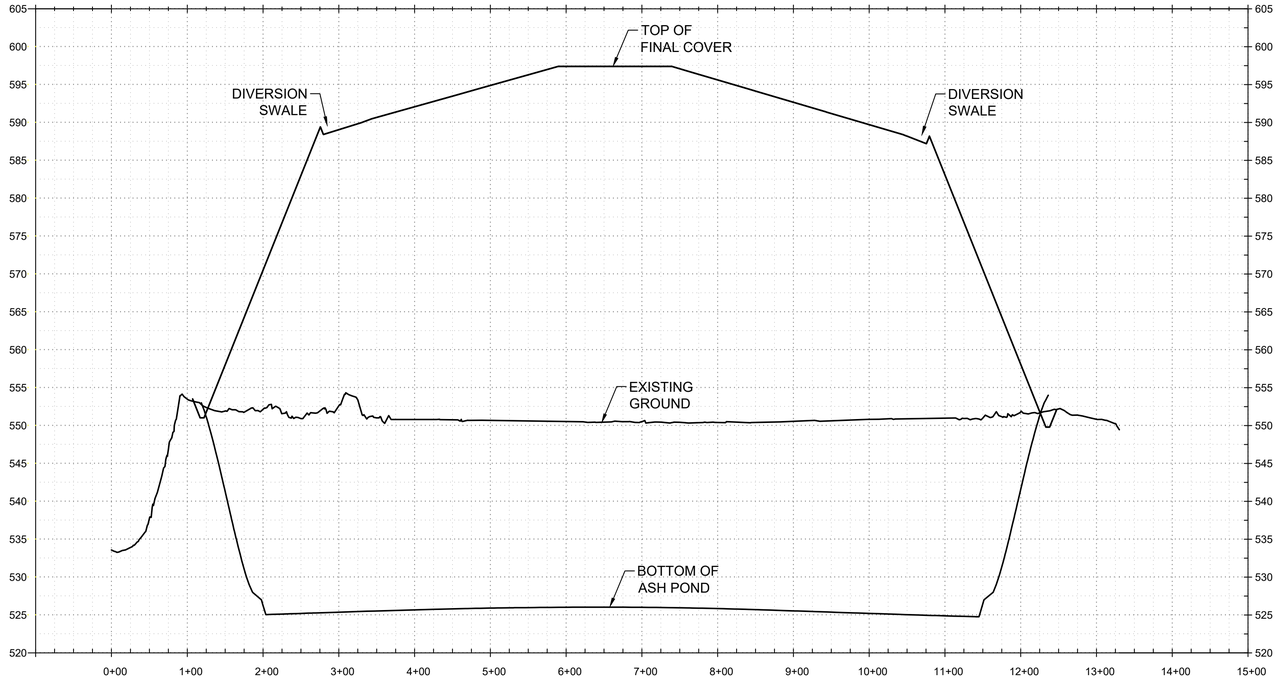
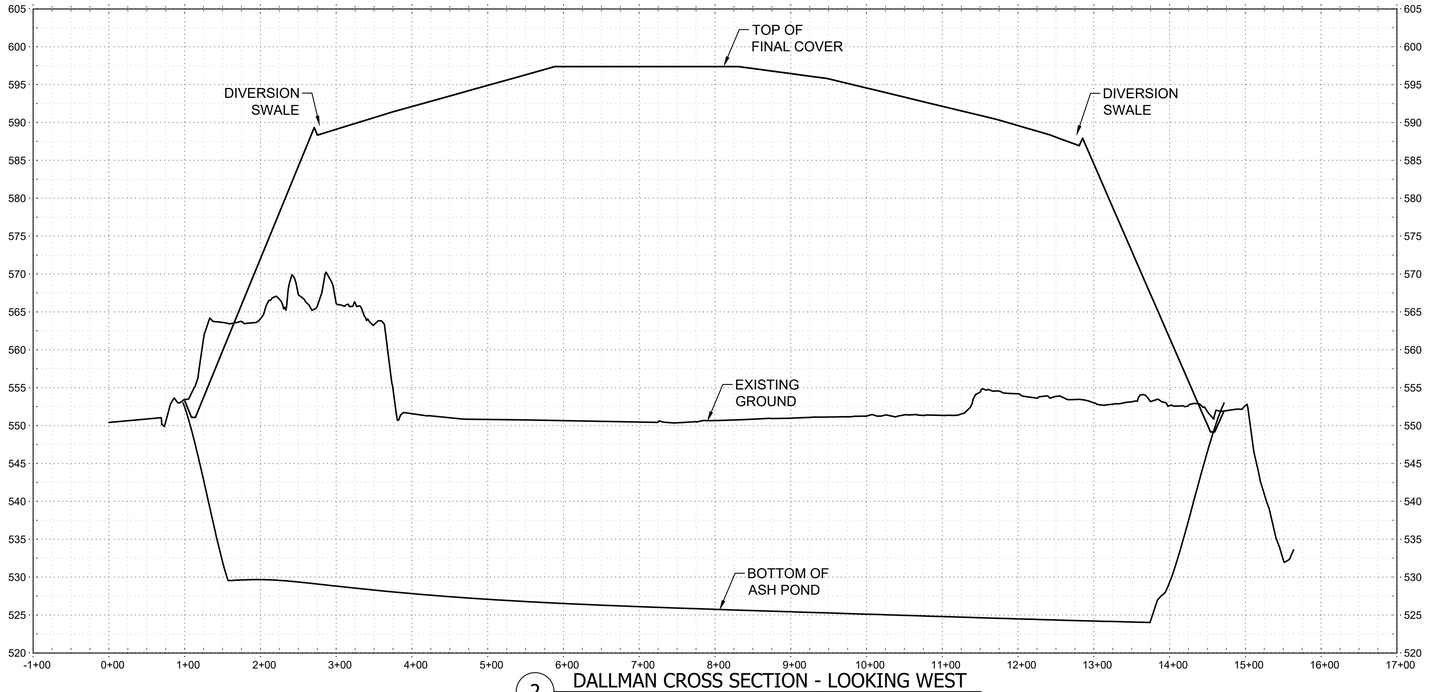
TYPICAL SECTIONS

C202




1 DALLMAN CROSS SECTION - LOOKING NORTH




2 DALLMAN CROSS SECTION - LOOKING WEST

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DALLMAN ASH POND
CROSS SECTIONS

C203

SHEET 11 OF 100

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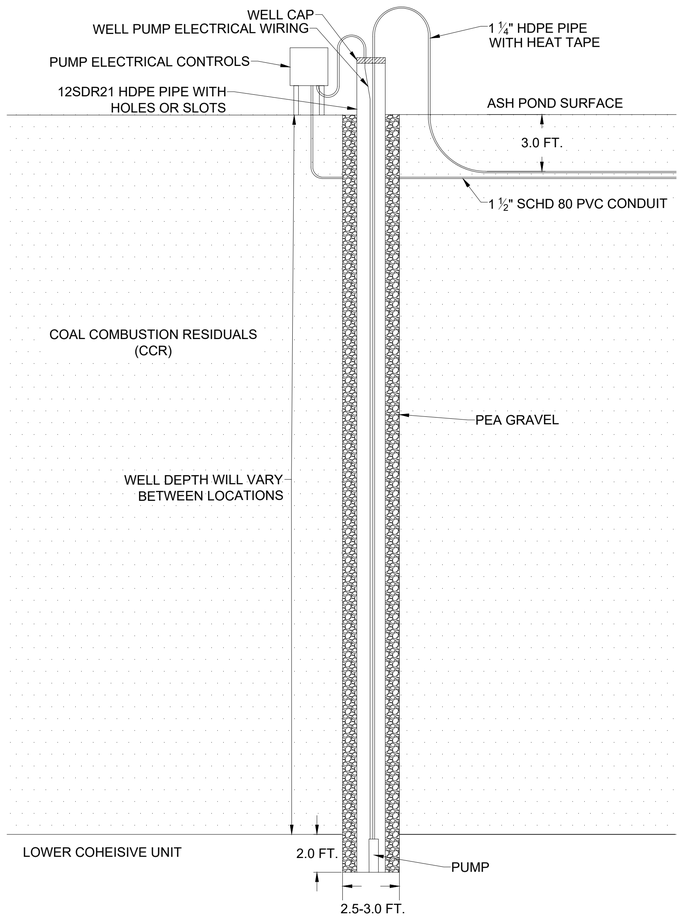
LEGEND:

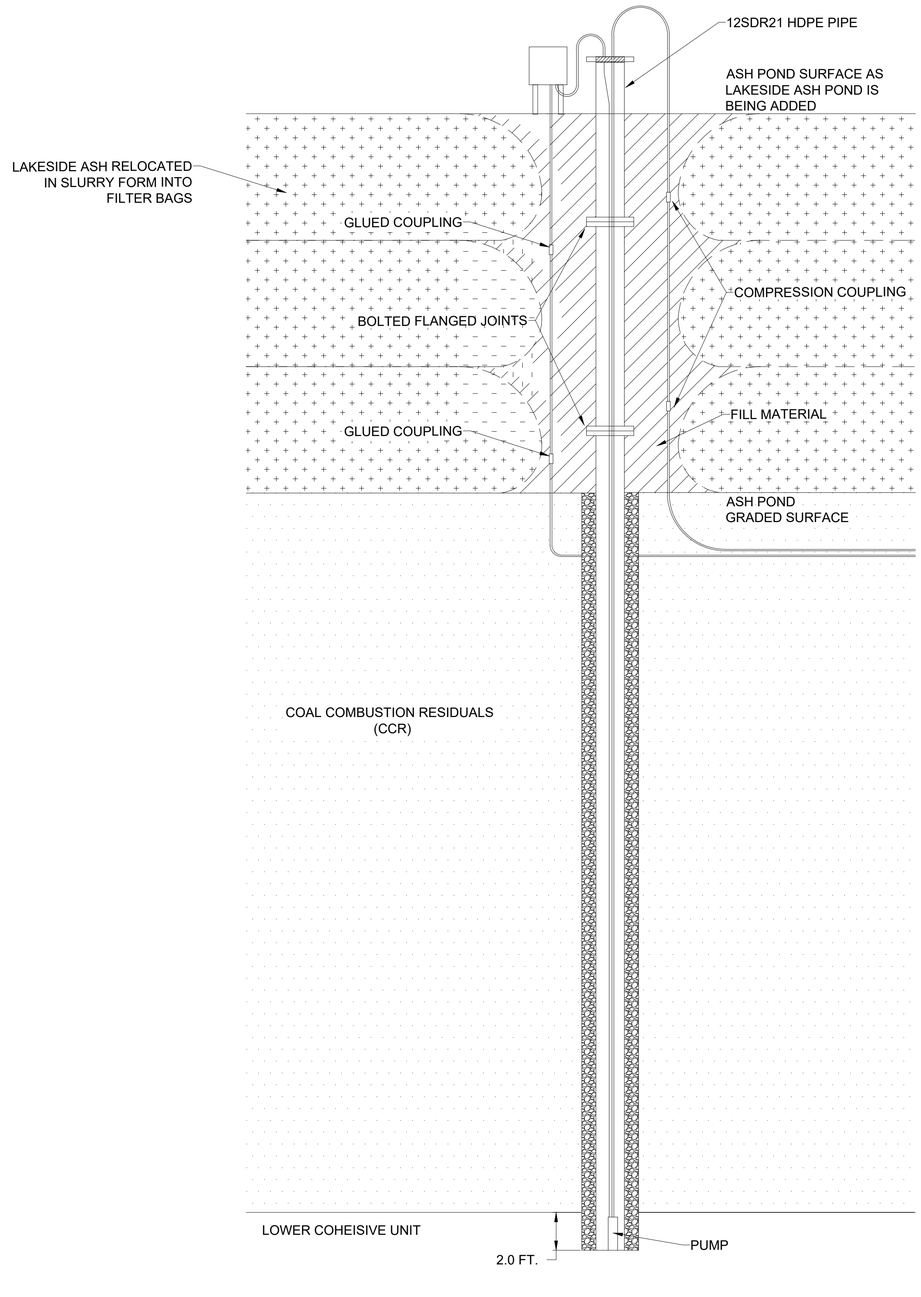
LAKESIDE ASH POND CCR

DALLMAN ASH POND CCR

FILL MATERIAL




INITIAL WELL INSTALLATION




WELL EXTENSION DETAIL

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DEWATERING WELL DETAILS

C501
SHEET 12 OF 14

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# GS

## 60 HZ STANDARD CAPACITY 4" SUBMERSIBLE PUMPS
## VFD COMPATIBLE - UP TO 80 HZ

BUILT IN THE USA
ENGINEERED, ASSEMBLED & TESTED

### FEATURES

Powered by Goulds Water Technology 4" motors for dependable operation and long service life.

Stainless steel construction provides strength and corrosion resistance.

Glass filled engineered composite impellers and diffusers deliver excellent abrasion resistance.

Floating impeller stack has proven itself for over 50 years as a superior sand handling and durable pump design.

The proprietary engineering polymer bearing is strong and resistant to abrasion and wear.

Cast stainless steel discharge head with built in stainless steel check valve. Two cast-in safety line loops for installer convenience.

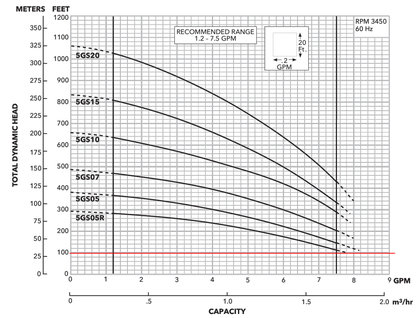
### MATERIALS OF CONSTRUCTION

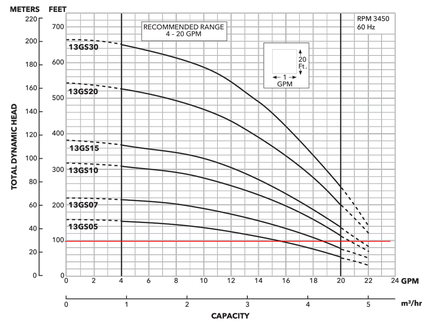
| Part Name | Material |
|---|---|
| Discharge Head | AISI 303 SS |
| Check Valve Poppet | AISI 304 SS |
| Check Valve Seal | BUNA, FDA compliant |
| Check Valve Seat | AISI 304 SS |
| Check Valve Retaining Ring | AISI 302 SS |
| Bearing Spider – Upper | Glass Filled Engineered Composite GFN2 |
| Bearing (s) | Proprietary Engineered Polymer |
| Klipring | AISI 301 SS |
| Diffuser | Glass Filled Engineered Composite |
| Impeller | Glass Filled Engineered Composite |
| Bowl | AISI 304 SS |
| Motor Adapter | AISI 303 SS |
| Casing | AISI 304 SS |
| Shaft | AISI 304 SS |
| Coupling | AISI 304 SS |
| Cable Guard / Screws | AISI 304 SS |
| Suction Screen | AISI 304 SS |

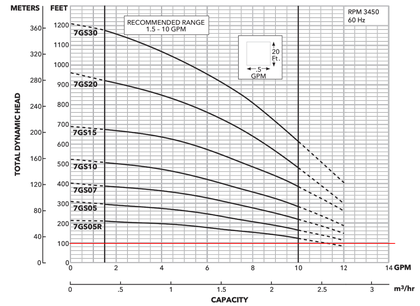
### WATER END DATA

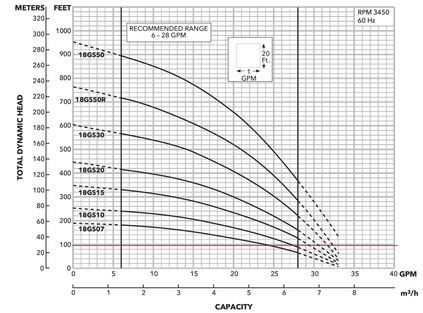
| Series | Model | Req. HP | Stages | Length (in) | Weight (lbs) |
|---|---|---|---|---|---|
| 5GS | 5GS05R | 0.5 | 9 | 12.9 | 8 |
| | 5GS05 | 0.5 | 12 | 15.0 | 9 |
| | 5GS07 | 0.75 | 15 | 17.0 | 11 |
| | 5GS10 | 1 | 20 | 21.7 | 13 |
| | 5GS15 | 1.5 | 26 | 25.8 | 15 |
| | 5GS20 | 2 | 33 | 31.6 | 19 |
| 7GS | 7GS05R | 0.5 | 7 | 11.7 | 6 |
| | 7GS05 | 0.5 | 10 | 13.8 | 7 |
| | 7GS07 | 0.75 | 13 | 16.0 | 8 |
| | 7GS10 | 1 | 17 | 18.8 | 9 |
| | 7GS15 | 1.5 | 22 | 23.6 | 12 |
| | 7GS20 | 2 | 27 | 27.2 | 13 |
| | 7GS30 | 3 | 34 | 33.2 | 18 |
| 10GS | 10GS05R | 0.5 | 5 | 10.1 | 6 |
| | 10GS05 | 0.5 | 7 | 11.5 | 7 |
| | 10GS07 | 0.75 | 10 | 13.6 | 8 |
| | 10GS10 | 1 | 12 | 15.0 | 9 |
| | 10GS15 | 1.5 | 17 | 18.4 | 12 |
| | 10GS20 | 2 | 20 | 21.7 | 13 |
| | 10GS30 | 3 | 27 | 27.5 | 18 |
| | 10GS50R | 5 | 35 | 33.0 | 21 |
| | 10GS50 | 5 | 42 | 40.2 | 24 |
| 13GS | 13GS05 | 0.5 | 5 | 10.1 | 6 |
| | 13GS07 | 0.75 | 7 | 11.5 | 7 |
| | 13GS10 | 1 | 10 | 13.6 | 8 |
| | 13GS15 | 1.5 | 12 | 15.0 | 9 |
| | 13GS20 | 2 | 17 | 18.4 | 12 |
| | 13GS30 | 3 | 21 | 22.3 | 15 |
| 18GS | 18GS07 | 0.75 | 6 | 11.8 | 7 |
| | 18GS10 | 1 | 8 | 13.5 | 8 |
| | 18GS15 | 1.5 | 11 | 16.1 | 10 |
| | 18GS20 | 2 | 14 | 18.6 | 11 |
| | 18GS30 | 3 | 19 | 24.1 | 15 |
| | 18GS50R | 5 | 24 | 28.3 | 17 |
| | 18GS50 | 5 | 30 | 34.4 | 21 |
| 25GS | 25GS10 | 1 | 7 | 13.4 | 8 |
| | 25GS15 | 1.5 | 9 | 15.3 | 9 |
| | 25GS20 | 2 | 11 | 17.2 | 10 |
| | 25GS30 | 3 | 15 | 20.9 | 14 |
| | 25GS50R | 5 | 22 | 28.7 | 17 |
| | 25GS50 | 5 | 26 | 33.4 | 21 |

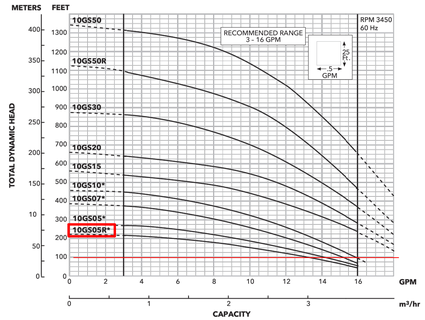
GOULDS WATER TECHNOLOGY
a xylem brand

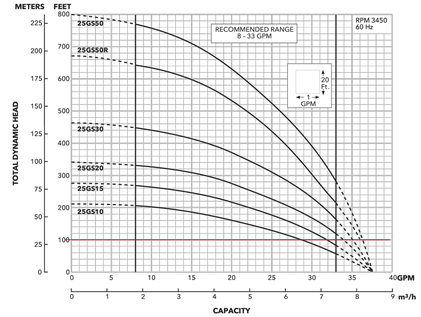
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PUMP DETAILS

C502
SHEET 13 OF 14

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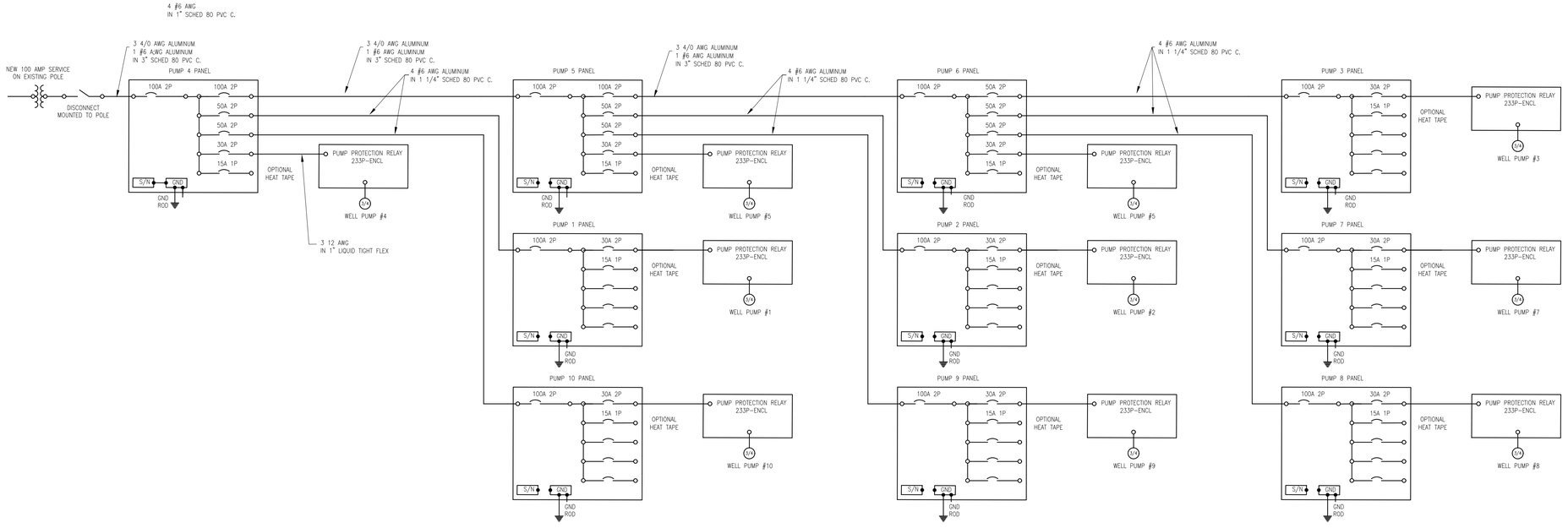


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ELECTRICAL
ONE-LINE DIAGRAM

E101
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