2024 Annual Groundwater Monitoring and Corrective Action Report

Gavin Bottom Ash Pond

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
ASD	Alternate Source Demonstration
BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
CCR	Coal combustion residual
CFR	Code of Federal Regulations
cm/sec	centimeters per second
ERM	Environmental Resources Management, Inc.
ft	feet
Gavin	Gavin Power, LLC
H1	First semiannual
H2	Second semiannual
K	Hydraulic conductivity
NFAP	North Fly Ash Pond
Plant	General James M. Gavin Power Plant
SSI	Statistically significant increase
TDS	Total dissolved solids
USEPA	United States Environment Protection Agency

EXECUTIVE SUMMARY

On behalf of Gavin Power, LLC (Gavin), Environmental Resources Management, Inc. (ERM) has prepared this *2024 Annual Groundwater Monitoring and Corrective Action Report* summarizing groundwater monitoring activities at the Bottom Ash Pond (BAP) at the General James M. Gavin Power Plant (Plant) located in Cheshire, Ohio. The BAP is one of three regulated coal combustion residual (CCR) units at the Plant that are subject to regulation under Title 40, Code of Federal Regulations (CFR), Part 257, Subpart D (40 CFR § 257.50 *et seq*.), also known as the CCR Rule. A review of the CCR monitoring well network is documented in the *Updated Groundwater Monitoring System Evaluation and Certification—40 CFR 257.91* for the BAP (ERM 2021a).

This report documents the status of the groundwater monitoring program for the BAP, which includes the following as required by 40 CFR § 257.90(e):

- A description of the current program status;
- A summary of key actions completed;
- A description of problems encountered and actions taken to resolve the problems; and
- Identification of key activities for the coming year.

The BAP CCR unit groundwater monitoring program began 2024 in a "detection monitoring" program status as defined by 40 CFR § 257.94 and remained in detection monitoring at the end of the 2024 reporting period. Groundwater monitoring in 2024 consisted of two semi-annual monitoring events completed in March and August-November 2024 that included groundwater level measurements and subsequent groundwater sampling. Groundwater level measurements were used to construct updated groundwater potentiometric surface maps.

Groundwater samples were collected for laboratory analysis of CCR Rule Appendix III constituents, and the results were compared to previously calculated upgradient well prediction limits to identify statistically significant increases (SSIs) for downgradient wells. The following locations and analytes exhibited SSIs in 2024:

TABLE ES-1: SSIS IN BAP DOWNGRADIENT MONITORING WELLS

Well	Date Sampled	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
BAC-02	Mar-2024	X	X	X	X	X	X	X
	Oct/Nov-2024	X	X	X	X	ϕ	X	X
BAC-03	Mar-2024	X	ϕ	X	ϕ	X	X	ϕ
	Oct/Nov-2024	X	ϕ	X	ϕ	X	X	X
BAC-04	Mar-2024	X	ϕ	X	ϕ	X	X	X
	Oct/Nov-2024	X	ϕ	X	ϕ	X	X	ϕ
BAC-05	Mar-2024	X	ϕ	X	ϕ	X	X	X
	Oct/Nov-2024	X	ϕ	X	ϕ	X	X	X

Notes: X = SSI; ϕ = No SSI; SSI = statistically significant increase; TDS = total dissolved solids

Each identified SSI was evaluated in the corresponding attached Alternate Source Demonstration (ASD) Reports. The ASD reports identify regional brine as the source of SSIs for total dissolved solids [TDS], calcium, chloride, and fluoride, and the North Fly Ash Pond (NFAP) at the adjacent Kyger Creek Generating Station as the source of SSIs for boron, pH, and sulfate; therefore, the BAP groundwater monitoring system remained in detection monitoring at the conclusion of 2024. Accordingly, no remedial actions were selected, initiated, or performed in 2024.

Some of the topics discussed in this report are also addressed in USEPA's November 22, 2022 Final Decision: Denial of Alternative Closure Deadline for General James M. Gavin Plant, Cheshire, Ohio. In other documents, Gavin has explained how the approaches described and documented in this report are consistent with USEPA regulations and guidance as well as with best engineering practices and judgment. Gavin has contested USEPA's findings in the Final Decision from a factual, technical and legal perspective. ERM notes that USEPA's findings and determinations in the Final Decision are the subject of pending litigation.

1. INTRODUCTION

The General James M. Gavin Power Plant is a coal-fired generating station located in Gallia County in Cheshire, Ohio, along the border between Ohio and West Virginia (Figure 1-1). The Plant contains three regulated CCR management units that are subject to regulation under Title 40, Code of Federal Regulations, Part 257, Subpart D (40 CFR § 257.50 *et seq.*), also known as the CCR Rule: the Residual Waste Landfill, the Fly Ash Reservoir, and the BAP.

The BAP has a total land surface area of approximately 49.1 acres and is located south of the main Plant area and adjacent to the Ohio River. The BAP, together with the smaller Reclaim Pond, makes up the Bottom Ash Complex (BAC), which initiated operations in 1974. Bottom ash slurry was previously pumped into the BAP where the surficial water was decanted through a reinforced concrete drop inlet structure into the Reclaim Pond. The placement of bottom ash in the BAP ceased in 2022, as described in Section 3.1. The water in the Reclaim Pond was and still is either pumped to the Plant for reuse or discharged to the Ohio River via an overflow structure subject to the Gavin National Pollutant Discharge Elimination System permit. The Reclaim Pond was not designed to retain an accumulation of CCR; did not and does not receive any significant amount of CCR; and did not and does not treat, store, or dispose of CCR. Therefore, it is not subject to the CCR Rule.

ERM produced this report on behalf of Gavin. The report documents the status of the groundwater monitoring program for the BAP, which includes the following as required by 40 CFR § 257.90(e):

- A description of the current program status;
- A summary of key actions completed;
- A description of problems encountered and actions taken to resolve the problems; and
- Identification of key activities for the coming year.

Consistent with the notification requirements of the CCR Rule, this annual groundwater monitoring report will be posted to the Plant operating record no later than 31 January 2025 (40 CFR § 257.105(h)(1)). Within 30 days of placing the report in the operating record, notification will be made to the Ohio Environmental Protection Agency, and the report will be placed on the Plant publicly accessible internet site (40 CFR § 257.106(h)(1), 257.107(h)(1)). Table 1-1 cross-references the reporting requirements under the CCR Rule with the contents of this report.

TABLE 1-1: REGULATORY REQUIREMENT CROSS-REFERENCES

Regulatory Citation in 40 CFR Part 257, Subpart D	Requirement (paraphrased)	Where Addressed in This Report
§ 257.90(e)	Status of the groundwater monitoring program.	Section 2
§ 257.90(e)	Summarize key actions completed.	Sections 4 and 5
§ 257.90(e)	Describe any problems encountered and actions taken to resolve problems.	Section 4
§ 257.90(e)	Key activities for upcoming year.	Section 6
§ 257.90(e)(1)	Map, aerial image, or diagram of CCR unit and all background and downgradient monitoring wells.	Figure 3-3
§ 257.90(e)(2)	Identification of new monitoring wells installed or abandoned during the preceding year and narrative description.	N/A
§ 257.90(e)(3)	Summary of groundwater data, wells sampled, date sampled, and whether sampling was required under detection or assessment monitoring.	Section 4.2, 5.3, Appendices C-D
§ 257.90(e)(4)	Narrative discussion of any transition between monitoring programs.	N/A
§ 257.93(c) (via § 257.90(e)(5))	Rate and direction of groundwater flow each time groundwater is sampled.	Sections 5.1, 5.2
§ 257.93(h)	Summary of SSIs over background values for each constituent listed in Appendix III of the CCR Rule.	Section 5.3
§ 257.94(e)(2) (via § 257.90(e)(5))	Any ASD reports and related certifications pertaining to a detection monitoring program.	Appendices C–D
§ 257.95(g)(3) (via § 257.90(e)(5))	Any alternate source demonstration reports and related certifications pertaining to an assessment monitoring program.	N/A
§ 257.96(a) (via § 257.90(e)(5))	Any assessment of corrective measures to prevent further releases, remediate any releases, and restore affected area to original conditions, including the related certifications.	N/A
§ 257.97(a) (via § 257.90(e)(5))	Any semi-annual reports describing the progress in selecting and designing a remedy, including the related certifications.	N/A
§ 257.98(e) (via § 257.90(e)(5))	Any notification describing the completion of the selected remedy, including the related certifications.	N/A

2. PROGRAM STATUS § 257.90(E)

The BAP groundwater monitoring system began the 2024 reporting period in detection monitoring. SSIs were identified for the BAP groundwater monitoring network for boron, calcium, chloride, fluoride, pH, sulfate, and TDS in 2024. Regional brine was identified as the alternative source for the SSIs for calcium, chloride, fluoride, and TDS, and the Kyger Creek NFAP was identified as alternate source for the SSIs for boron, pH, and sulfate. Therefore, the BAP remains in detection monitoring at the end of the 2024 reporting period.

3. BACKGROUND

3.1 DESCRIPTION OF CCR UNIT

The BAP previously received bottom ash, miscellaneous Plant wastewaters including coal-pile runoff, cooling-tower blowdown, pyrites, and various Plant sump wastewaters, and is subject to the CCR Rule. The conversion of Units 1 and 2 to dry ash handling systems was completed and the receipt of CCR waste streams in the BAP ceased in 2022. The BAP received non-CCR waste streams until April 7, 2023 at which time flow was diverted to temporary water treatment infrastructure and then directly into the Reclaim Pond.

Prior to April 7, 2023, the water from the BAP was decanted through a reinforced concrete drop inlet structure into the Reclaim Pond before discharge through a permitted outfall. The 6.7-acre Reclaim Pond abuts and is located to the northwest of the Bottom Ash Pond (Figure 3-1). The two ponds comprise the BAC. As discussed in Section 1, the Reclaim Pond is not subject to the CCR Rule. Because the Reclaim Pond is not a CCR unit, and does not require groundwater monitoring, this report and the associated groundwater monitoring system pertains only to the BAP.

Gavin plans to achieve closure of the BAP through removal of CCR. CCR was excavated from the BAP throughout 2023 and disposed of in Gavin's lined CCR landfill (known as the Residual Waste Landfill). Excavation of residual materials within the BAP continued through December 16, 2023 when removal of CCR material was completed.

3.2 GEOLOGY

The geology in the vicinity of the BAP is visualized in Figure 3-2 and features 50 to 100 feet (ft) of unconsolidated deposits overlying deeper bedrock units. At the surface, a fine-grained unit consisting of clays and silts extends 10-40 ft below ground surface depending on surface topography. This unit overlays a layer with fine-grained sands intermixed within the clay and silt matrix. Together, these two layers make up the separation layer. In some portions of the BAP, a thin (less than 5 ft) layer of sand and clay is present directly beneath the separation layer. Below this layer, there is an approximately 20 to 40 ft thick layer of medium-to-coarse grained glacial sand and gravel. In some cores collected around the BAP in 2022, smaller lenses (less than 5 ft) of the finer silt and clay materials observed in the upper layers are interbedded within the sand and gravel layer (ERM 2023). The alluvial aquifer lies directly above the uppermost of the bedrock layers in the area – a claystone/siltstone layer (interpreted to be the Round Knob) atop the underlying sandstone stratum (interpreted to be the Cow Run).

3.2.1 SITE HYDROLOGY AND HYDROGEOLOGY

The uppermost aquifer beneath the BAP area is the approximately 20 to 40 ft thick layer of coarser-grained sands and gravels described in section 3.2, though some fine sand is also present. Also referred to as the alluvial aquifer, the uppermost aquifer is confined by the clay and silt separation layer above and by the siltstone/claystone bedrock unit below (Figure 3-2). The Ohio River acts as a hydraulic boundary to the east that is dynamic in nature due to fluctuations in river stage. Two water supply wells operated by the Plant (FW-15 and FW-1101) exist approximately 400 to 700 feet north of the BAP (Figure 3-3). These wells have 20-to-30-foot screens positioned

within the alluvial aquifer and have a significant combined influence on groundwater flow at the BAP. The use of the wells is variable in both duration and frequency and is dependent on Plant needs; however, when in use, the pumping rates are consistent at 550 and 650 gallons per minute for FW-1101 and FW-15, respectively. Two additional water supply wells (FW-17 and FW-1102) exist approximately 0.4 to 0.5 miles further north and are not expected to have a significant influence on groundwater at the BAP due to their distance from the BAP and infrequency of their use.

Five undisturbed Shelby tube samples of the clay and silt separation layer (mentioned above, located between the uppermost aquifer and the bedrock unit below) were collected from a barge within the BAP in 2020 for laboratory grain size distribution and permeameter testing (ERM 2021b). The samples ranged from 0.9% to 32.3% sand and 67.7% to 99.1% silt and clay. The permeameter testing of these samples yielded hydraulic conductivity (K) values ranging from 1.44 x 10^{-8} centimeters per second (cm/sec) to 1.18 x 10^{-7} cm/sec. Thus, even the samples with a higher amount of sand yielded very low K values. These data are direct evidence that the separation layer beneath the BAP acts as an aquitard to downward migration of water stored in the BAP.

As discussed further in Section 3.2.2, there is evidence of groundwater flow between the Cow Run Sandstone and the overlying alluvial aquifer at the BAP.

3.2.2 HYDRAULIC CONDUCTIVITY

Groundwater flow within bedrock occurs primarily via flow through the network of interconnected and saturated fractures, which provides a much higher effective porosity (fracture/secondary porosity) than does the bedrock aquifer matrix (primary porosity). This is due to the effective pore size of the fractures (the ratio of volume of open fractures to the bulk volume of the bedrock matrix) as compared to the miniscule pore sizes between sedimentary grains making up the bedrock matrix. Consequently, the fracture network provides a flow system with significantly higher hydraulic conductivity than the overall bedrock matrix porosity.

This network of fractures is highly heterogeneous, varying greatly in connectivity and conductivity from location to location. The fracture network is also anisotropic, which means the hydraulic conductivity varies in magnitude depending on the direction of measurement. As such, the occurrence of fracture interconnectivity and saturation varies greatly at a regional scale. In the Ohio River Valley, stress relief fracturing in bedrock provides a structural framework for bedrock overlain by coarse glacial outwash alluvial deposits to be hydraulically interconnected. The degree of stress fracturing is generally greatest in bedrock directly underlying the alluvial valley bottom, driving enhanced transmissivity of the fracture network in these areas (USGS 1981). Such is the case of the BAP area, where the Ohio River acts as a major regional groundwater discharge boundary, driving shallow brines towards the surface due to differences in hydraulic head. In addition, the depth of brine is shallower along the Ohio River than in the surrounding ridges due to flow from areas of recharge to areas of discharge (USGS 1997).

Heterogeneity and anisotropy of the fracture network are clearly observed in the bedrock wells installed around the BAP. Hydraulic conductivity was measured to be 4.17 x 10^{-2} cm/sec at bedrock well BAC-11 where observations of significant fractures were made during drilling and

geophysical logging. This high K value in BAC-11 is similar to K values measured in the alluvial aquifer. Conversely, substantially lower K values were measured at bedrock wells BAC-09 (1.23 x 10^{-6} cm/sec) and BAC-19 (2.65 x 10^{-8} cm/sec), where fewer fractures were observed. This difference in hydraulic conductivity values between wells screened within the same bedrock unit exemplifies the effect of fracture network connectivity on hydraulic conductivity and helps to explain why some portions of the alluvial aquifer can be impacted by regional discharge (i.e., near BAC-02) while other areas may not be substantially influenced (i.e., near BAC-01 and BAC-18).

3.2.3 EVALUATION OF POTENTIAL GROUNDWATER MOUNDING AT THE BAP

From August 2022 through November 2023, programmable electronic data loggers equipped with a pressure-sensitive water level transducer were installed at four pairs of alluvial aquifer monitoring wells (eight monitoring wells) at the southern, western, northern, and eastern boundaries of the BAP to evaluate the potential for groundwater mounding. These monitoring well pairs were chosen based on their proximity to one another, and to the BAP. Each well pair included a well directly adjacent to the BAP, and the other located approximately 150-250 ft away from the BAP, which allowed for the evaluation of hydraulic heads and resulting hydraulic gradients between each couplet. A signature of mounding would be identified by consistently higher potentiometric elevations at the well located closer to the BAP compared to its counterpart located further from the BAP. The four well couplet pairs included the following:

- BAC-01 (further from BAP) and BAC-08 (closer to BAP), installed at the western boundary of the BAP;
- BAC-10 (further from BAP) and BAC-02 (closer to BAP), installed at the northern boundary of the BAP;
- BAC-12 (further from BAP) and BAC-04 (closer to BAP), installed at the eastern boundary of the BAP; and
- BAC-16 (further from BAP) and BAC-18 (closer to BAP), installed at the southern boundary of the BAP.

Mounding was not observed at the BAP (ERM 2024). The potentiometric elevation at the northern boundary of the BAP is largely controlled by the operation of the pumping wells located north of the BAP. Well BAC-10 is located closer to the pumping wells and typically has a lower potentiometric surface during times of pumping. This signature is consistent with greater drawdown at BAC-10 because it is closer to the water supply wells than BAC-02 and is not a result of mounding at the northern boundary at the BAP. At the eastern, southern, and western boundaries of the BAP, potentiometric elevations in the wells located further from the BAP were consistently very similar to or higher than the potentiometric elevations in the wells located closer to the BAP. These observations are not consistent with mounding at the BAP.

3.3 MONITORING WELL NETWORK AND SUPPLEMENTAL WELLS

The certified BAP groundwater monitoring well network consists of five upgradient monitoring wells (BAC-01, MW-1, MW-6, BAC-06, and BAC-07) and four downgradient monitoring wells (BAC-02, BAC-03, BAC-04, and BAC-05). All network monitoring wells are screened in the uppermost aquifer (alluvial aquifer) around the BAP. In 2020, BAC-06 and BAC-07 were installed at the

southern boundary of the Bottom Ash Pond and in 2021, were incorporated into the updated monitoring network (ERM 2021a).

In 2022, sixteen supplemental monitoring wells were proposed and successfully installed in key areas around the BAP (ERM 2023). Nine wells were installed in the coarse-grained alluvium (BAC-08, BAC-10, BAC-12, BAC-14, BAC-16, BAC-18, BAC-21, BAC-22, and BAC-23) and four wells were installed in shallow bedrock (BAC-09, BAC-11, BAC-13, and BAC-19). BAC-15 and BAC-20 were installed in the fine-grained silt and clay layer. BAC-17 was installed to span the alluvial aquifer and the separation layer. This well was installed to emulate the construction of well B-0904 which was previously sampled by Gavin but is not on Gavin's property. Collectively, these wells were installed to provide supplemental characterization of the conditions at the BAP and to support ASDs. Potentiometric elevations and analytical results from these wells have been incorporated in this report.

Figure 3-3 provides the monitoring well locations, including both the certified monitoring well network wells (shown in yellow and blue) and supplemental wells not in the federal program (shown in purple), on the Site location map. A summary of the well construction information for wells around the BAP is located in Appendix A, and boring logs and well construction logs are located in Appendix B.

The upgradient wells are positioned to accurately represent the quality of background groundwater flowing from the west (BAC-01, MW-1, MW-6) and groundwater flowing from the south (BAC-06 and BAC-07) from Kyger Creek Generating Station's NFAP. The downgradient wells are positioned at the downgradient boundary where bottom ash was previously placed prior to excavation to detect potential releases of CCR constituents from the BAP into groundwater in the uppermost aquifer.

3.4 PREVIOUS GROUNDWATER MONITORING ACTIVITIES

The BAP monitoring wells were initially sampled eight times between August 2016 and July 2017 to establish upgradient well baseline data. Consistent with the CCR Rule and the *Groundwater Monitoring Plan Appendix G Statistical Analysis Plan* (ERM 2017), a prediction limit approach was used to identify potential future impacts to groundwater. After each semi-annual groundwater sampling event in July 2017, May and September 2018, March and September 2019, March and September 2020, March and September 2021, March/April and October 2022, and April and September/October 2023, the results from the downgradient wells were compared to the prediction limits to identify SSIs. ASD Reports were developed for each sampling event discussing each SSI, which concluded that the SSIs resulted from alternate sources, and thus the CCR unit remained in detection monitoring (ERM 2018a; ERM 2018b; ERM 2019; ERM 2020; ERM 2021c; ERM 2022; ERM 2023; ERM 2024).

4. MONITORING ACTIVITIES

4.1 GROUNDWATER POTENTIOMETRIC ELEVATION MONITORING

Programmable electronic data loggers equipped with a pressure-sensitive water level transducer were installed in several alluvium-bedrock well couplets around the BAP from January to December 2024. These monitoring well locations were selected based on their placement and proximity to one another and to the BAP. Transducer data were evaluated to determine the direction of vertical gradients and the conditions that lead to upward vertical gradients. Transducers were installed in alluvium-bedrock well pairs at the northern (BAC-02/BAC-11), eastern (BAC-04/BAC-13), southern (BAC-18/BAC-19), and western (BAC-01/ BAC-09) boundaries of the BAP.

In addition, a stilling well was installed in the Ohio River adjacent to the BAP to collect river stage elevation data, which was also reviewed with the transducer-based potentiometric elevations. During the transducer deployment periods, water supply wells FW-15 and FW-1101 (located north of the BAP) were cycled on and off which allowed an evaluation of potentiometric elevations under both pumping and non-pumping conditions. As a measure of data quality, transducer data were reviewed against corresponding manual water level measurements and adjusted if necessary to ensure accuracy and consistency between the two datasets.

4.2 2024 SAMPLING SUMMARY

Groundwater samples were collected in 2024 as part of the detection monitoring program under 40 CFR § 257.94 and analyzed for the constituents listed in Appendix III to 40 CFR Part 257, Subpart D. Table 4-1 provides a summary of the 2024 sample dates and the well gradient designation (upgradient or downgradient) relative to the BAP. During the first semiannual (H1) 2024 sampling event, no significant field sampling issues were encountered, and therefore no actions were required for resolution. During the second semiannual (H2) 2024 sampling event, a sample could not be collected from well BAC-03 as originally scheduled due to pump failure. The pump was retrieved and maintained, and a sample was collected approximately three weeks after the other wells were sampled. Samples were collected by bladder pump, were not filtered in the field or at the laboratory and were managed under chain-of-custody procedures from the field to the laboratory.

TABLE 4-1: SAMPLING DATES FOR EACH WELL

Monitoring Well	Location	Sampling Dates	
		H1	H2
BAC-01	Upgradient	19 March 2024	4 October 2024
BAC-02	Downgradient	20 March 2024	8 October 2024
BAC-03	Downgradient	21 March 2024	1 November 2024
BAC-04	Downgradient	21 March 2024	9 October 2024
BAC-05	Downgradient	21 March 2024	9 October 2024
BAC-06	Upgradient	20 March 2024	8 October 2024
BAC-07	Upgradient	20 March 2024	7 October 2024
MW-1	Upgradient	22 March 2024	3 October 2024
MW-6	Upgradient	21 March 2024	4 October 2024

Notes: H1 = spring 2024; H2 = fall 2024

In order to obtain more information on groundwater quality surrounding the BAP, the supplemental monitoring wells installed in mid-2022 were analyzed for the constituents listed in Appendices III and IV of 40 CFR § 257 during the H1 and H2 2024 sampling events.

4.3 DATA QUALITY

Samples collected during 2024 were analyzed by Eurofins Canton/Cleveland located in Barberton Ohio. All resulting field and laboratory documentation was reviewed to assess the validity, reliability, and usability of the analytical results. Data quality information reviewed included field sampling forms, chain-of-custody documentation, holding times, laboratory methods, laboratory method blanks, laboratory control sample recoveries, field duplicate samples, matrix spikes/matrix spike duplicates, quantitation limits, and equipment blanks. Data qualifiers were appended to the results in the project database as appropriate based on laboratory quality measurements (e.g., control sample recoveries) and field quality measurements (e.g., agreement between normal and field duplicate samples). The data quality review found the laboratory analytical results to be valid, reliable, and usable for decision-making purposes with the listed qualifiers. No analytical results were rejected.

5. MONITORING RESULTS

5.1 GROUNDWATER POTENTIOMETRIC CONTOURS AND FLOW DIRECTION

Synoptic gauging was completed in March 2024 and August 2024 to collect depth to groundwater measurements. The March and August events were completed prior to semiannual sampling events. The synoptic gauging event completed in March 2024 was performed when the nearby water supply wells were not operational (i.e. under non-pumping conditions). The synoptic gauging event in August 2024 was performed when nearby water supply wells FW-15 and FW-1101 were operational and actively pumping. Resulting potentiometric elevations for each gauging round were calculated by subtracting the depth to groundwater from the surveyed reference elevation for each well. Groundwater potentiometric elevations, interpreted potentiometric surface maps, and interpreted groundwater flow directions for wells screened in the alluvium are presented on Figure 5-1 (2024 H1, non-pumping conditions) and Figure 5-2 (2024 H2, pumping conditions).

During the March gauging event, during which time the water supply wells FW-15 and FW-1101 were not active, the principal groundwater flow direction in the uppermost aquifer system (alluvial aquifer) under the BAP was from west to east (Figure 5-1). In the August 2024 gauging event, the influence of the water supply wells FW-15 and FW-1101 was observed, resulting in groundwater flow from the south, west and east, toward the water supply wells which were operational at the time of the gauging event (Figure 5-2).

5.2 HYDRAULIC TESTING AND GROUNDWATER VELOCITY CALCULATION

The hydraulic gradient at the BAP is generally controlled by two main factors, the Ohio River and pumping of FW-15 and FW-1101, which contribute to the average groundwater-flow gradient to the northeast. The horizontal hydraulic gradient for the March 2024 gauging event, which occurred during non-pumping conditions, was generally to the east, toward the Ohio River. The horizontal hydraulic gradient for the August 2024 gauging event, which occurred while water supply wells FW-15 and FW-1101 were operational, was generally to the east, northeast and north, towards BAC-02 and BAC-10.

Measured horizontal hydraulic gradients across the BAP, as measured between MW-1 and BAC-03, were 0.0004 for the March 2024 (non-pumping) event and 0.0008 for the August 2024 (pumping) event. Based on the measured hydraulic gradients, an assumed porosity of 0.3, and an estimated average hydraulic conductivity of 6.99×10^{-2} cm/sec for the alluvial aquifer, the horizontal velocity of groundwater in the alluvial aquifer beneath the BAP was 90 feet per year in March under non-pumping conditions and was 190 feet per year in August under pumping conditions. These values are similar to but lower than the horizontal groundwater velocities calculated in 2023 (130-140 feet per year under non-pumping conditions, 200 feet per year under pumping conditions).

5.3 COMPARISON OF RESULTS TO PREDICTION LIMITS

Consistent with the CCR Rule and the *Statistical Analysis Plan* (ERM 2017) in the operating record, an interwell prediction limit approach was used to identify potential impacts to groundwater. Upper prediction limits were developed for the Appendix III parameters; in the case of pH, a lower

prediction limit was also developed. The *2017 Annual Groundwater Monitoring and Corrective Action Report* (ERM 2018a) provides documentation of the development of the upper and lower prediction limits for the BAP.

5.3.1 2024 SAMPLING EVENT RESULTS

Table 5-1 identifies SSIs for the March (H1) and October/November (H2) 2024 monitoring events based on a comparison of the sampling results in downgradient wells to the prediction limits for the respective Appendix III analytes.

TABLE 5-1: SSIS FROM 2024 SAMPLING EVENTS

	Monitoring Well							
	BAC-02		BAC-03		BAC-04		BAC-05	
Analyte/Event	H1	H2	H1	H2	H1	H2	H1	H2
Boron	X	X	X	X	X	X	X	X
Calcium	X	X	ϕ	ϕ	ϕ	ϕ	ϕ	ϕ
Chloride	X	X	X	X	X	X	X	X
Fluoride	X	X	ϕ	ϕ	ϕ	ϕ	ϕ	ϕ
pH	X	ϕ	X	X	X	X	X	X
Sulfate	X	X	X	X	X	X	X	X
TDS	X	X	ϕ	X	X	ϕ	X	X

Notes: ϕ = No SSI; X = SSI; SSI = statistically significant increase; TDS = total dissolved solids
Results are for the downgradient wells sampled in March (H1) and October/November (H2) 2024.

March 2024 SSIs were similar to those observed in 2017, 2018, 2019, 2020, 2021, 2022, and 2023. Alternate sources were identified consistent with the results of those previous analyses for each of the SSIs detected in the March 2024 data and were documented in the *Gavin BAP First Semiannual Sampling Event of 2024 ASD Report* which is included as Appendix C. The first half 2024 ASD report identified the regional discharge of groundwater as the source of calcium, chloride, and TDS, and the Kyger Creek NFAP as the source of boron, low pH, and sulfate.

October/November 2024 SSIs were also similar to those observed in 2017, 2018, 2019, 2020, 2021, 2022, and 2023. Alternate sources were identified for each of the SSIs associated with the October/November 2024 data and documented in the *Gavin BAP Second Semiannual Sampling Event of 2024 ASD Report*, which is included as Appendix D. The second half 2024 report identified the regional discharge of groundwater as the source of calcium, chloride, fluoride, and TDS, and the Kyger Creek NFAP as the source of boron, low pH, and sulfate.

Appendix E provides a summary of all historical and current analytical results obtained from the BAP groundwater monitoring program (including recent supplemental sampling). Appendix F contains laboratory analytical reports from both semi-annual sampling events in 2024.

6. KEY FUTURE ACTIVITIES

The following key future activities are planned for 2025:

- Groundwater Sampling
  - Two semiannual groundwater sampling events will be performed in 2025 at the BAP and the results will be compared to the prediction limits.
  - Monitoring wells that were installed in 2022 will be sampled and evaluated for addition to the certified monitoring network for use as background or compliance wells.
- Groundwater Hydraulic Monitoring
  - Up to four groundwater gauging events will be performed in 2025 at the BAP to establish hydraulic gradients under both pumping and non-pumping conditions.
  - Transducers will be downloaded, and the data processed and evaluated.
- Monitoring Network
  - The existing monitoring network will be evaluated for potential additional wells.

7. REFERENCES

ERM (Environmental Resources Management, Inc.). 2017. *Groundwater Monitoring Plan. Bottom Ash Complex, Fly Ash Reservoir, and Residual Waste Landfill*, *Gavin Plant, Cheshire Ohio*.

ERM. 2018a. *2017 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-31-2018.

ERM. 2018b. *Gavin Bottom Ash Complex Alternate Source Demonstration,* dated 7-3-2018.

ERM. 2019. *2018 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-31-2019*.*

ERM. 2020. *2019 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-29-2020*.*

ERM. 2021a*. Updated Groundwater Monitoring System Evaluation and Certification—40 CFR 257.91, Gavin Bottom Ash Pond, Gavin Plant, Cheshire Ohio,* dated 5-17-

ERM. 2021b. *Bottom Ash Pond Investigation Report, Gavin Power Plant, Cheshire Ohio,* dated 7-31-2021.

ERM. 2021c. *2020 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-31-2021*.*

ERM. *2022. 2021 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-31-2021*.*

ERM. 2023. *2022 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-31-2023*.*

ERM. 2024. *2023 Annual Groundwater Monitoring and Corrective Action Report. Bottom Ash Complex, Gavin Plant, Cheshire Ohio,* dated 1-31-2024*.*

USGS (United States Geologic Survey). 1981. Hydrologic Effects of Stress-Relief Fracturing in an Appalachian Valley. Paper 2177.

USGS. 1997. Ground-Water Hydrology of the Area Bordering the Ohio River Between Chester and Waverly, West Virginia. Report 95-710.

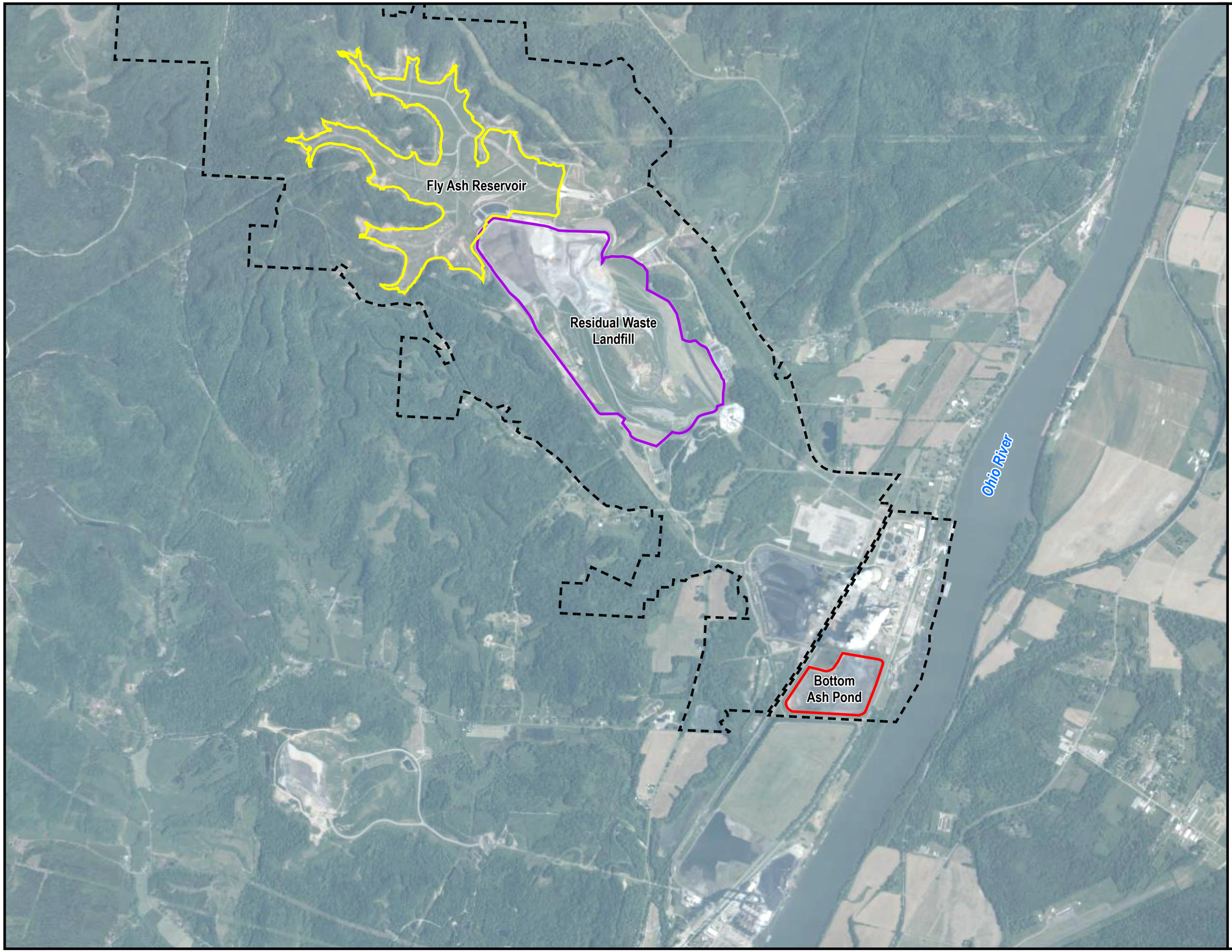
FIGURES

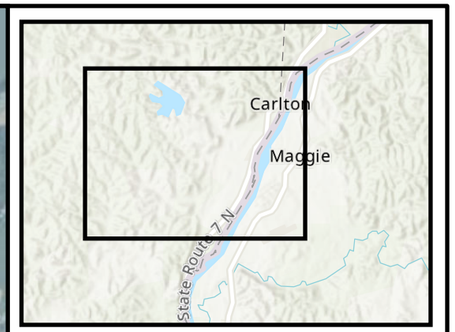


Figure 1-1: Gavin Plant Location
Gavin Generating Station
Cheshire, Ohio

ERM

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Legend

- Fly Ash Reservoir
- Residual Waste Landfill
- Bottom Ash Pond
- Property Boundary

NOTES:

1. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

N

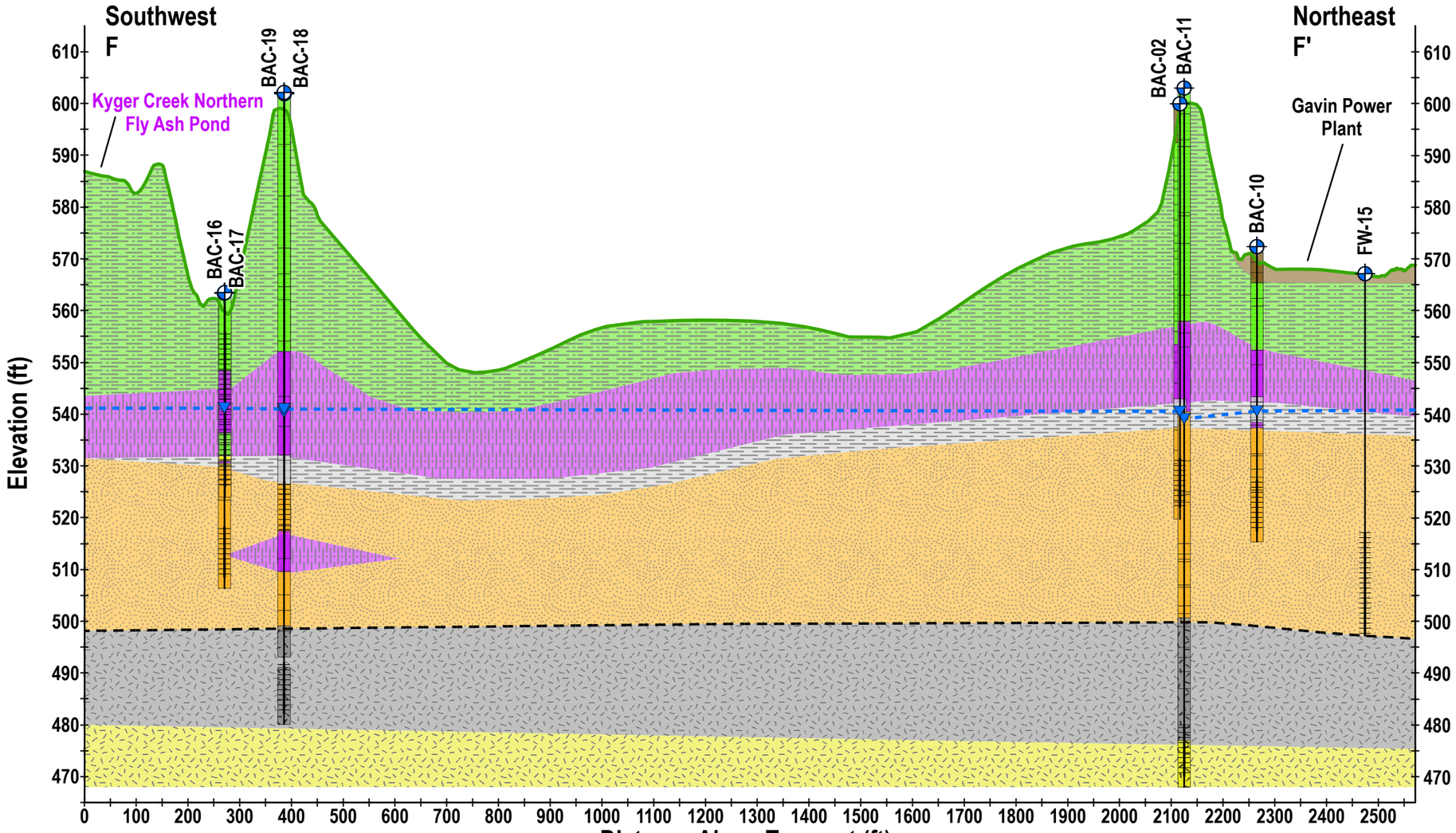
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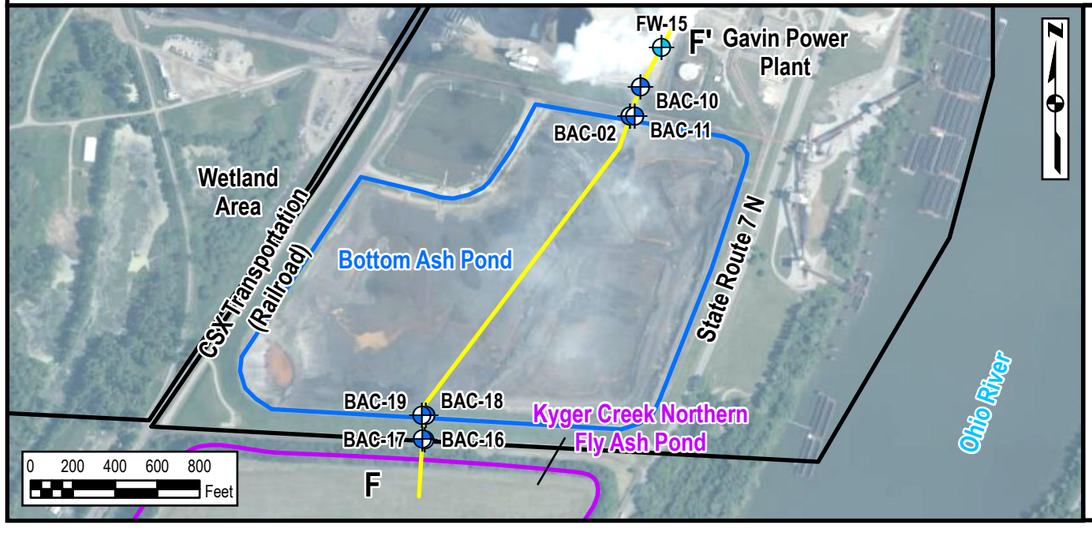
Feet

Figure 3-1: Bottom Ash Pond Location
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM

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Legend

- Water Supply Well
- Monitoring Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

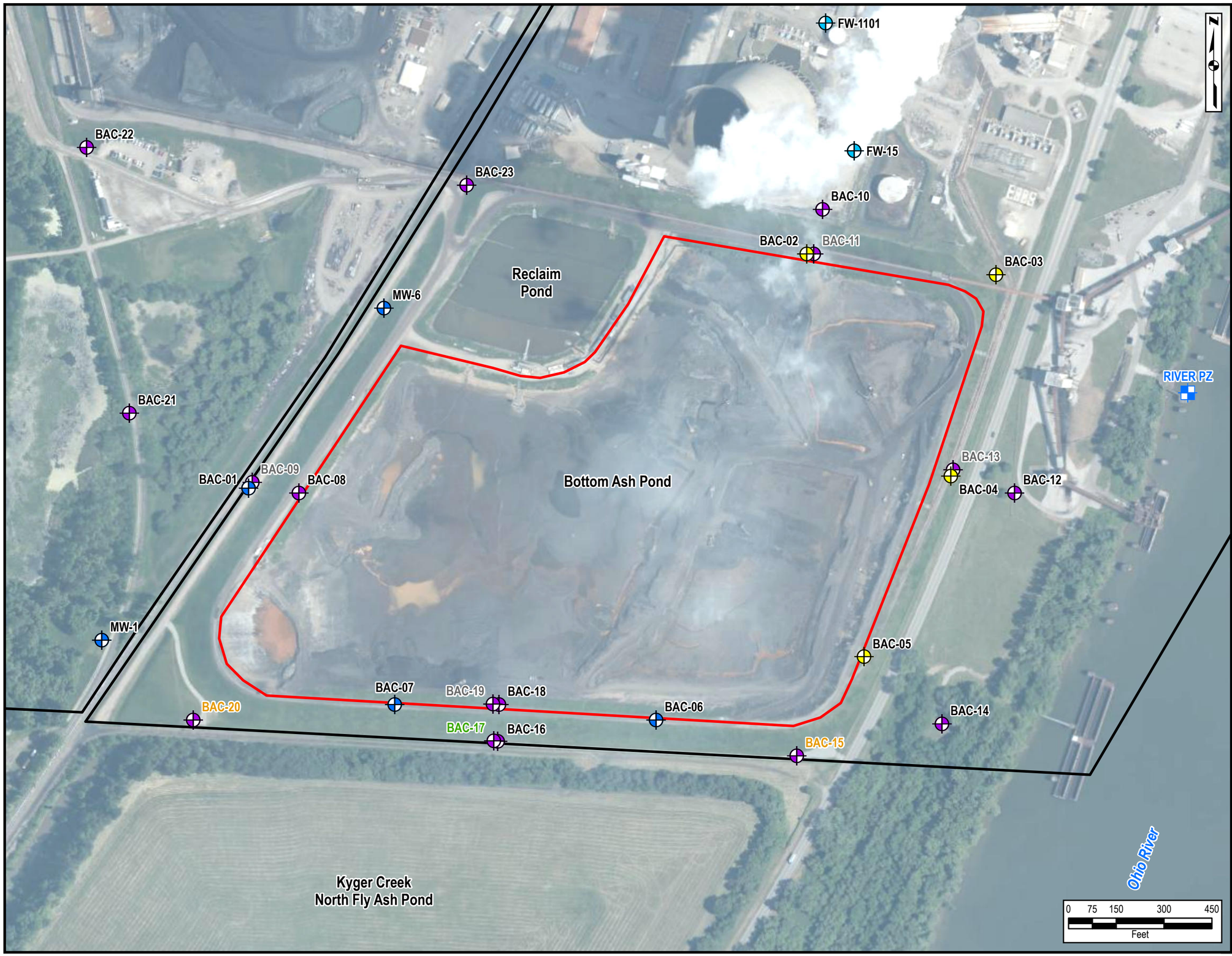
Figure 3-2: Bottom Ash Pond Cross Section
Gavin Power, LLC
Cheshire, Ohio

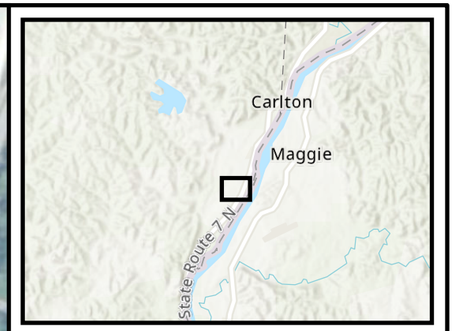
NOTES:

1. Potentiometric elevations from August 2024.
2. Surface profile from OGRIP LiDAR 2020.
3. Elevation is exaggerated 10X.
4. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
5. The geology is generalized based on the lithology descriptions.
6. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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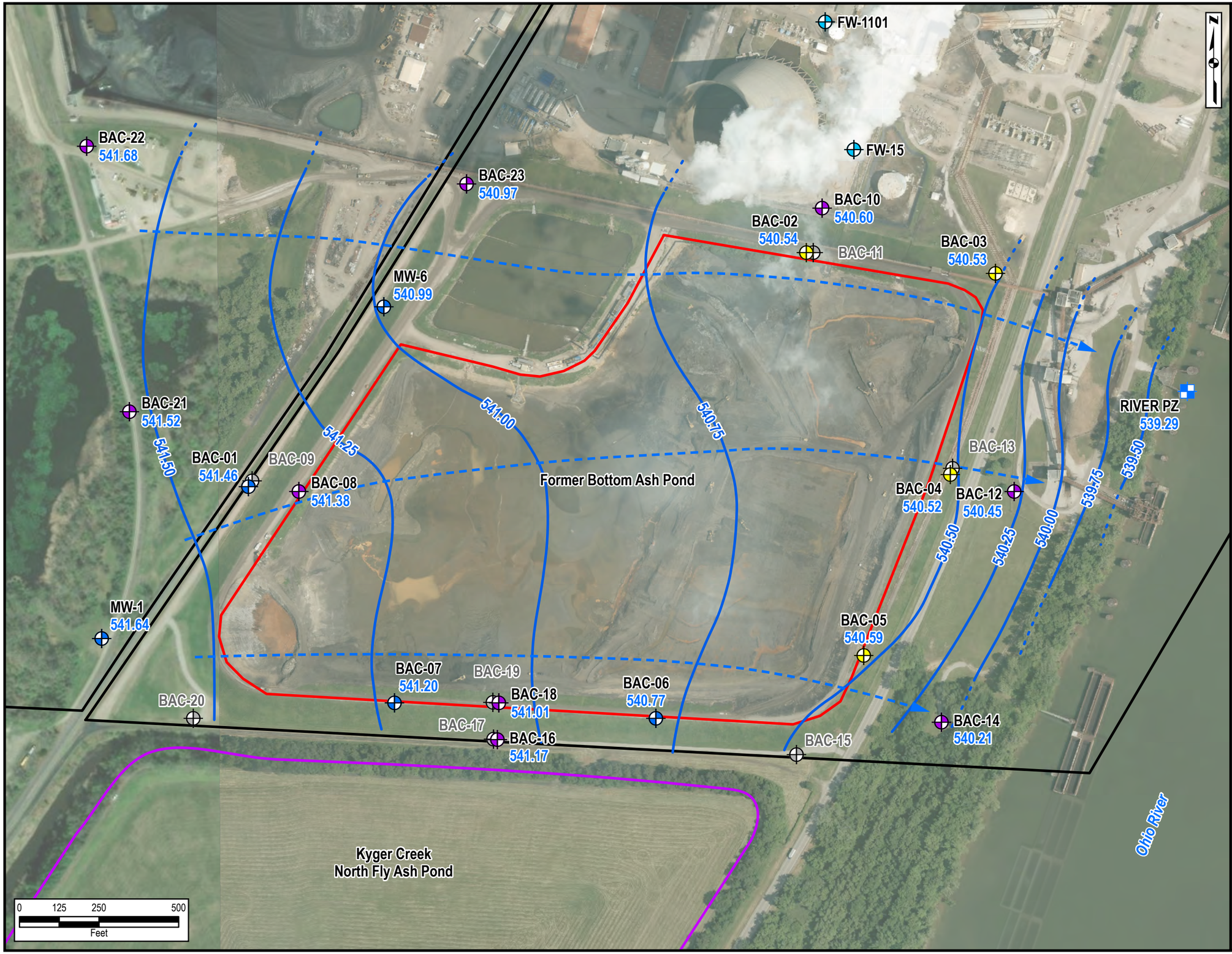
- 2022 Monitoring Well (Not in Federal Program)
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Water Supply Well
- Piezometer
- BAC Alluvium Well
- BAC Silt and Clay/Alluvium Well
- BAC Silt and Clay Well
- BAC Bedrock Well
- Approximate location of Bottom Ash Pond boundary
- Gavin Property Boundary

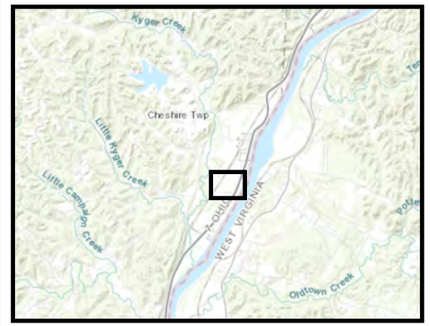
NOTES:

1. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

Figure 3-3: Bottom Ash Pond Monitoring Well Network
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM





Legend

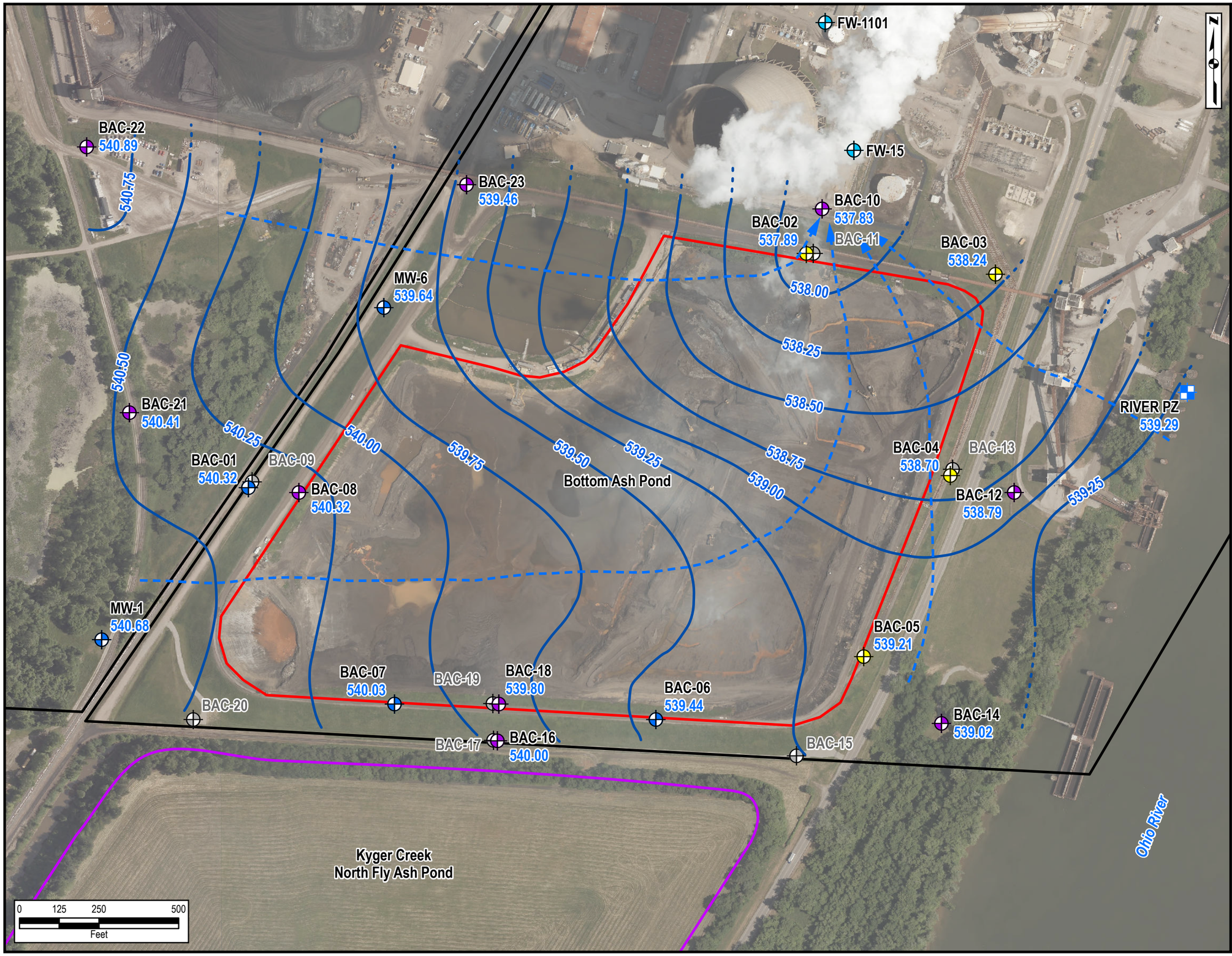
- New 2022 Monitoring Well
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- River Stilling Well Location
- Bedrock or Silt/Clay Well (excluded from contouring)
- Water Supply Well
- 539.85 Groundwater Elevation (ft)
- Spring 2024 Interpreted Groundwater Potentiometric Contour
- Spring 2024 Interpreted Generalized Groundwater Flow Direction
- Approximate Location of Former Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

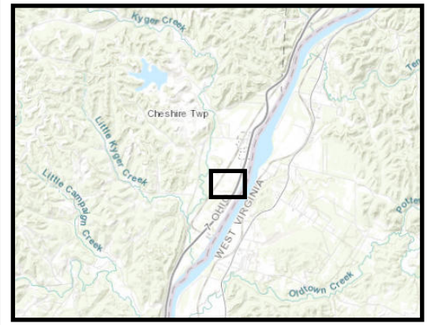
NOTES:

- Monitoring wells were gauged on 3/4/2024 and 3/5/2024.
- Wells not used for contouring of the Alluvium include wells screened in silt/clay or bedrock.
- Flow lines indicate a general groundwater flow direction within alluvium beneath the Former Bottom Ash Pond. They do not represent all potential flow paths within the alluvium, nor do they represent preferential flow paths or convergence of flow.
- Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.8

Figure 5-1: Interpreted Groundwater Potentiometric Contour Map
H1 2024 - Non-Pumping Conditions
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

- New 2022 Monitoring Well
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- River Stilling Well Location
- Bedrock or Silt/Clay Well (excluded from contouring)
- Water Supply Well
- 539.85 Groundwater Elevation (ft)
- H2 2024 Interpreted Groundwater Potentiometric Contour
- H2 2024 Interpreted Generalized Groundwater Flow Direction
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

NOTES:

- Monitoring wells were gauged on 8/26/2024 - 8/27/2024.
- Wells not used for contouring of the Alluvium include wells screened in silt/clay or bedrock.
- Flow lines indicate a general groundwater flow direction within alluvium beneath the Former Bottom Ash Pond. They do not represent all potential flow paths within the alluvium, nor do they represent preferential flow paths or convergence of flow.
- Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.8
- H2 refers to the second half of 2024

Figure 5-2: Interpretive Groundwater Potentiometric Contour Map
H2 2024 - Pumping Conditions
Gavin Generating Station
Cheshire, Ohio

ERM

APPENDIX A WELL CONSTRUCTION SUMMARY

Appendix A
Well Construction Details
Gavin Bottom Ash Pond
Cheshire, OH

Well ID	Boring Completion Date	Hydrogeologic Unit	Site Area	Latitude	Longitude	Top of Borehole Elevation (ft)	Top of Casing Elevation (ft)	Total Well Depth (ft bgs)	Screen Start Depth (ft bgs)	Screen End Depth (ft bgs)	Screen Length (ft)	Well Diameter (in)	Screen Material
Federal CCR Monitoring Wells													
MW-1		Alluvial Sand and Gravel	BAP	2074809.110	338727.030	567.86	570.85	67.4	510.46	500.46	10	2	PVC SCH 40
MW-6		Alluvial Sand and Gravel	BAP	2075695.120	339769.040	569.82	572.56	72.7	507.12	497.12	10	2	PVC SCH 40
BAC-01	12/8/2015	Alluvial Sand and Gravel	BAP	2075270.110	339204.030	568.1	570.62	568.1	533.7	524.1	9.6	2	PVC SCH 40
BAC-02	12/17/2015	Alluvial Sand and Gravel	BAP	2077022.130	339939.050	599.98	602.5	599.98	531.58	521.98	9.6	2	PVC SCH 40
BAC-03	12/11/2015	Alluvial Sand and Gravel	BAP	2077616.140	339875.060	573.78	576.43	573.78	528.68	519.08	9.6	2	PVC SCH 40
BAC-04	12/16/2015	Alluvial Sand and Gravel	BAP	2077474.140	339243.050	582.46	584.72	582.46	526.66	517.06	9.6	2	PVC SCH 40
BAC-05	12/29/2015	Alluvial Sand and Gravel	BAP	2077202.140	338675.050	590.28	592.36	590.28	525.78	516.18	9.6	2	PVC SCH 40
BAC-06	6/11/2020	Alluvial Sand and Gravel	BAP	2076549.323	338477.383	599.64	602.54	90	520	510	10	2	PVC SCH 80
BAC-07	6/15/2020	Alluvial Sand and Gravel	BAP	2075728.652	338526.105	599.71	602.76	90	520	510	10	2	PVC SCH 40
2022 Supplemental Monitoring Wells													
BAC-08	6/30/2022	Alluvial Sand and Gravel	BAP	2075428.2150	339189.2539	594.65	597.64	70.00	537	527	10	2	PVC SCH 40
BAC-09	6/16/2022	Cow Run	BAP	2075281.6130	339222.7325	567.93	570.53	93.50	487	477	10	2	PVC SCH 40
BAC-10	6/29/2022	Alluvial Sand and Gravel	BAP	2077071.6330	340079.4216	570.11	572.22	56.50	525	515	10	2	PVC SCH 40
BAC-11	6/15/2022	Cow Run	BAP	2077043.8330	339940.1411	600.18	602.98	135.00	477	467	10	2	PVC SCH 40
BAC-12	7/8/2022	Alluvial Sand and Gravel	BAP	2077674.4450	339189.0757	564.21	566.95	53.50	522	512	10	2	PVC SCH 40
BAC-13	6/14/2022	Cow Run	BAP	2077481.3420	339262.3239	582.30	584.71	117.50	477	467	10	2	PVC SCH 40
BAC-14	7/8/2022	Alluvial Sand and Gravel	BAP	2077446.3440	338465.3120	573.74	576.07	63.50	522	512	10	2	PVC SCH 40
BAC-15	7/7/2022	Silt and Clay	BAP	2076990.9390	338363.7073	569.06	571.39	34.50	546	536	10	2	PVC SCH 40
BAC-16	7/7/2022	Alluvial Sand and Gravel	BAP	2076051.7260	338410.2283	560.78	563.35	56.50	516	506	10	2	PVC SCH 40
BAC-17	7/7/2022	Silt and Clay/Sand and Gravel	BAP	2076039.6260	338411.7582	560.72	563.49	39.00	553.5	523.5	30	2	PVC SCH 41
BAC-18	7/7/2022	Alluvial Sand and Gravel	BAP	2076056.1260	338525.7186	599.32	601.95	85.50	524	514	10	2	PVC SCH 42
BAC-19	6/14/2022	Cow Run	BAP	2076037.4260	338526.4384	599.28	602.11	121.50	489	479	10	2	PVC SCH 40
BAC-20	6/23/2022	Silt and Clay	BAP	2075096.6140	338477.1691	562.57	564.89	23.50	551	541	10	2	PVC SCH 40
BAC-21	7/5/2022	Alluvial Sand and Gravel	BAP	2074896.1070	339439.5292	569.30	572.41	50.00	529	519	10	2	PVC SCH 40
BAC-22	7/1/2022	Alluvial Sand and Gravel	BAP	2074761.8020	340273.5097	572.28	574.85	71.50	512	502	10	2	PVC SCH 40
BAC-23	6/30/2022	Alluvial Sand and Gravel	BAP	2075954.8180	340155.1610	574.79	577.39	66.50	520	510	10	2	PVC SCH 40

Notes: Datum is SP/NAD83/NGVD29.
ft = feet; in = inches; bgs = below ground surface; NA = not available

APPENDIX B BORING AND WELL CONSTRUCTION LOGS

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,167.7 E 2,106,734.9**

GROUND ELEVATION **568.1** SYSTEM _____

Water Level, ft	▽	▼	▼
TIME			
DATE			

BORING NO. **BAC-01** DATE **7/7/16** SHEET **1** OF **3**

BORING START **12/8/15** BORING FINISH **12/9/15**

PIEZOMETER TYPE _____ WELL TYPE **OW**

HGT. RISER ABOVE GROUND **2.349** DIA **6**

DEPTH TO TOP OF WELL SCREEN **34.4** BOTTOM **44.0**

WELL DEVELOPMENT **YES** BACKFILL **GROUT**

FIELD PARTY **MWJ / TAS** RIG **D-50**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
1	SS	0.0	1.5	16-50/3	.5					BOTTOM ASH ROAD BED MATERIAL		
2	SS	1.5	3.0	33-50/2	1.2							
3	SS	3.0	4.5	15-36-50/4	1.0							
4	SS	4.5	6.0	14-16-33	1.3		5			HARD MEDIUM DARK GRAY N4 BOTTOM ASH w/some clay		
5	SS	6.0	7.5	13-14-7	1.1					VERY STIFF MEDIUM GRAY N5 CLAY w/some bottom ash		
6	SS	7.5	9.0	5-2-3	1.2					MEDIUM STIFF PALE YELLOWISH BROWN 10YR 6/2 CLAY w/some bottom ash fragments		
7	SS	9.0	10.5	3-4-6	.9		10					
8	SS	10.5	12.0	3-2-6	1.4							
9	SS	12.0	13.5	3-5-6	1.5					STIFF PALE YELLOWISH BROWN 10YR 6/2 CLAY w/some fine sand		
10	SS	13.5	15.0	3-5-7	1.5							
11	SS	15.0	16.5	2-5-5	1.5		15					
12	SS	16.5	18.0	3-5-6	1.5							
13	SS	18.0	19.5	2-3-5	1.5							
14	SS	19.5	21.0	2-3-4	1.5					STIFF PALE YELLOWISH BROWN 10YR 6/2		

TYPE OF CASING USED

	NQ-2 ROCK CORE	
	6" x 3.25 HSA	
	9" x 6.25 HSA	
	HW CASING ADVANCER	4"
	NW CASING	3"
	SW CASING	6"
	AIR HAMMER	8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC

WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AEP GV BAC CCR COMPLIANCE.GPJ AEP.GDT 7/7/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-01** DATE **7/7/16** SHEET **2** OF **3**

PROJECT **GV BAC CCR Compliance** BORING START **12/8/15** BORING FINISH **12/9/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
										CLAY w/silt and fine sand		
15	SS	21.0	22.5	2-2-3	1.5					MEDIUM STIFF PALE YELLOWISH BROWN 10YR 6/2 SILTY SANDY CLAY		
16	SS	22.5	24.0	WOR-2-2	1.2					SOFT STIFF PALE YELLOWISH BROWN 10YR 6/2 SILTY SANDY CLAY		
17	SS	24.0	25.5	2-2-2	1.5					SOFT PALE YELLOWISH BROWN 10YR 6/2 SILTY SANDY CLAY wet		
18	SS	25.5	27.0	WOR-2-1	1.5		25					
19	SS	27.0	28.5	WOR-WOR-2	1.5					VERY SOFT PALE YELLOWISH BROWN 10YR 6/2 SANDY SILTY CLAY wet		
20	SS	28.5	30.0	WOR-WOR-4	1.5					VERY SOFT PALE YELLOWISH BROWN 10YR 6/2 SANDY SILTY CLAY w/some sand and gravel, wet		
21	SS	30.0	31.5	6-11-10	.9		30			MEDIUM DENSE MODERATE YELLOWISH BROWN 10YR 5/4 SAND AND GRAVEL		
22	SS	31.5	33.0	3-6-6	1.3					MEDIUM DENSE MODERATE YELLOWISH BROWN 10YR 5/4 SAND AND GRAVEL		
23	SS	34.0	35.5	4-10-11	1.4					MEDIUM DENSE PALE BROWN 5YR 5/2 SAND AND GRAVEL		
24	SS	36.5	38.0	7-8-11	1.0		35			MEDIUM DENSE PALE BROWN 5YR 5/2 SAND AND GRAVEL 1.4 recovery and .4 heavage		
25	SS	39.0	40.5	8-12-17	1.2					MEDIUM DENSE PALE BROWN 5YR 5/2 SAND AND GRAVEL 1.5 recovery and .5 heavage		
26	SS	41.5	43.0	11-15-15	1.5		40			MEDIUM TO DENSE PALE BROWN 5YR 5/2 SAND AND GRAVEL		
27	SS	44.0	45.5	10-14-16	1.5							

Continued Next Page

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-01** DATE **7/7/16** SHEET **3** OF **3**

PROJECT **GV BAC CCR Compliance** BORING START **12/8/15** BORING FINISH **12/9/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
28	SS	46.5	48.0	9-12-18	1.5							

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

MONITORING WELL CONSTRUCTION

JOB NUMBER

COMPANY

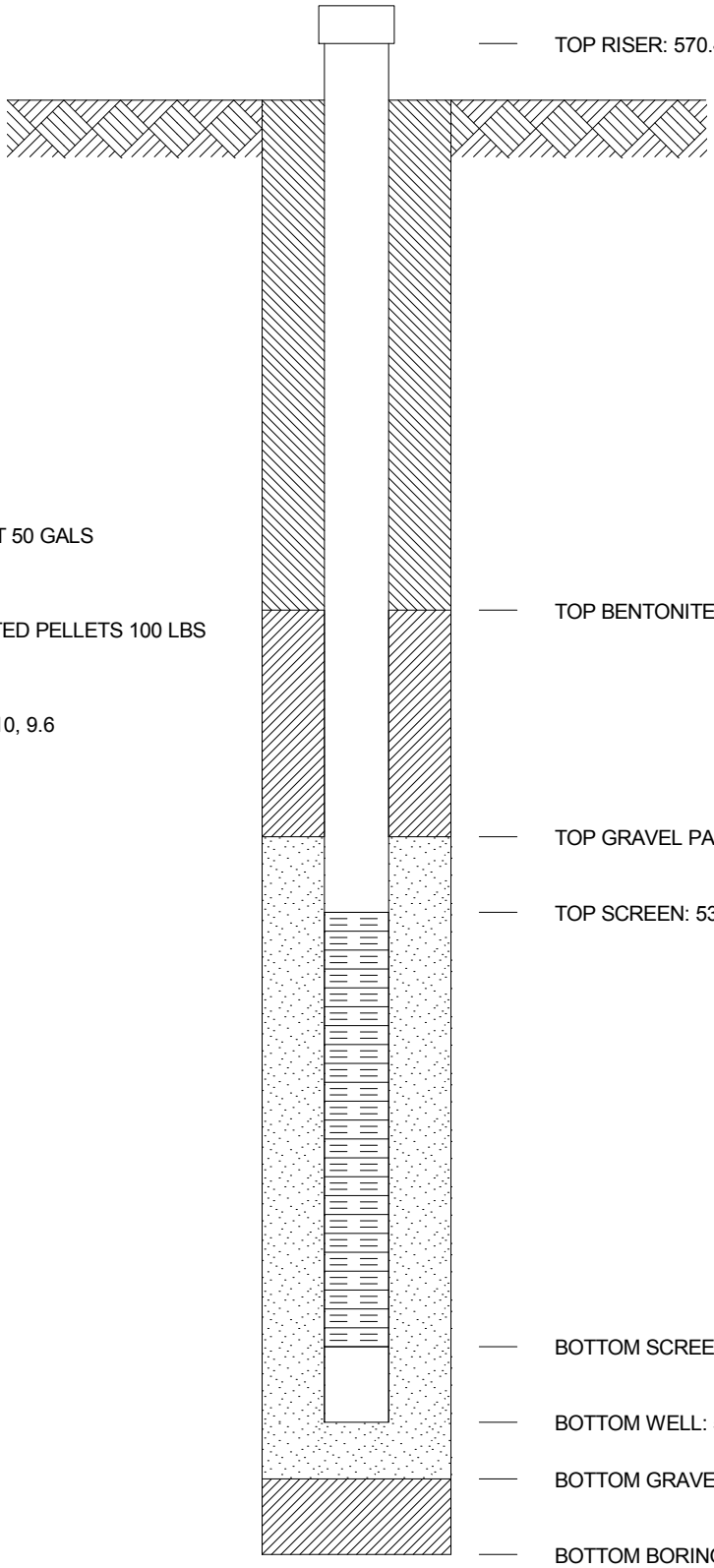
WELL No. **BAC-01** BORING No. **BAC-01** INSTALLED **12/9/15**

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,167.7 E 2,106,734.9**

SYSTEM

GROUND ELEVATION 568.10 FT.



GROUT SEAL: QUICK GROUT 50 GALS

BENTONITE SEAL: 3/8" COATED PELLETS 100 LBS

SCREEN: 2 dia., SLOTTED .010, 9.6

GRAVEL PACK: #5 100 LBS

RISER PIPE: 2.0, dia., PVC

SPACERS, DEPTH:

GEOMCNST GV BAC CCR COMPLIANCE.GPJ AEP.GDT 1/27/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,902.8 E 2,108,487.2**

GROUND ELEVATION **600.0** SYSTEM _____

Water Level, ft	▽	▼	▼
TIME			
DATE			

BORING NO. **BAC-02** DATE **7/7/16** SHEET **1** OF **4**

BORING START **12/17/15** BORING FINISH **12/17/15**

PIEZOMETER TYPE _____ WELL TYPE **OW**

HGT. RISER ABOVE GROUND **2.258** DIA **6**

DEPTH TO TOP OF WELL SCREEN **68.4** BOTTOM **78.0**

WELL DEVELOPMENT **YES** BACKFILL **GROUT**

FIELD PARTY **MWJ / TAS** RIG **D-50**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
1	SPT	0.0	1.5	10-11-12	1.1					VERY STIFF LIGHT BROWN 5YR 5/6 GRAVEL AND CLAY 4.0 tsf		
2	SPT	1.5	3.0	12-12-13	1.3							
3	SPT	3.0	4.5	5-7-9	1.4							
4	SPT	4.5	6.0	5-7-9	1.4		5					
5	SPT	6.0	7.5	4-7-9	1.3							
6	SPT	7.5	9.0	3-4-6	1.5					STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 3.0 tsf		
7	SPT	9.0	10.5	3-4-5	1.4		10					
8	SPT	10.5	12.0	3-3-6	1.5							
9	SPT	12.0	13.5	5-5-6	1.5					STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 2.5 tsf		
10	SPT	13.5	15.0	3-4-6	1.5							
11	SPT	15.0	16.5	3-4-7	1.5		15			STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 2.0 tsf		
12	SPT	16.5	18.0	3-4-5	1.5					STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 2.5 tsf		
13	SPT	18.0	19.5	3-4-5	1.4							
14	SPT	19.5	21.0	3-5-7	1.3					STIFF LIGHT BROWN 5YR 5/6 SILT AND		

TYPE OF CASING USED

	NQ-2 ROCK CORE	
	6" x 3.25 HSA	
	9" x 6.25 HSA	
	HW CASING ADVANCER	4"
	NW CASING	3"
	SW CASING	6"
	AIR HAMMER	8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC

WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AEP GV BAC CCR COMPLIANCE.GPJ AEP.GDT 7/7/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-02** DATE **7/7/16** SHEET **2** OF **4**

PROJECT **GV BAC CCR Compliance** BORING START **12/17/15** BORING FINISH **12/17/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
15	SPT	21.0	22.5	4-4-6	1.4					CLAY 2.0 tsf		
16	SPT	22.5	24.0	3-4-6	1.3					STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 2.5 tsf		
17	SPT	24.0	25.5	3-4-7	1.4		25					
18	SPT	25.5	27.0	3-6-8	1.5					STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 3.0 tsf		
19	SPT	27.0	28.5	3-6-8	1.5					STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 3.5 tsf		
20	SPT	28.5	30.0	6-8-10	1.5					VERY STIFF LIGHT BROWN 5YR 5/6 SILT AND CLAY 4.0 tsf		
21	SPT	30.0	31.5	4-5-9	1.3		30			STIFF MODERATE BROWN 5YR 4/4 SILT AND CLAY 3.5 tsf		
22	SPT	31.5	33.0	6-8-12	1.5							
23	SPT	33.0	34.5	6-10-15	1.4					VERY STIFF MODERATE BROWN 5YR 4/4 SILT AND CLAY 4.0 tsf		
24	SPT	34.5	36.0	8-12-16	1.4							
25	SPT	36.0	37.5	4-5-9	1.5		35			STIFF MODERATE BROWN 5YR 4/4 SILT AND CLAY 3.0 tsf		
26	SPT	37.5	39.0	5-8-11	1.5					VERY STIFF DARK YELLOWISH ORANGE 10YR 6/6 SILT AND CLAY 4.0 tsf		
27	SPT	39.0	40.5	4-5-7	1.4					STIFF MODERATE BROWN 5YR 4/4 CLAY 4.0 tsf		
28	SPT	40.5	42.0	5-5-9	1.5		40			STIFF MODERATE BROWN 5YR 4/4 CLAY 3.5 tsf		
29	ST	42.0	44.0							STIFF MODERATE BROWN 5YR 4/4 CLAY		
30	SPT	45.0	46.5	4-7-10			45			VERY STIFF MODERATE BROWN 5YR 4/4 CLAY		

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AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-02** DATE **7/7/16** SHEET **3** OF **4**

PROJECT **GV BAC CCR Compliance** BORING START **12/17/15** BORING FINISH **12/17/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
										2.5 tsf		
31	SPT	46.5	48.0	4-6-10						VERY STIFF LIGHT BROWN 5YR 6/4 CLAY AND SAND 1.5 tsf		
32	ST	48.0	50.0							STIFF LIGHT BROWN 5YR 6/4 CLAY LITTLE SAND PSI 500 / SEC 9 / PUSH 2.0 GRAVEL 0% SAND 14.9% FINES 85.1% TESTED SAMPLE #32		
							50					
33	SPT	51.0	52.5	4-4-6	1.4					STIFF LIGHT BROWN 5YR 6/4 CLAY AND SAND MC 25.5% LL 35.3% PI 13.5% TESTED SAMPLES #33 AND #34		
34	SPT	52.5	54.0	3-5-7	1.4							
35	SPT	54.0	55.5	3-6-6	1.5					MEDIUM DENSE LIGHT BROWN 5YR 6/4 SANDY SILTY CLAY MC 26.4% LL 24.6% PI 3.6% SAND 45.9% FINES 54.1% TESTED SAMPLES #36 AND #37		
							55					
36	SPT	55.5	57.0	4-6-8	1.5							
37	SPT	57.0	58.5	2-2-4	1.4					LOOSE LIGHT BROWN 5YR 6/4 SAND AND CLAY		
38	SPT	58.5	60.0	2-2-3	1.3							
							60					
39	SPT	60.0	61.5	3-3-5	1.5					LOOSE MEDIUM LIGHT GRAY N6 SAND AND CLAY		
40	SPT	61.5	63.0	4-12-18	1.5							
41	SPT	63.0	64.5	6-12-14	1.5					MEDIUM DENSE BROWN 5YR 5/6 SAND AND GRAVEL MEDIUM DENSE BROWN COARSE SAND AND GRAVEL wet		
							65					
42	SPT	65.5	67.0	8-11-11	1.4							
43	SPT	68.0	69.5	8-20-27	1.4					DENSE DARK YELLOWISH ORANGE 10YR 6/6 COARSE SAND AND GRAVEL		
							70					
44	SPT	70.5	72.0	13-26-27	1.5					DENSE BROWN 5YR 5/6 COARSE SAND AND GRAVEL wet		

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AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-02** DATE **7/7/16** SHEET **4** OF **4**

PROJECT **GV BAC CCR Compliance** BORING START **12/17/15** BORING FINISH **12/17/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
45	SPT	73.0	74.5	10-11-6	1.3					MEDIUM DENSE BROWN 5YR 5/6 COARSE SAND AND GRAVEL wet		
							75					
46	SPT	75.5	77.0	8-5-9	1.4					MEDIUM DENSE BROWN 5YR 5/6 FINE SAND AND GRAVEL wet		
47	SPT	78.0	79.5	13-12-10	1.4					MEDIUM DENSE BROWN 5YR 5/6 COARSE TO FINE GRAIN SAND AND GRAVEL wet		

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

MONITORING WELL CONSTRUCTION

JOB NUMBER _____

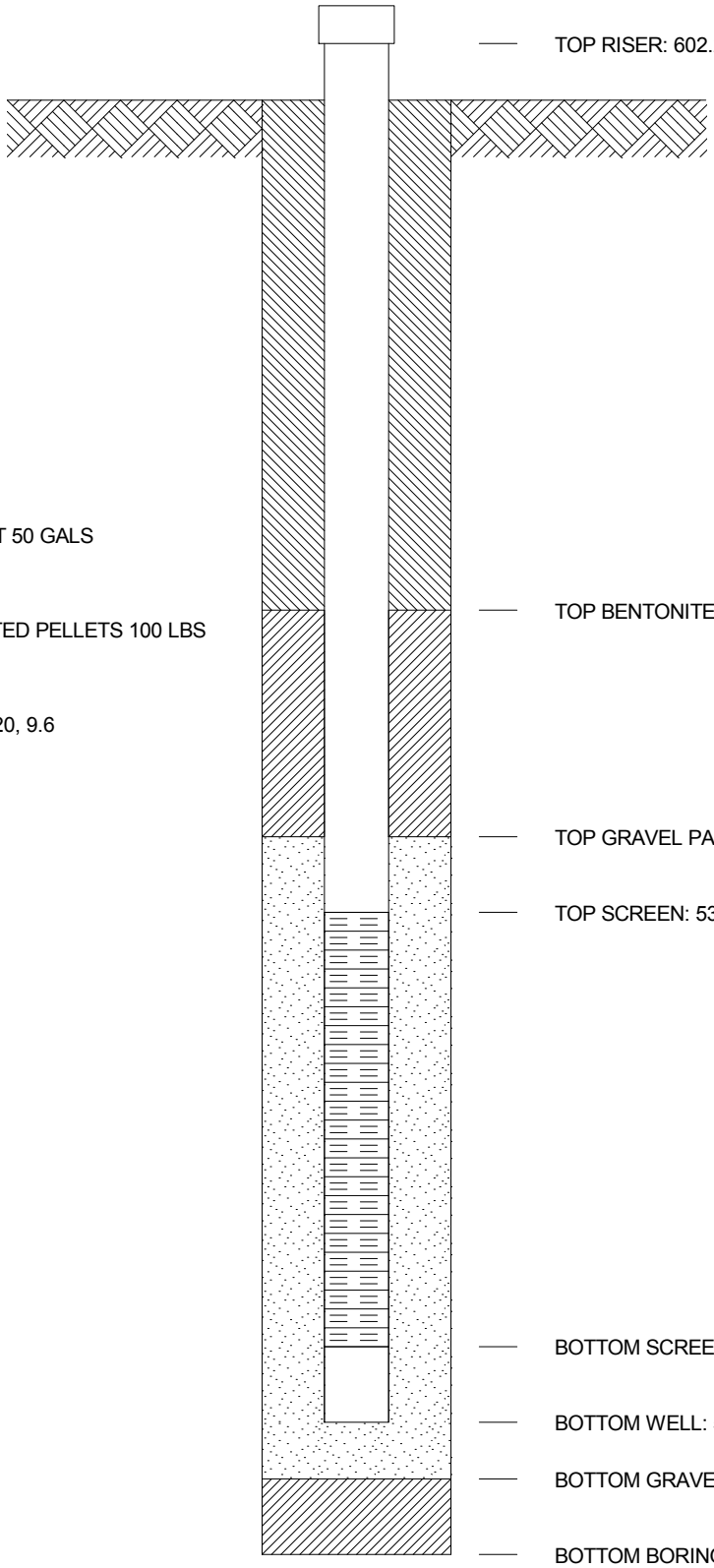
COMPANY _____ WELL No. **BAC-02** BORING No. **BAC-02** INSTALLED **12/17/15**

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,902.8 E 2,108,487.2**

SYSTEM _____

GROUND ELEVATION 599.98 FT.



GROUT SEAL: QUICK GROUT 50 GALS

BENTONITE SEAL: 3/8" COATED PELLETS 100 LBS

SCREEN: 2 dia., SLOTTED .020, 9.6

GRAVEL PACK: #5 250 LBS

RISER PIPE: 2.0, dia., PVC

SPACERS, DEPTH:

GEOMCNST GV BAC CCR COMPLIANCE.GPJ AEP.GDT 1/27/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,839.3 E 2,109,080.6**

GROUND ELEVATION **573.8** SYSTEM _____

Water Level, ft			
TIME			
DATE			

BORING NO. **BAC-03** DATE **7/7/16** SHEET **1** OF **3**

BORING START **12/11/15** BORING FINISH **12/15/15**

PIEZOMETER TYPE _____ WELL TYPE **OW**

HGT. RISER ABOVE GROUND **2.433** DIA **6**

DEPTH TO TOP OF WELL SCREEN **45.1** BOTTOM **54.7**

WELL DEVELOPMENT **YES** BACKFILL **GROUT**

FIELD PARTY **MWJ / TAS** RIG **D-50**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
1	SS	0.0	1.5	4-6-4	1.5					LOOSE GRAYISH BROWN 5YR 3/2 SAND AND GRAVEL		
2	SS	1.5	3.0	2-4-7	1.5					STIFF MEDIUM BROWN 5YR 3/4 CLAY 2.0 tsf, w/gravels		
3	SS	3.0	4.5	5-6-4	1.5					STIFF GRAYISH BROWN 5YR 3/2 CLAY AND ASH w/gravels		
4	SS	4.5	6.0	3-3-4	1.5		5			MEDIUM STIFF PALE BROWN 5YR 5/2 CLAY AND SAND 2.5 tsf		
5	SS	6.0	7.5	3-8-20	1.5					MEDIUM DENSE LIGHT GRAY N7 SAND/GRAVELS/LIMESTONE		
6	SS	7.5	9.0	9-8-8	.8					VERY STIFF MODERATE BROWN 5YR 3/4 CLAY SILT SAND AND LIMESTONE 3.5 tsf		
7	SS	9.0	10.5	4-3-4	.7					LOOSE LIGHT BROWN 5YR 5/6 SILTY GRAVEL LITTLE SAND 1.0 tsf, dry		
8	SS	10.5	12.0	2-2-3	1.5		10			MC 19.9% GRAVEL 29.3% SAND 21.7% FINES 49.0% TESTED SAMPLE #7		
9	SS	12.0	13.5	3-1-2	1.5					MEDIUM STIFF LIGHT BROWN 5YR 5/6 CLAY SAND SILT 0.5 tsf, moist		
10	SS	13.5	15.0	2-1-2	1.5					SOFT LIGHT BROWN 5YR 5/6 CLAY SOME SAND 0.5 tsf, wet MC 24.5% LL 29.5% PI 10.4% SAND 33.5% FINES 66.5% TESTED SAMPLE #9		
11	SS	15.0	16.5	3-1-2	.9		15			SOFT LIGHT BROWN 5YR 5/6 CLAY 2.0 tsf, moist		
12	ST	16.5	18.0							SOFT LIGHT BROWN 5YR 5/6 CLAY 1.0 tsf, moist		
13	ST	18.0	19.5							SOFT LIGHT BROWN 5YR 5/6 CLAY moist PSI 250 / SEC 10 / REC / DEPTH 17 - 19		
14	SS	19.5	21.0	1-1-2	.9					SOFT LIGHT BROWN 5YR 5/6 CLAY		

TYPE OF CASING USED

	NQ-2 ROCK CORE	
	6" x 3.25 HSA	
	9" x 6.25 HSA	
	HW CASING ADVANCER	4"
	NW CASING	3"
	SW CASING	6"
	AIR HAMMER	8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC

WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AEP GV BAC CCR COMPLIANCE.GPJ AEP.GDT 7/7/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-03** DATE **7/7/16** SHEET **2** OF **3**

PROJECT **GV BAC CCR Compliance** BORING START **12/11/15** BORING FINISH **12/15/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
										1.5 tsf, moist		
15	SS	21.0	22.5	4-5-4	.3					MEDIUM STIFF LIGHT BROWN 5YR 5/6 CLAY 0.5 tsf, moist		
16	SS	22.5	24.0	4-5-3	1.5					MEDIUM STIFF LIGHT BROWN 5YR 5/6 CLAY 1.5 tsf, moist MC 24.1% LL 39.8% PI 19.9% SAND 3.4%		
17	SS	24.0	25.5	3-4-4	1.5					FINES 96.6% TESTED SAMPLE #16 MEDIUM STIFF LIGHT BROWN 5YR 5/6 CLAY 1.0 tsf, moist		
							25					
18	SS	25.5	27.0	2-3-4	1.5					MEDIUM STIFF LIGHT BROWN 5YR 5/6 CLAY 1.0 tsf, moist		
19	SS	27.0	28.5	2-2-3	1.5					MEDIUM STIFF LIGHT BROWN 5YR 5/6 CLAY 1.0 tsf, moist		
20	SS	28.5	30.0	2-2-2	1.5							
							30					
21	SS	30.0	31.5	WOR-2-2	1.5					SOFT LIGHT BROWN 5YR 5/6 SILT CLAY w/sand fine, moist		
22	SS	31.5	33.0	WOR-2-2	1.5							
23	SS	33.0	34.5	WOR-2-2	1.5					SOFT MODERATE BROWN 5YR 4/4 SAND FINE moist		
24	SS	34.5	36.0	2-2-2	1.5							
							35			SOFT MODERATE BROWN 5YR 4/4 SILT CLAY w/sand fine, moist		
25	SS	36.0	37.5	WOR-2-3	1.5							
26	SS	37.5	39.0	1-3-4	1.5					MEDIUM STIFF MODERATE BROWN 5YR 4/4 SILT CLAY 0.5 tsf, w/sand fine, moist		
27	SS	39.0	40.5	7-14-9	1.5					MEDIUM DENSE LIGHT BROWN 5YR 5/6 SAND COARSE wet		
							40					
28	SS	40.5	42.0	7-10-12	1.5							
29	SS	41.5	43.0	5-7-11	1.3							
30	SS	44.0	45.5	9-11-16	1.5							
							45					

Continued Next Page

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-03** DATE **7/7/16** SHEET **3** OF **3**

PROJECT **GV BAC CCR Compliance** BORING START **12/11/15** BORING FINISH **12/15/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
31	SS	46.5	48.0	10-8-10	1.5							
32	SS	49.0	50.5	11-11-14	1.5		50					
33	SS	51.1	52.6	6-12-14	1.5							
34	SS	54.0	55.5	9-15-14	1.5							
35	SS	56.5	58.0	10-12-16	1.5							

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

MONITORING WELL CONSTRUCTION

JOB NUMBER _____

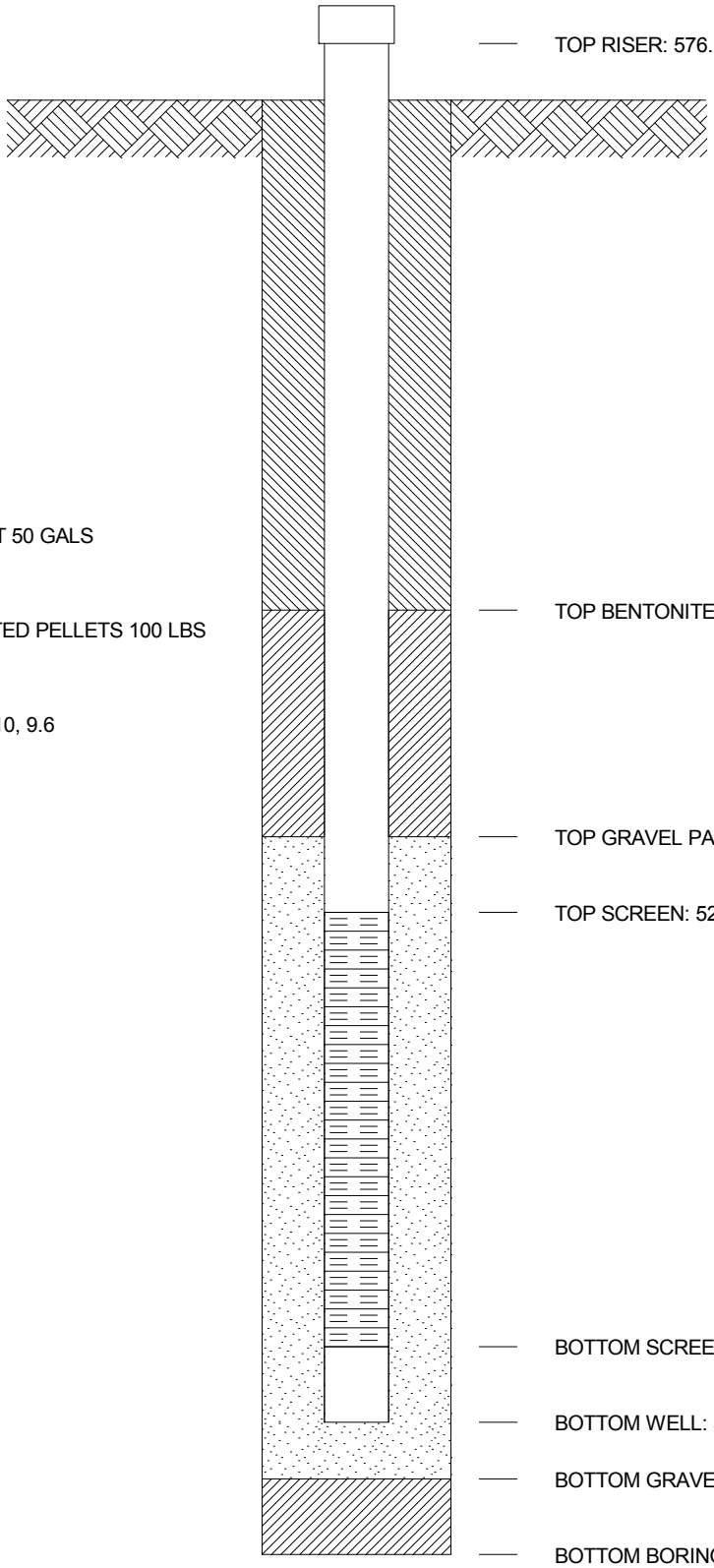
COMPANY _____ WELL No. **BAC-03** BORING No. **BAC-03** INSTALLED **12/15/15**

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,839.3 E 2,109,080.6**

SYSTEM _____

GROUND ELEVATION 573.78 FT.



GROUT SEAL: QUICK GROUT 50 GALS

BENTONITE SEAL: 3/8" COATED PELLETS 100 LBS

SCREEN: 2 dia., SLOTTED .010, 9.6

GRAVEL PACK: #5 150 LBS

RISER PIPE: 2.0, dia., PVC

SPACERS, DEPTH:

GEOMCNST GV BAC CCR COMPLIANCE.GPJ AEP.GDT 1/27/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,206.5 E 2,108,938.6**

GROUND ELEVATION **582.5** SYSTEM _____

Water Level, ft	▽	▼	▼
TIME			
DATE			

BORING NO. **BAC-04** DATE **7/7/16** SHEET **1** OF **3**

BORING START **12/16/15** BORING FINISH **12/22/15**

PIEZOMETER TYPE _____ WELL TYPE **OW**

HGT. RISER ABOVE GROUND **2.188** DIA **6**

DEPTH TO TOP OF WELL SCREEN **55.8** BOTTOM **65.4**

WELL DEVELOPMENT **YES** BACKFILL **GROUT**

FIELD PARTY **MWJ / TAS** RIG **D-50**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
1	SS	0.0	1.5	6-5-6	.1					MEDIUM DENSE LIMESTONE ROAD BED		
2	SS	1.5	3.0	2-5-6	1.0					STIFF GRAYISH BROWN 5YR 3/2 CLAY		
3	SS	3.0	4.5	4-5-9	1.3					STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY w/trace of bottom ash		
4	SS	4.5	6.0	6-4-6	1.2		5			STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY trace of bottom ash and river gravel		
5	SS	6.0	7.5	4-6-5	1.5							
6	SS	7.5	9.0	3-6-6	1.5					STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY w/trace of river gravel		
7	SS	9.0	10.5	3-5-7	1.5					STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY w/trace of bottom ash		
8	SS	10.5	12.0	3-4-7	1.5		10			STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY w/trace bottom and river gravel		
9	SS	12.0	13.5	4-7-11	1.5					VERY STIFF DUSKY BROWN 5YR 2/2 CLAY w/trace of sand fine		
10	SS	13.5	15.0	4-7-9	0					NO RECOVERY limestone cobble stuck in end of spoon		
11	SS	15.0	16.5	6-5-6	1.1		15			STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY SILT SAND MC 15.7% LL 23.9% PI 5.1% TESTED SAMPLES #11 AND #13 COMBINED		
12	SS	16.5	18.0	3-6-9	0					NO RECOVERY limestone cobble stuck in end of spoon		
13	SS	18.0	19.5	2-3-3	1.4					MEDIUM STIFF MODERATE YELLOWISH BROWN 10YR 5/4 FINE CLAY SILT SAND SAND 52.9% FINES 47.1%		
14	SS	19.5	21.0	2-3-3	1.4					MEDIUM STIFF MODERATE YELLOWISH		

Continued Next Page

TYPE OF CASING USED

	NQ-2 ROCK CORE	
	6" x 3.25 HSA	
	9" x 6.25 HSA	
	HW CASING ADVANCER	4"
	NW CASING	3"
	SW CASING	6"
	AIR HAMMER	8"

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC

WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AEP GV BAC CCR COMPLIANCE.GPJ AEP.GDT 7/7/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-04** DATE **7/7/16** SHEET **2** OF **3**

PROJECT **GV BAC CCR Compliance** BORING START **12/16/15** BORING FINISH **12/22/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
										BROWN 10YR 5/4 CLAY AND SILT w/little sand		
15	SS	21.0	22.5	2-3-4	1.5					MEDIUM STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY w/some silt		
16	SS	22.5	24.0	2-4-5	1.5							
17	SS	24.0	25.5	3-2-4	.8		25			MEDIUM STIFF MODERATE YELLOWISH BROWN 10YR 5/4 CLAY AND SILT w/little sand fine		
18	SS	25.5	27.0	2-2-3	1.5					MEDIUM STIFF MODERATE YELLOWISH BROWN 10YR 5/4 SILT AND CLAY		
19	SS	27.0	28.5	2-3-3	1.5							
20	SS	28.5	30.0	2-2-2	1.5		30					
1	ST	30.5	33.0							SOFT MODERATE YELLOWISH BROWN 10YR 5/4 SILT AND CLAY PSI 700 / SEC 10 / REC 1.5		
21	SS	33.0	34.5	2-1-2	.9					SOFT MODERATE YELLOWISH BROWN 10YR 5/4 SANDY SILTY CLAY		
22	SS	34.5	36.0	1-2-2	1.5		35			SOFT MODERATE YELLOWISH BROWN 10YR 5/4 SANDY SILTY CLAY MC 22.5% LL 24.4% PI 5.8% GRAVEL 1.0% SAND 37.6% FINES 61.4% TESTED SAMPLES #21, #22, AND #23		
23	SS	36.0	37.5	2-2-3	1.5							
24	SS	37.5	39.0	1-1-1	1.5					VERY SOFT MODERATE YELLOWISH BROWN 10YR 5/4 SANDY CLAYEY SILT w/some silt, wet MC 27% LL 24.7% PI 4.5% SAND 31.5% FINES 68.5% TESTED SAMPLE #26		
25	SS	39.0	40.5	WOR-2-2	1.5							
26	SS	40.5	42.0	1-1-1	1.5		40					
27	SS	42.0	43.5	1-1-1	1.5							
28	SS	43.5	45.0	3-2-3	1.5					MEDIUM STIFF MODERATE YELLOWISH BROWN 10YR 5/4 SILT AND CLAY w/some sand fine		
29	SS	45.0	46.5	1-3-2	1.5		45					

Continued Next Page

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-04** DATE **7/7/16** SHEET **3** OF **3**

PROJECT **GV BAC CCR Compliance** BORING START **12/16/15** BORING FINISH **12/22/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
30	SS	46.5	48.0	2-2-2	1.5					MEDIUM STIFF MODERATE YELLOWISH BROWN 10YR 5/4 SILT AND CLAY w/some sand fine		
31	SS	48.0	49.5	2-2-4	1.5					MEDIUM STIFF MEDIUM LIGHT GRAY N6 SILT AND CLAY w/some sand fine		
32	SS	49.5	51.0	3-5-7	1.5		50			MEDIUM STIFF MEDIUM LIGHT GRAY N6 SILT AND CLAY w/some sand fine		
33	SS	51.0	52.5	4-6-10	1.5					MEDIUM DENSE LIGHT BROWN 5YR 5/6 SAND FINE w/little silt		
34	SS	52.5	54.0	5-8-13	1.5					MEDIUM DENSE LIGHT BROWN 5YR 5/6 SAND FINE AND GRAVEL		
35	SS	54.0	55.5	9-8-10	1.5		55			MEDIUM DENSE MODERATE YELLOWISH BROWN 10YR 5/4 SAND AND GRAVEL		
36	SS	55.5	57.0	7-13-15	1.0							
37	SS	58.0	59.5	6--7-13	1.0		60					
38	SS	60.5	62.0	9-11-13	.9							
39	SS	63.0	64.5	22-20-29	1.2		65			DENSE MODERATE YELLOWISH BROWN 10YR 5/4 SAND AND GRAVEL		
40	SS	65.5	67.0	11-12-12	1.0					MEDIUM DENSE MODERATE YELLOWISH BROWN 10YR 5/4 SAND AND GRAVEL		
41	SS	68.0	69.5	12-18-20	1.2							

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

MONITORING WELL CONSTRUCTION

JOB NUMBER _____

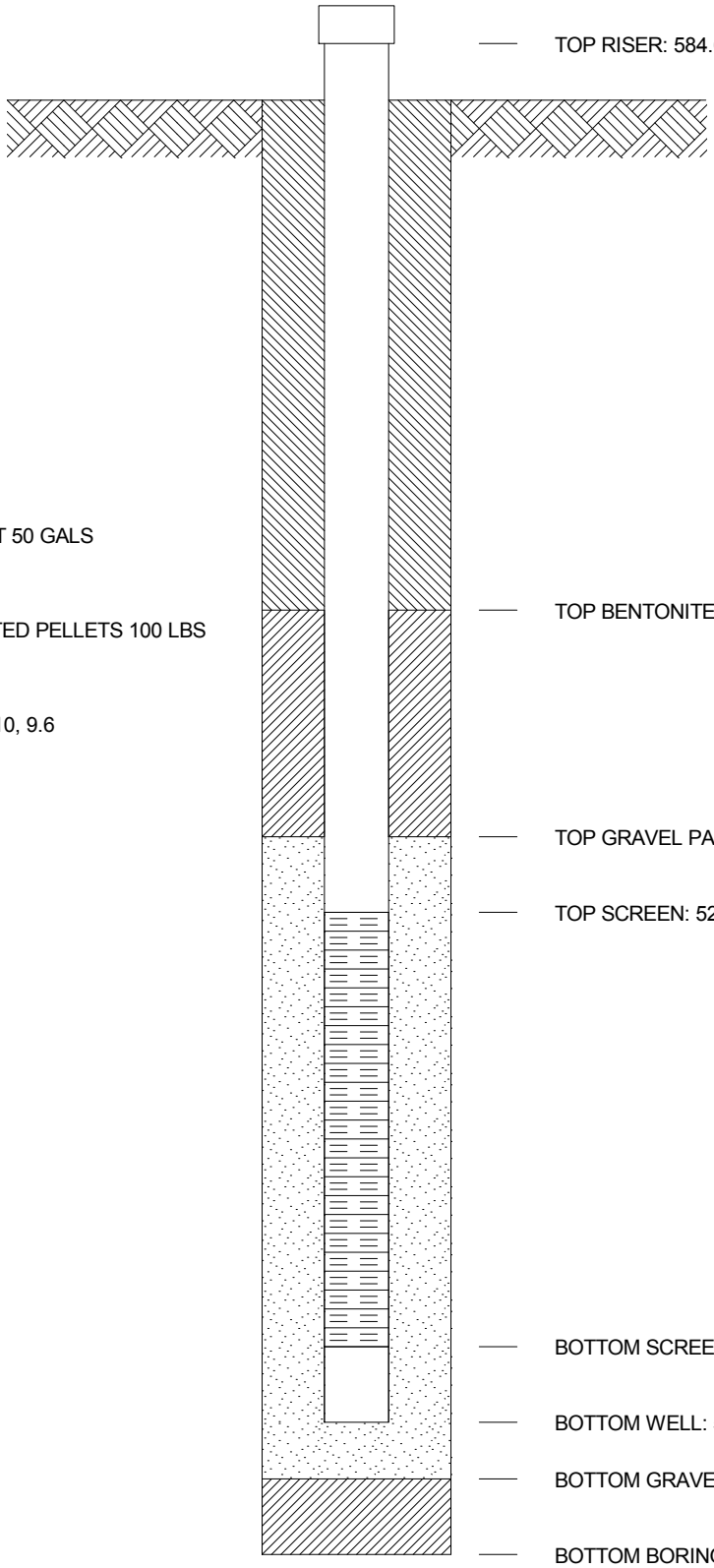
COMPANY _____ WELL No. **BAC-04** BORING No. **BAC-04** INSTALLED **12/22/15**

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 339,206.5 E 2,108,938.6**

SYSTEM _____

GROUND ELEVATION 582.46 FT.



GROUT SEAL: QUICK GROUT 50 GALS

BENTONITE SEAL: 3/8" COATED PELLETS 100 LBS

SCREEN: 2 dia., SLOTTED .010, 9.6

GRAVEL PACK: #5 400 LBS

RISER PIPE: 2.0, dia., PVC

SPACERS, DEPTH:

GEOMCNST GV BAC CCR COMPLIANCE.GPJ AEP.GDT 1/27/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 338,638.9 E 2,108,667.3**

GROUND ELEVATION **590.3** SYSTEM _____

Water Level, ft	▽	▼	▼
TIME			
DATE			

BORING NO. **BAC-05** DATE **7/7/16** SHEET **1** OF **4**

BORING START **12/29/15** BORING FINISH **12/30/15**

PIEZOMETER TYPE _____ WELL TYPE **OW**

HGT. RISER ABOVE GROUND **1.73** DIA **6**

DEPTH TO TOP OF WELL SCREEN **64.5** BOTTOM **74.1**

WELL DEVELOPMENT **YES** BACKFILL **GROUT**

FIELD PARTY **MWJ / TAS** RIG **D-50**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
1	SS	0.0	1.5	1-2-3	.9					STIFF BROWNISH GRAY 5YR 4/1 BOTTOM ASH 1.5 tsf, w/some soil, dry		
2	SS	1.5	3.0	14-10-15	.6					MEDIUM DENSE LIGHT BROWNISH GRAY 5YR 6/1 GRAVELS w/bottom ash, dry		
3	SS	3.0	4.5	5-5-4	1.3					STIFF MODERATE BROWN 5YR 4/4 CLAY 2.5 tsf, w/gravels, dry		
4	SS	4.5	6.0				5			NO RECOVERY limestone cobble in end of spoon		
5	SS	6.0	7.5	4-3-5	1.5					STIFF LIGHT BROWN 5YR 5/6 CLAY dry		
6	SS	7.5	9.0	3-3-4	1.5					MEDIUM STIFF PALE BROWN 5YR 5/2 CLAY dry		
7	SS	9.0	10.5	4-3-4						MEDIUM STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
8	SS	10.5	12.0	3-4-7	1.5		10			STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
9	SS	12.0	13.5	3-3-7	1.5					STIFF PALE YELLOWISH BROWN 10YR 6/2 CLAY dry		
10	SS	13.5	15.0	3-4-7	1.5					STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
11	SS	15.0	16.5	3-4-5	1.5		15					
12	SS	16.5	18.0	3-3-5	1.5					STIFF MODERATE BROWN 5YR 4/4 CLAY w/sand fine		
13	SS	18.0	19.5	3-3-5	1.5					STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
14	SS	19.5	21.0	4-4-6	1.3							

TYPE OF CASING USED

	NQ-2 ROCK CORE	
	6" x 3.25 HSA	
	9" x 6.25 HSA	
	HW CASING ADVANCER	4"
	NW CASING	3"
	SW CASING	6"
	AIR HAMMER	8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC

WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AEP GV BAC CCR COMPLIANCE.GPJ AEP.GDT 7/7/16

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-05** DATE **7/7/16** SHEET **2** OF **4**

PROJECT **GV BAC CCR Compliance** BORING START **12/29/15** BORING FINISH **12/30/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
15	SS	21.0	22.5	5-4-5	1.5							
16	SS	22.5	24.0	3-4-7	1.3					STIFF MODERATE BROWN 5YR 4/4 CLAY w/sand fine		
17	SS	24.0	25.5	4-5-6	1.5		25			STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
18	SS	25.5	27.0	3-4-5	1.5					STIFF MODERATE BROWN 5YR 4/4 SAND FINE w/silty clay		
19	SS	27.0	28.5	3-3-4	1.5					MEDIUM STIFF MODERATE BROWN 5YR 4/4 CLAY		
20	SS	28.5	30.0	3-4-6	1.5					STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
21	SS	30.0	31.5	3-4-6	1.5		30					
22	SS	31.5	33.0	2-4-5	1.5							
23	ST	33.5	35.5							STIFF MODERATE BROWN 5YR 4/4 CLAY dry PSI 400 / SEC 10 / REC		
24	SS	36.0	37.5	2-3-4	1.5		35			MEDIUM STIFF MODERATE BROWN 5YR 4/4 CLAY dry		
25	SS	37.5	39.0	2-3-4	1.5							
26	SS	39.0	40.5	WOH-WOH-3	1.5					SOFT MODERATE BROWN 5YR 4/4 CLAY 0.5 tsf, w/sands fine, moist		
27	SS	40.5	42.5	WOH-2-2	1.5		40			SOFT MODERATE BROWN 5YR 4/4 CLAY AND SILT 1.0 tsf, w/sands fine, moist		
28	SS	42.5	44.0	WOH-WOH-2	1.5					VERY SOFT MODERATE BROWN 5YR 4/4 CLAY AND SILT w/sands fine, moist		
29	SS	44.0	45.5	WOH-2-1	1.5							
30	SS	45.5	47.0	WOH-1-2	1.5		45			SOFT MODERATE BROWN 5YR 4/4 CLAY		

Continued Next Page

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER

COMPANY

BORING NO. **BAC-05** DATE **7/7/16** SHEET **3** OF **4**

PROJECT **GV BAC CCR Compliance** BORING START **12/29/15** BORING FINISH **12/30/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
31	SS	47.0	48.5	WOH-1-2	1.5					AND SILT w/sands fine, wet		
32	SS	48.5	50.0	1-1-3	1.5							
33	SS	50.0	51.5	1-2-3	1.5		50			MEDIUM STIFF MODERATE BROWN 5YR 4/4 CLAY AND SILT w/sands fine, moist		
34	SS	51.5	53.0	1-3-5	1.5					LOOSE MODERATE BROWN 5YR 4/4 SAND FINE wet		
35	SS	53.0	54.5	6-3-3	1.5							
36	SS	54.5	56.0	5-5-4	1.5		55					
37	SS	56.0	57.5	1-3-4	1.5					LOOSE MEDIUM LIGHT GRAY N5 SAND FINE wet		
38	SS	57.5	59.0	3-3-5	1.5					STIFF MEDIUM LIGHT GRAY N5 CLAY AND SILT 1.0 tsf, moist		
39	SS	59.0	60.5	4-3-7	1.4					STIFF MEDIUM LIGHT GRAY N5 CLAY AND SILT moist		
40	SS	60.5	62.0	7-24-20	1.5		60			DENSE MODERATE BROWN 5YR 3/4 SAND COARSE wet		
41	SS	62.0	63.5	12-21-28	1.5							
42	SS	64.5	66.0	13-23-38	1.3					VERY DENSE MODERATE BROWN 5YR 3/4 SAND COARSE wet		
43	SS	67.0	68.5	12-25-40	1.2		65					
44	SS	69.5	71.0	14-22-38	1.2							
							70					

Continued Next Page

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

LOG OF BORING

JOB NUMBER _____

COMPANY _____ BORING NO. **BAC-05** DATE **7/7/16** SHEET **4** OF **4**

PROJECT **GV BAC CCR Compliance** BORING START **12/29/15** BORING FINISH **12/30/15**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET FROM	TO	STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	U S C S	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
45	SS	73.0	74.5	14-19-35	1.3		75					
46	SS	75.5	77.0	17-14-30	1.0							
47	SS	78.0	79.5	13-23-19	.9							

AMERICAN ELECTRIC POWER SERVICE CORPORATION

AEP CIVIL ENGINEERING LABORATORY

MONITORING WELL CONSTRUCTION

JOB NUMBER _____

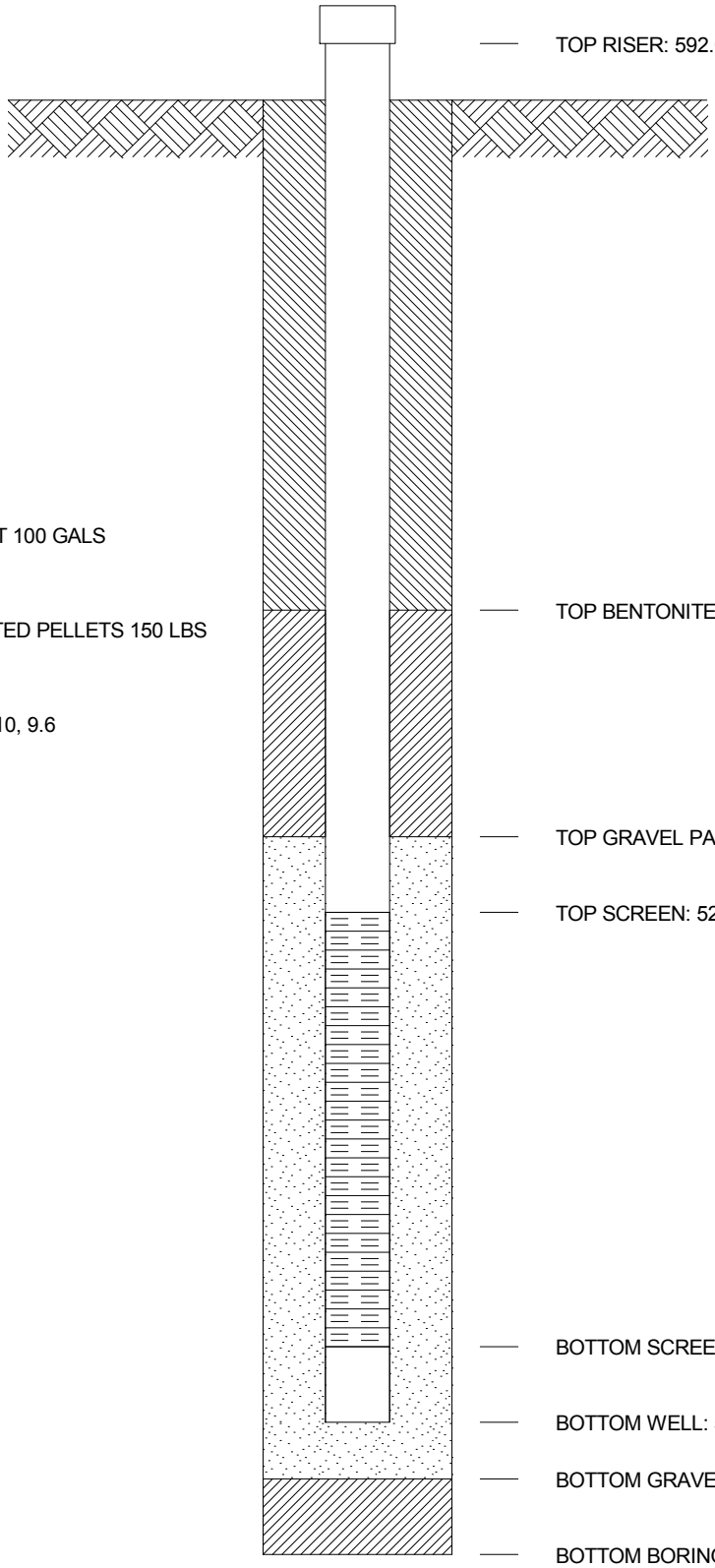
COMPANY _____ WELL No. **BAC-05** BORING No. **BAC-05** INSTALLED **12/30/15**

PROJECT **GV BAC CCR Compliance**

COORDINATES **N 338,638.9 E 2,108,667.3**

SYSTEM _____

GROUND ELEVATION 590.28 FT.



GROUT SEAL: QUICK GROUT 100 GALS

BENTONITE SEAL: 3/8" COATED PELLETS 150 LBS

SCREEN: 2 dia., SLOTTED .010, 9.6

GRAVEL PACK: #5 200 LBS

RISER PIPE: 2.0, dia., PVC

SPACERS, DEPTH:

GEOMCNST GV BAC CCR COMPLIANCE.GPJ AEP.GDT 1/27/16

ERM
1 Beacon Street; 5th Floor
Boston, Massachusetts 02108
Telephone: +1 (617) 646-7800

WELL BAC-06

Client: Gavin Power, LLC
Project Name: Residual Waste Landfill Monitoring Well Installation
Project Number: 0488799
Project Location: Cheshire, OH

DATE STARTED: 6/10/2020
DATE COMPLETED: 6/11/2020
DRILLING CONTRACTOR: Enviroprobe Service, Inc.
DRILLING METHODS: Sonic Drilling
LOGGED BY: P. Gebhard
CHECKED BY: H. Usle
NOTES: 6-inch steel casing advanced to 80 ft bgs; 5-inch casing to termination depth.

TOTAL DEPTH: 90 ft bgs
DIAMETER: 5-6 inches
GROUND ELEVATION: 599.64 ft amsl (approx.)
PVC ELEVATION: 602.54 ft amsl
NORTHING: 338477.383
EASTING: 2076549.323

WELL DEVELOPMENT
METHOD(S): Air Lift
DATE STARTED: 8/5/2020
DATE ENDED: 8/5/2020
DTW AT START: 62.1 ft bgs
DTW AT END: 62.2 ft bgs
VOLUME PURGED: 17.5 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
					GP		GRAVEL, road base material.
							1.0
							Black, ASH, loose, dry.
							2.0
					SC-SM		Dark Brown, SILTY CLAY, very stiff, dry.
5	595	SC	74				
							6.0
							NO RECOVERY.
10	590						10.0
					CL		Dark Brown, CLAY, very stiff, dry.
							11.0
					GP		Gray, FINE TO COARSE GRAVEL, loose, wet.
							12.0
15	585	SC	76		CL		Dark Brown, CLAY, very stiff, dry.
							17.5
							NO RECOVERY.
20	580						20.0
					CL		Dark Brown, CLAY, 1-5% carboniferous material, dark gray mottling, very stiff, dry to moist, mottling.
25	575						25.0

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Well Riser (to 80 feet bgs) (2" SCH 40 PVC)
- Bentonite Seal (0.3 to 78 ft bgs)

SAMPLE TYPE

- Sonic Drilling

GRAPHIC LOG LEGEND

- GP Poorly-graded Gravel
- ASH Ash
- SC-SM Clayey and Silty Sand
- CL Low Plasticity Clay
- ML Silt
- SM Silty Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
ft = feet
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride
U.S.C.S. = Unified Soil Classification System

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1 Beacon Street; 5th Floor
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WELL BAC-06

Client: Gavin Power, LLC **Project Name:** Residual Waste Landfill Monitoring Well Installation

Project Number: 0488799 **Project Location:** Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SC	60				NO RECOVERY. *(continued)*	
30	570						30.0	
35	565	SC	120		CL		Dark Brown, CLAY, 1-5% carboniferous material, dark gray mottling, medium stiff, dry to moist.	← Well Riser (to 80 feet bgs) (2" SCH 40 PVC)
40	560						40.0	← Bentonite Seal (0.3 to 78 ft bgs)
45	555	SC	120		ML		Dark Brown, SILT, minor carboniferous material, dark gray mottling, medium stiff, moist, mottling.	
50	550						50.0	
							NO RECOVERY.	
							51.0	
					SC-SM		Medium Brown, SILTY FINE SAND, and clay, soft, moist to very moist.	

SAMPLE TYPE

- Sonic Drilling

GRAPHIC LOG LEGEND

- GP Poorly-graded Gravel
- ASH Ash
- SC-SM Clayey and Silty Sand
- CL Low Plasticity Clay
- ML Silt
- SM Silty Sand

ACRONYM LEGEND

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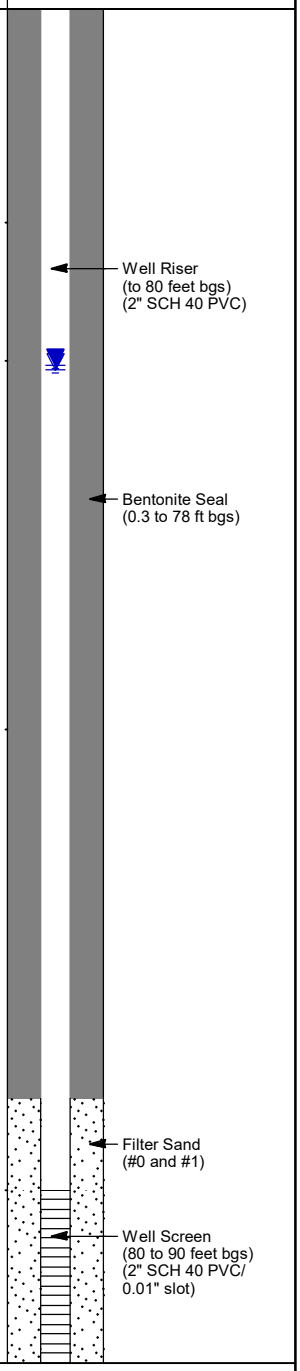
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WELL BAC-06

Client: Gavin Power, LLC **Project Name:** Residual Waste Landfill Monitoring Well Installation

Project Number: 0488799 **Project Location:** Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
55	545	SC	108		SC-SM		Medium Brown, SILTY FINE SAND, and clay, soft, moist to very moist. *(continued)*
							59.0
60	540				SC-SM		Dark Brown, FINE TO MEDIUM SILTY TO CLAYEY SAND, soft to medium stiff, moist.
							62.0
65	535	SC	120		SC-SM		Dark Gray, FINE SILTY TO CLAYEY SAND, loose to medium dense, moist.
70	530						70.0
75	525	SC	NR				NO RECOVERY, Drilling refusal at 75 feet bgs; no soil logging from 70 to 75 feet bgs. Redrilled to 80 feet bgs.
80	520						80.0
							NO RECOVERY.



SAMPLE TYPE

- Sonic Drilling

GRAPHIC LOG LEGEND

- GP Poorly-graded Gravel
- ASH Ash
- SC-SM Clayey and Silty Sand
- CL Low Plasticity Clay
- ML Silt
- SM Silty Sand

ACRONYM LEGEND

amsl = above mean sea level
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WELL BAC-06

Client: Gavin Power, LLC **Project Name:** Residual Waste Landfill Monitoring Well Installation

Project Number: 0488799 **Project Location:** Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
85	515	SC	48				NO RECOVERY. *(continued)*	Well Screen (80 to 90 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
							86.0	
					SM		Dark Brown, MEDIUM SILTY SAND, well sorted, loose, wet.	
							87.0	
					SM		Dark Brown, COARSE SILTY SAND, trace well rounded gravel, (0.5" diameter), poorly sorted, loose, wet.	Filter Sand (#0 and #1)
							89.0	
90	510				SM		Dark Brown, COARSE SILTY SAND, and well rounded gravel, (0.5" diameter), possible close proximity to bedrock, poorly sorted.	End Cap
							90.0	
							Bottom of Boring @ 90.00 feet bgs	
95	505							
100	500							
105	495							
110	490							

SAMPLE TYPE

- Sonic Drilling

GRAPHIC LOG LEGEND

- GP Poorly-graded Gravel
- ASH Ash
- SC-SM Clayey and Silty Sand
- CL Low Plasticity Clay
- ML Silt
- SM Silty Sand

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WELL BAC-07

Client: Gavin Power, LLC
Project Name: Residual Waste Landfill Monitoring Well Installation
Project Number: 0488799
Project Location: Cheshire, OH

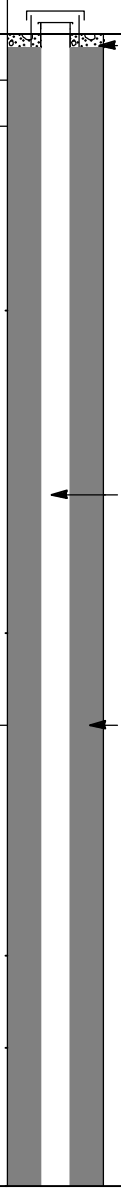
DATE STARTED: 6/12/2020
DATE COMPLETED: 6/15/2020
DRILLING CONTRACTOR: Enviroprobe Service, Inc.
DRILLING METHODS: Sonic Drilling
LOGGED BY: P. Gebhard
CHECKED BY: H. Usle
NOTES: 6-inch steel casing advanced to 80 ft bgs; 5-inch casing to termination depth.

TOTAL DEPTH: 90 ft bgs
DIAMETER: 5-6 inches
GROUND ELEVATION: 599.71 ft amsl (approx.)
PVC ELEVATION: 602.76 ft amsl
NORTHING: 338526.105
EASTING: 2075728.652

WELL DEVELOPMENT
METHOD(S): Air Lift
DATE STARTED: 8/5/2020
DATE ENDED: 8/5/2020
DTW AT START: 61.4 ft bgs
DTW AT END: 61.4 ft bgs
VOLUME PURGED: 20 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
					GP		GRAVEL, road base material.
							1.0
							Black, ASH, loose, dry.
							2.0
					CL-ML		Dark Brown, SILTY CLAY, very stiff, dry.
5	595	SC	76				
							6.0
							NO RECOVERY.
10	590						
							13.0
					GP		COARSE GRAVEL, "fill-like" material.
15	585	SC	84				15.0
					CL-ML		Dark Brown, SILTY CLAY, dark gray mottling, very stiff, dry.
20	580						20.0
							NO RECOVERY.
							22.0
					CL-ML		Dark Brown, SILTY CLAY, dark gray mottling, minor mica, soft, very moist.
25	575						25.0

WELL DIAGRAM



SAMPLE TYPE
- Sonic Drilling

GRAPHIC LOG LEGEND
- GP Poorly-graded Gravel
- ASH Ash
- CL-ML Silty Clay
- ML Silt
- CL Low Plasticity Clay
- SC-SM Clayey and Silty Sand

ACRONYM LEGEND
amsl = above mean sea level
bgs = below ground surface
ft = feet
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride
U.S.C.S. = Unified Soil Classification System

ERM
1 Beacon Street; 5th Floor
Boston, Massachusetts 02108
Telephone: +1 (617) 646-7800

WELL BAC-07

Client: Gavin Power, LLC **Project Name:** Residual Waste Landfill Monitoring Well Installation

Project Number: 0488799 **Project Location:** Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SC	96		CL-ML		Dark Brown, SILTY CLAY, dark gray mottling, minor carboniferous material, minor mica, very stiff, slightly moist. *(continued)*	
30	570						30.0	
					ML		Dark Gray, SILT, minor dark brown mottling, very soft to soft, very moist to wet.	
							33.0	
35	565	SC	NM		CL-ML		Dark Brown, SILTY CLAY, dark gray mottling, minor carboniferous material, minor mica, very stiff, slightly moist.	Well Riser (to 80 feet bgs) (2" SCH 40 PVC)
40	560						40.0	Bentonite Seal (0.3 to 76 ft bgs)
							NO RECOVERY.	
							43.5	
45	555	SC	78		CL-ML		Dark Brown, SILTY CLAY, soft, wet.	
							46.0	
					CL-ML		Dark Gray, SILTY CLAY, thin laminations of dark brown clay, plant material on bedding plane, stiff to very stiff, dry to moist.	
							48.5	
50	550				CL		Dark Brown, CLAY, dark gray mottling, minor mica, very stiff, moist.	
							50.0	
					CL-ML		Dark Brown, SILTY CLAY, soft, wet.	
							53.0	
					CL		Dark Brown, CLAY, dark gray mottling, minor mica, minor roots, very stiff, moist.	

SAMPLE TYPE

Sonic Drilling

GRAPHIC LOG LEGEND

GP Poorly-graded Gravel
ASH Ash
CL-ML Silty Clay
ML Silt
CL Low Plasticity Clay
SC-SM Clayey and Silty Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
ft = feet
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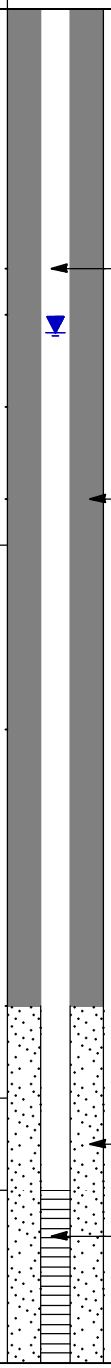
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WELL BAC-07

Client: Gavin Power, LLC **Project Name:** Residual Waste Landfill Monitoring Well Installation

Project Number: 0488799 **Project Location:** Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
55	545	SC	120		CL		Dark Brown, CLAY, dark gray mottling, minor mica, minor roots, very stiff, moist. *(continued)*
60	540						60.0
							NO RECOVERY.
							61.0
					CL-ML		Dark Brown, SILTY CLAY, very soft, wet.
							63.0
					CL-ML		Dark Gray, SILTY CLAY, dark brown mottling, soft to medium stiff, moist.
65	535	SC	108				65.0
					CL-ML		Dark Gray, SILTY CLAY, dark brown mottling, stiff, moist.
							66.0
					SC-SM		Dark Brown, FINE TO MEDIUM SILTY TO CLAYEY SAND, dense, moist.
70	530						70.0
							NO RECOVERY.
75	525	SC	48				76.0
					SC-SM		Light Brown, FINE TO MEDIUM SILTY TO CLAYEY SAND, poorly sorted, medium dense, wet.
							78.0
					SP		Light Brown, FINE SAND AND COBBLES, well rounded silty, poorly sorted, loose, dry.
80	520						80.0
					SM		Light Brown, MEDIUM TO COARSE SILTY SAND, very loose, very moist.



SAMPLE TYPE

- Sonic Drilling

GRAPHIC LOG LEGEND

- GP Poorly-graded Gravel
- ASH Ash
- CL-ML Silty Clay
- ML Silt
- CL Low Plasticity Clay
- SC-SM Clayey and Silty Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
ft = feet
DTW = depth to water
NA = not applicable
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U.S.C.S. = Unified Soil Classification System

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WELL BAC-07

Client: Gavin Power, LLC **Project Name:** Residual Waste Landfill Monitoring Well Installation

Project Number: 0488799 **Project Location:** Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
85	515	SC	120		SM		Light Brown, MEDIUM TO COARSE SILTY SAND, very loose, very moist. *(continued)*	Well Screen (80 to 90 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
							87.0	
					SM		Dark Brown, MEDIUM TO COARSE SILTY SAND, very loose, wet.	Filter Sand (#0 and #1)
90	510						90.0	End Cap
							Bottom of Boring @ 90.00 feet bgs	
95	505							
100	500							
105	495							
110	490							

SAMPLE TYPE

- Sonic Drilling

GRAPHIC LOG LEGEND

- GP Poorly-graded Gravel
- ASH Ash
- CL-ML Silty Clay
- ML Silt
- CL Low Plasticity Clay
- SC-SM Clayey and Silty Sand

ACRONYM LEGEND

amsl = above mean sea level
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PAGE 1 OF 2

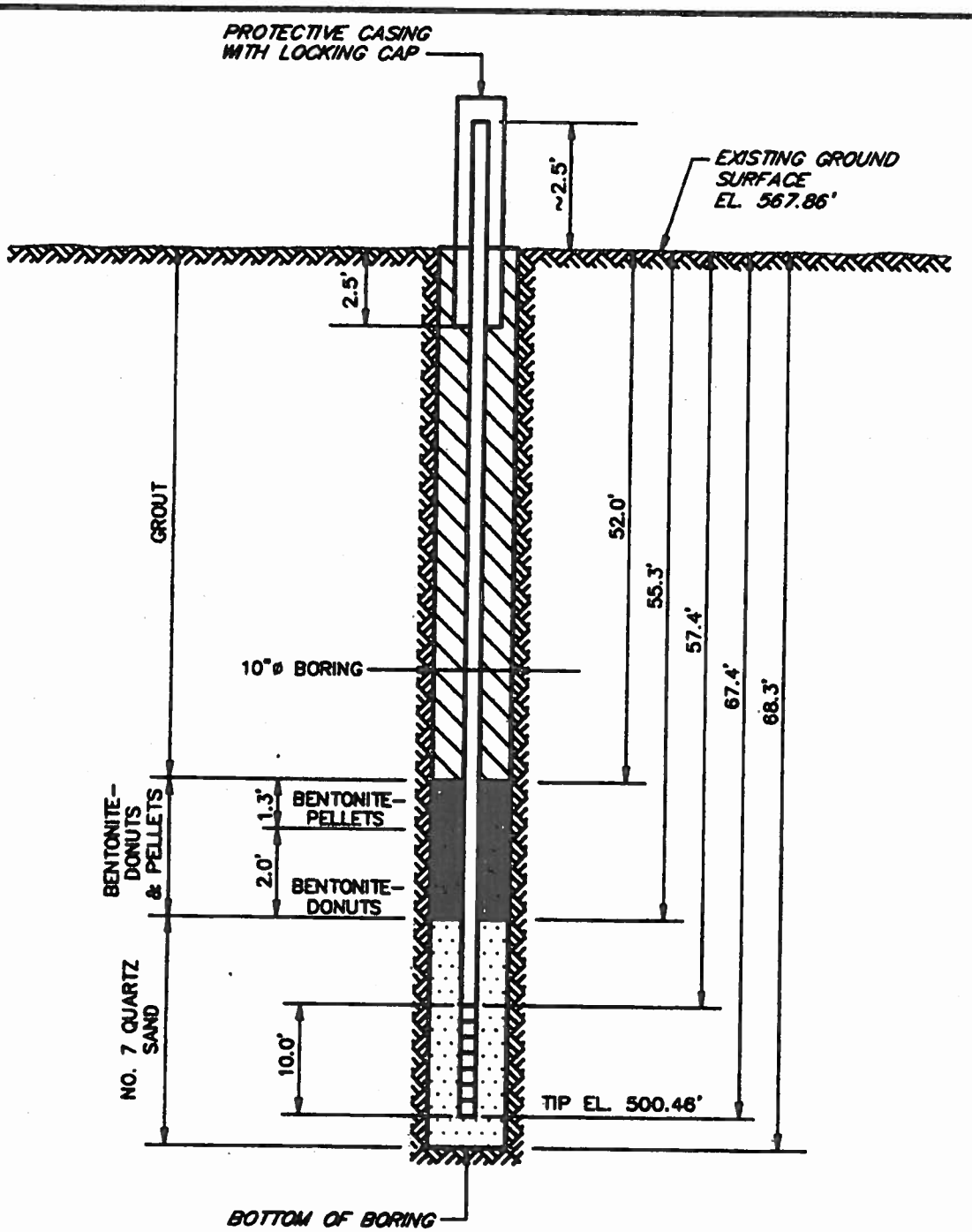
PROJECT NO: 313579 | BORING NO: MW-1 | PROJECT NAME: AEP GAVIN PLANT
DATE BEGAN: 7-15-93 | DATE FINISHED: 7-19-93 | FIELD ENGINEER: M. HARDNER
DRILLER: C. ROUSH/R. YATES | N: 6900.00' | E: 8950.00'
GROUND SURFACE ELEV.: 567.86' | GWL DATE/TIME: NA | GWL DEPTH: NA
DRILLING METHOD: 3.25" ID HOLLOW STEM AUGER | EQUIPMENT: B-K 81 RIG
CONTRACTOR: AEP ENVIRONMENTAL | CHECKED BY: S. HANNAH

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	SPT BLOWS PER (0.5')	REC (FT)	PROFILE	DESCRIPTION	USCS	HNU READINGS (PPM)	REMARKS
	0.00	S 1	12-12-11-13	1.17		Loose, dark brown, topsoil, over hard, medium to dark brown, silty CLAY, trace pebbles, 10% coal (small pieces), dry		3.0	PID READINGS 1045 hrs. HNU - 0 ppm LEL - 0%
565.0	-5.00								
560.0		S 2	5-5-7-12	1.33		Hard, medium brown, mottled gray silty CLAY, trace coal pieces, slightly to non-plastic, dry		3.5	1100 hrs. HNU - 0 ppm LEL - 0%
	-10.00								
555.0		S 3	5-5-7-8	1.58		Hard, medium brown, silty CLAY, slight-medium plasticity, dry	cl	2.5	1115 HNU - 0 ppm LEL - 0%
	-15.00								
550.0		S 4	2-3-5-8	1.25		Hard, medium brown, silty CLAY, slightly plastic, dry		2.5	1120 hrs. HNU - 0 ppm LEL - 0%
	-20.00								
545.0		S 5	2-3-4-4	1.67		Hard, medium brown, silty CLAY, medium plasticity, moist		2.25	1128 hrs. HNU - 0 ppm LEL - 0%
	-25.00					27.0'			
540.0		S 6	2-3-5-9	1.75		Soft, gray brown clayey SILT, medium plasticity, moist	ml	0.5	1132 hrs. HNU - 0 ppm LEL - 0%
	-30.00					32.0'			
535.0		S 7	2-3-7-8	1.25		Loose GRAVEL, pebble size, 2" thick, over brown fine to coarse grained SAND with gravel, pebble size, wet	gp/sw		1140 hrs. HNU - 0 ppm LEL - 0%
	-35.00					37.0'			END 07/15/93 BEGIN 07/16/93
530.0		S 8	8-8-9-12	1.0		Medium dense, medium brown, some orange and dark brown SAND, medium to coarse grained, with 10% pebble gravel, wet	sw		0805 hrs. HNU - 0 ppm LEL - 0%
	-40.00								

PROJECT NO: 313579 | BORING NO: MW-1 | PROJECT NAME: AEP GAVIN PLANT
DATE BEGAN: 7-15-93 | DATE FINISHED: 7-19-93 | FIELD ENGINEER: M. HARDNER
DRILLER: C. ROUSH/R. YATES | N: 6900.00' | E: 8950.00'
GROUND SURFACE ELEV.: 567.86' | GWL DATE/TIME: NA | GWL DEPTH: NA
DRILLING METHOD: 3.25" ID HOLLOW STEM AUGER | EQUIPMENT: B-K 81 RIG
CONTRACTOR: AEP ENVIRONMENTAL | CHECKED BY: S. HANNAH

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	SPT BLOWS PER (0.5')	REC (FT)	METHOD	DESCRIPTION	USCS	REMARKS
	40.00							
							sw	
						42.0'		
525.0		S 9	8-9-9-10	1.25		Medium dense, medium brown, pebble GRAVEL, some fine to coarse SAND (20%), wet		0825 hrs. HNU - 0 ppm LEL - 0%
	45.00						gw	
						47.0'		
520.0		S 10	10-8-6-6	1.58		Medium dense, medium brown SAND, fine to coarse grained with 5" of medium brown pebble to cobble GRAVEL at 8" above 49.0'		0840 hrs. HNU - 0 ppm LEL - 0%
	50.00						sp/gp	
515.0						54.0'		
	55.00	S 11	5-4-4-9-	1.42		Loose, medium brown SAND, fine to medium grained, wet		0850 hrs. HNU - 0 ppm LEL - 0%
510.0								
		S 12	9-10-11-14	1.33		Medium dense, medium brown SAND, wet	sp	0900 hrs. HNU - 0 ppm LEL - 0% CUTTINGS VERY WET
505.0						64.0'		
	65.00	S 13	11-12-13-17	1.17		Medium dense, light brown to medium brown SAND, medium grained, some fine grained, trace pebble to cobble gravel, wet	sw	0930 hrs. HNU - 0 ppm LEL - 0%
500.0								
	70.00	S 14	8-50/3"	1.33		Light brown SAND as above with medium to dark brown, some black, pebble to cobble gravel at 69.0', wet	NA	0945 hrs. HNU = 0 ppm LEL = 0%
495.0						BOTTOM OF BORING AT 70.0'		NOTE: HNU OF BACKGROUND = 0.1 ppm 7/15/93 = 0.6 ppm 7/19/93
	75.00					BEDROCK AT 69.5' BEDROCK IS GREEN-GRAY FISSILE SHALE		
490.0								
	80.00							

DRAWN BY	NAM	26SEP93
CHECKED BY		
APPROVED BY		
DRAWING NUMBER	313579-A1	



NOTES:

1. RISER PIPE IS 2 IN. I.D. SCHEDULE 40 PVC PIPE, THREADED, FLUSH-JOINTED.
2. SCREEN IS 2 IN. I.D. SCHEDULE 40 PVC PIPE, CONTINUOUS SLOT SCREEN (0.010 IN. SLOT SIZE).
3. LOWER END OF SCREEN IS CAPPED.
4. DATE OF COMPLETION 08/10/93.

INSTALLATION DIAGRAM
MONITORING WELL MW-1

PREPARED FOR

AEP GAVIN PLANT
CHESHIRE, OHIO

IT INTERNATIONAL TECHNOLOGY CORPORATION

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PAGE 1 OF 2

PROJECT NO: 313579 BORING NO: MW-6 PROJECT NAME: AEP GAVIN PLANT

DATE BEGAN: 7-20-93 DATE FINISHED: 7-20-93 FIELD ENGINEER: M. HARDNER

DRILLER: C. ROUSH/R. YATES N: 8277.67' E: 9491.54'

GROUND SURFACE ELEV.: 569.82' GWL DATE/TIME: NA GWL DEPTH: NA

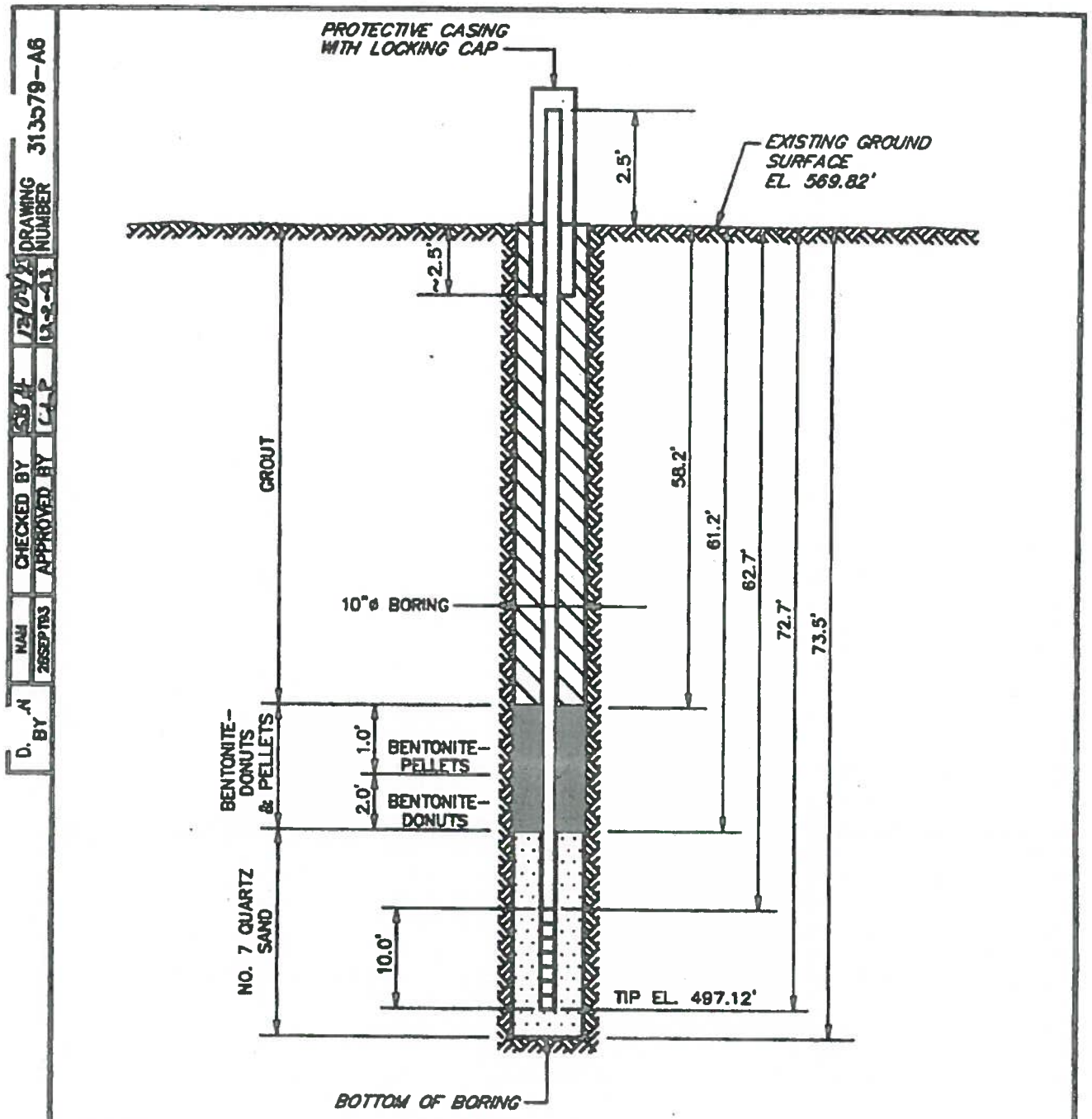
DRILLING METHOD: 3.25" ID HOLLOW STEM AUGER EQUIPMENT: B-K 81 RIG

CONTRACTOR: AEP ENVIRONMENTAL CHECKED BY: S. HANNAH

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	SPT BLOWS PER (0.5')	REC (FT)	PROFILE	DESCRIPTION	USCS	HNU (PPM)	REMARKS
	0.00	S 1*	NA	NA		FILL, (loose, dark brown, black, silty clay, trace pebbles, dry) 2.0'	NA	NA	PID READINGS 1300 HNU - 0 ppm LEL - 0%
565.0	-5.00					Hard, yellow brown, mottled tan, silty CLAY, low plasticity, dry			
		S 2	27-12-12-14	1.17		Hard, yellow brown, mottled tan, silty CLAY, low plasticity, dry		4.0	1345 HNU - 0 ppm LEL - 0%
560.0	-10.00								
		S 3*	7-9-10-12	1.83		Hard, orange brown, some mottled red brown, silty CLAY, low plasticity, dry	cl	3.5	1350 HNU - 0 ppm LEL - 0%
555.0	-15.00								
		S 4	2-3-6-5	1.5		Firm, light brown, silty CLAY, medium plasticity, moist, light brown, silty sand, wet (at 18.0'-18.5')		1.0	1400 HNU - 0 ppm LEL - 0%
550.0	-20.00					22.0'			
		S 5*	3-6-6-7	1.5		Medium dense, light brown fine grained SAND, moist, light brown, silty CLAY, medium plasticity, moist to wet	sp/cl	NA	1405 HNU - 0 ppm LEL - 0%
545.0	-25.00					27.0'			
		S 6	9-10-11-14	1.33		Medium dense, light brown SAND and GRAVEL, sand medium to coarse grained with 30% pebble gravel, moist	sw	NA	1410 HNU - 0 ppm LEL - 0%
540.0	-30.00					32.0'			
		S 7*	6-7-7-9	1.42		Medium dense, medium brown SAND and GRAVEL, (sand 90%) sand fine to coarse grained, pebble gravel wet	gp	NA	1410 HNU - 0 ppm LEL - 0%
535.0	-35.00					37.0'			
		S 8	16-17-10-10	1.33		Dense, light brown SAND and pebble GRAVEL, sand fine to coarse grained, wet	sw	NA	1455 HNU - 0 ppm LEL - 0%
530.0	-40.00								

PROJECT NO: 313579 BORING NO: MW-6 PROJECT NAME: AEP GAVIN PLANT
DATE BEGAN: 7-20-93 DATE FINISHED: 7-20-93 FIELD ENGINEER: M. HARDNER
DRILLER: C. ROUSH/R. YATES N: 8277.67' E: 9491.54'
GROUND SURFACE ELEV.: 569.82' GWL DATE/TIME: NA GWL DEPTH: NA
DRILLING METHOD: 3.25" ID HOLLOW STEM AUGER EQUIPMENT: B-K 81 RIG
CONTRACTOR: AEP ENVIRONMENTAL CHECKED BY: S. HANNAH

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	SPT BLOWS PER (0.5')	REC (FT)	PROFILE	DESCRIPTION	U.S.C.S.	HNU READINGS (PPM)	REMARKS
	40.00					42.0'	SW		
525.0	45.00	S 9	5-26-29-42	1.33		Very dense, light brown, medium grained SAND, over dark brown gravel, medium to coarse grained sand and pebble (gravel 40%)	SP	NA	1510 HNU - 0 ppm LEL - 0%
520.0	50.00	S 10	26-15-15-19	1.75		Medium dense, light brown, medium grained SAND, over dark brown SAND and pebble gravel (30%), wet Gravel at 48.0'		NA	1525 HNU - 0 ppm LEL - 0%
						54.0'	SW	NA	
515.0	55.00	S 11	5-6-7-9	1.0		Medium dense, light brown medium grained SAND with a little pebble gravel over light greenish-gray, coarse grained sand and pebble gravel (40%) at 53.5', wet			1535 HNU - 0 ppm LEL - 0%
						59.0'	GW/SP	NA	
510.0	60.00	S 12	10-12-15-16	1.58		Medium dense, medium to coarse grained SAND and GRAVEL (60%), over light brown, medium grained sand, wet			1625 HNU - 0 ppm LEL - 0%
						64.0'			
505.0	65.00	S 13	8-12-15-19	1.67		Medium dense, light brown, fine to medium grained SAND, trace pebbles/cobbles, wet	SP	NA	1692 HNU - 0 ppm LEL - 0%
						69.0'			
500.0	70.00	S 14	24-28-27-26	1.67		Very dense, medium brown, GRAVEL, pebble to cobble size, trace coarse sand, wet	GW		1700 HNU - 0 ppm LEL - 0%
							NA		
495.0	75.00	S 15	50/2"	0.3		NO SAMPLE, AUGER REFUSAL AT 73.1' BOTTOM OF BORING AT 73.1'		NA	NOTE: (1) HNU READINGS ABOVE BACKGROUND OF 0.6 ppm (2) * = LAB SAMPLE (3) LOCATED 10.0' SE OF MW6 (BORING FOR SPLIT SPOON SAMPLES)
490.0	80.00								



NOTES:

1. RISER PIPE IS 2 IN. I.D. SCHEDULE 40 PVC PIPE, THREADED, FLUSH-JOINTED.
2. SCREEN IS 2 IN. I.D. SCHEDULE 40 PVC PIPE, CONTINUOUS SLOT SCREEN (0.010 IN. SLOT SIZE).
3. LOWER END OF SCREEN IS CAPPED.
4. DATE OF COMPLETION 08/24/93.

INSTALLATION DIAGRAM
MONITORING WELL MW-6

PREPARED FOR

AEP GAVIN PLANT
CHESHIRE, OHIO

INTERNATIONAL TECHNOLOGY CORPORATION

DRAWING NUMBER 313579-A6
CHECKED BY SBH 12/09/93
APPROVED BY CAP 12-2-93
NAM 2652P183
BY D. N

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Boston MA, 02108
Telephone: 617-646-7800

BORING BAC-08

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 6/30/2022
DATE COMPLETED: 6/30/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 70 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 594.650
PVC ELEVATION: 597.64
NORTHING: 339189.254
EASTING: 2075428.215

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/7/2022
DATE ENDED: 7/7/2022
DTW AT START: 55.9 feet bgs
DTW AT END: NM
VOLUME PURGED: 42 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Dark Brown, SANDY SILT, few subangular gravel, (0.5-1" diameter), organics, poorly sorted, damp.
						1.0
						Black, MEDIUM SAND, trace silt, poorly graded, loose, damp.
						2.0
		SC	60			Light Brown, SILT, and angular gravel, (0.5-2" diameter), poorly sorted, loose, damp.
5	590					5.0
		SC	56			Brown, SILT, trace clay, gray mottling, compact, wet.
10	585					10.0
						Black, MEDIUM SAND, trace silt, poorly graded, loose, wet.
						12.0
15	580	SC	67			Brown, CLAYEY SILT, gray to black mottling, compact, wet.
20	575					20.0

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Bentonite Grout (0 to 52 feet bgs)
- Well Riser (0 to 58 feet bgs) (2" SCH 40 PVC)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Sandy Silt
- Poorly-graded Sand
- Gravelly Silt
- Silt
- Silty Clay
- Low Plasticity Clay

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

ERM
1 Beacon Street, 5th Floor
Boston MA, 02108
Telephone: 617-646-7800

BORING BAC-08

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Brown, CLAYEY SILT, gray mottling, compact, wet. *(continued)*	
						21.0	
						Gray Brown, CLAYEY SILT, little brown mottling, increasing clay with depth, compact, wet.	
						23.0	
25	570	SC	120			Brown, SILT, trace clay, gray mottling decreasing with depth, compact, wet.	Bentonite Grout (0 to 52 feet bgs)
30	565					30.0	Well Riser (0 to 58 feet bgs) (2" SCH 40 PVC)
						Gray Brown, SILT, little clay, compact, wet.	
						32.0	
						Brown, CLAYEY SILT, lots of gray and red-brown mottling, compact, wet.	
35	560	SC	120			36.0	
						Brown, CLAY, some silt, little fine sand, low plasticity, wet.	
40	555					40.0	
						Brown, SANDY CLAY, medium plasticity, saturated.	
						41.0	
						Brown, SANDY CLAY, and silt, low plasticity, saturated.	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Sandy Silt
Poorly-graded Sand
Gravelly Silt
Silt
Silty Clay
Low Plasticity Clay

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

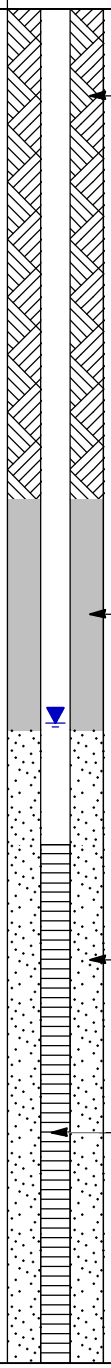
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1 Beacon Street, 5th Floor
Boston MA, 02108
Telephone: 617-646-7800

BORING BAC-08

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
45	550	SC	96			Brown, SANDY CLAY, and silt, low plasticity, saturated. *(continued)*
						46.0
						Brown, CLAYEY SILT, trace fine sand, compact, saturated.
						49.5
50	545					Brown, FINE SAND, some clay, cohesive, saturated. 50.0
						Brown, CLAYEY SAND, finer sand at 65 feet bgs, medium plasticity, saturated.
						54.0
55	540	SC	84			Brown, MEDIUM SAND, and subrounded gravel, (0.5-2" diameter), poorly sorted, loose, saturated.
60	535					60.0
						60.4 Gray, GRAVEL, subrounded (0.5-1.5" diameter), poorly sorted, loose, saturated.
						Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), dark gray sand at 63 feet bgs, poorly sorted, loose, satruated.
65	530	SC	95			

WELL DIAGRAM



CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Sandy Silt | Poorly-graded Sand | Gravelly Silt
Silt | Silty Clay | Low Plasticity Clay

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BORING BAC-08

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
70	525					Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), dark gray sand at 63 feet bgs, poorly sorted, loose, satruated. *(continued)*	Sump (2" SCH 40 PVC/2' long)
						70.0	
						Bottom of Boring @ 70.00 feet bgs	
75	520						
80	515						
85	510						
90	505						

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Sandy Silt
- Poorly-graded Sand
- Gravelly Silt
- Silt
- Silty Clay
- Low Plasticity Clay

ACRONYM LEGEND

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BORING BAC-09

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 6/16/2022
DATE COMPLETED: 6/16/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling & Wireline Rock Coring
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: RQD only applicable for bedrock wells

TOTAL DEPTH: 94 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 567.930
PVC ELEVATION: 570.53
NORTHING: 339222.733
EASTING: 2075281.613

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/7/2022
DATE ENDED: 7/7/2022
DTW AT START: 34.51 feet bgs
DTW AT END: NM
VOLUME PURGED: 25 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
		SC	24			Dark Brown, FINE TO MEDIUM SAND, and angular gravel, (0.5" diameter), little silt, poorly sorted, hard, dry.
						2.0
		SC	24			Black, MEDIUM SAND, trace silt, and subrounded Gravel (0.5-1" diameter), poorly sorted, loose, dry.
		SC	12			
5	563					5.0
						Black, MEDIUM SAND, little silt, and subrounded Gravel, (0.5-1" diameter), poorly sorted, hard, wet.
		SC	60			7.3
						Brown, CLAYEY SILT, some gray mottling, black medium to coarse sands at 9.7 feet bgs, hard, wet.
10	558					10.0
						Brown, SILTY CLAY, wet.
						12.0
						Brown, CLAYEY SILT, trace fine sand, gray mottling, increasing clay with depth, compact, wet.
15	553					

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Well Riser (0 to 81 feet bgs) (2" SCH 40 PVC)
- Bentonite Grout (0 to 75 feet bgs)

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravelly Sand
- Poorly-graded Sand
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Gravel
- Clayey Sand

ACRONYM LEGEND

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BORING BAC-09

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SC	98			Brown, CLAYEY SILT, trace fine sand, gray mottling, increasing clay with depth, compact, wet. *(continued)*	
20	548					20.0	Bentonite Grout (0 to 75 feet bgs)
						Brown, CLAY, trace fine sand, low plasticity, saturated.	
						21.0	
25	543	SC	98			Brown, SILTY CLAY, and fine sand, more sand with depth, trace medium sand towards 38 feet bgs, medium plasticity, saturated.	Well Riser (0 to 81 feet bgs) (2" SCH 40 PVC)
						28.5	
						Brown To Dark Brown, MEDIUM SAND, and rounded gravel, (0.5" diameter), poorly sorted, loose, saturated.	
30	538					30.0	
						Dark Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravelly Sand
- Poorly-graded Sand
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Gravel
- Clayey Sand

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BORING BAC-09

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						33.0	
35	533	SC	113			Dark Brown, COARSE SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
						35.8	
						Dark Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), some fine sand at 37 feet bgs, poorly sorted, loose, saturated.	
40	528					40.0	Bentonite Grout (0 to 75 feet bgs)
						Gray, GRAVEL, rounded (0.5-1" diameter), poorly sorted, loose, saturated.	
						40.7	
						Brown, COARSE SAND, some rounded gravel, (0.5" diameter), poorly sorted, loose, saturated.	
						41.3	
						Brown, FINE TO MEDIUM SAND, few subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
						42.0	
						Brown, MEDIUM SAND, some subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
45	523	SC	95				Well Riser (0 to 81 feet bgs) (2" SCH 40 PVC)
						47.0	
						Brown, FINE TO MEDIUM SAND, few subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.	
50	518						

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravelly Sand
- Poorly-graded Sand
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Gravel
- Clayey Sand

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BORING BAC-09

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Brown, FINE TO MEDIUM SAND, few subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated. *(continued)*	
						51.0	
						Brown, CLAYEY SAND, well sorted, loose, saturated.	
						52.5	
55	513	SC	112				
						Brown, FINE SAND, trace subrounded gravel, (0.5" diameter), trace clay, medium sand at 58 feet bgs, poorly sorted, loose, saturated.	
60	508					60.0	Bentonite Grout (0 to 75 feet bgs)
						Brown, FINE SAND, little coarse sand at 65 feet bgs, well sorted, loose, saturated.	
65	503					65.0	Well Riser (0 to 81 feet bgs) (2" SCH 40 PVC)
		SC	156			Black, FINE TO MEDIUM SAND, and subrounded gravel, (0.5-1.5" diameter), trace silt, poorly sorted, loose, saturated.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravelly Sand
- Poorly-graded Sand
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Gravel
- Clayey Sand

ACRONYM LEGEND

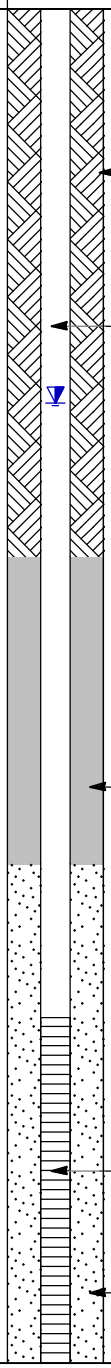
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BORING BAC-09

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						68.0
70	498					Blue Gray, CLAYSTONE, less competent with depth, brittle, damp.
						72.0
						Brown To Orange-Brown, CLAYSTONE, dry.
						73.0
75	493	RC	14.4	0		SILTSTONE, some gravel, brittle.
						76.0
80	488	RC	46.8	0		Gray To Brown, SILTSTONE, natural fractures at 76, 77.4, and 78.9 feet bgs. Slicken lines seen at 78.9 feet bgs. Rubble zone at 77.7 to 78.6 feet bgs. Fossil seen at 76 feet bgs.
						81.0
85	483	RC	57.6	5		Gray, SANDSTONE, lithified, micaceous. Natural fractures at 81.8, 83, 84.2 feet bgs. Rubble zone at 81-81.4 feet bgs. Shale layers at 82.6, 83.2, and 84.2-85 feet bgs. (Cow Run).



CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravelly Sand
- Poorly-graded Sand
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Gravel
- Clayey Sand

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BORING BAC-09

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						86.0	
90	478	RC	84	27		Gray, SANDSTONE, coarser grained, natural fractures at 87, 90.5, 91, and 87.8-89 feet bgs. Weathering at 87.7-90 feet bgs. Shale layer at 87.3 feet bgs (Cow Run).	Filter Sand (79 to 93 feet bgs) (Global #5) Well Screen (81 to 91 feet bgs) (2" SCH 40 PVC/ 0.01" slot) Sump (2" SCH 40 PVC/2' long) Bentonite Seal (93.5 to 94 feet bgs)
						94.0	
95	473					*Bottom of Boring @ 94.00 feet bgs*	
100	468						

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravelly Sand
- Poorly-graded Sand
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Gravel
- Clayey Sand

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BORING BAC-10

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 6/29/2022
DATE COMPLETED: 6/29/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 57 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 570.110
PVC ELEVATION: 572.35
NORTHING: 340079.422
EASTING: 2077071.633

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/7/2022
DATE ENDED: 7/7/2022
DTW AT START: 32.2 feet bgs
DTW AT END: NM
VOLUME PURGED: 20 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
		SC	60			Brown, SANDY SILT, some black medium sands, brittle, moist.
						1.2
						Brown, MEDIUM SAND, some angular gravel, (1-6" diameter), poorly sorted, loose, moist.
						3.0
5	565					Brown, SILTY CLAY, some fine sand, trace subangular gravel (0.5" diameter), poorly sorted, low plasticity, wet.
						5.0
		SC	56			Brown, SILTY CLAY, and sand, some gravel, poorly sorted, low plasticity, saturated.
						7.0
						Brown, SILT, some subrounded gravel, (0.5-1" diameter), some gray mottling, trace clay, poorly sorted, saturated.
10	560					10.0
						Brown, SANDY CLAY, with subangular gravel, (0.5-1" diameter), medium sands, some silt, poorly sorted, low plasticity, saturated.
						11.5
15	555	SC	114			Brown, SILT, little clay, red brown to gray mottling, compact, moist.
20	550					20.0

WELL DIAGRAM
- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Bentonite Grout (0 to 39 feet bgs)
- Well Riser (0 to 45 feet bgs) (2" SCH 40 PVC)

CORING TYPE
- Sonic Drilling (SC)

GRAPHIC LOG LEGEND
- Sandy Silt
- Poorly-graded Sand
- Silty Clay
- Silt
- Low Plasticity Sandy Clay
- Clayey Sand

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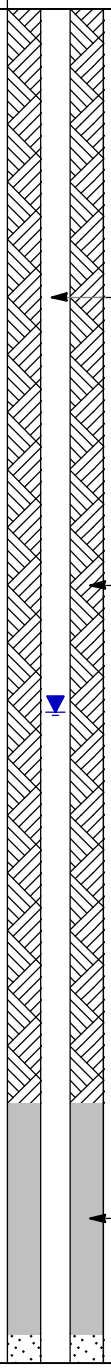
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BORING BAC-10

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Brown, CLAYEY SILT, with fine sand, medium plasticity, saturated. *(continued)*
						22.8
25	545	SC	106			Brown, CLAYEY SAND, some silt, medium plasticity, saturated.
						29.0
30	540					Brown, FINE SAND, with clay, some varving, well sorted, cohesive, saturated.
						30.0
						Brown, FINE SAND, with clayey silt, black organics at 32 and 33 feet bgs, brown to orange brown mottling at 33.5 feet bgs, well sorted, low plasticity, saturated.
						33.5
						33.9 Orange, MEDIUM SAND, some clay, wet.
						34.5 Gray, CLAY, with fine sand, trace subangular gravel (0.5" diameter), cohesive, wet.
35	535	SC	120			35.0 Gray Brown, CLAYEY SILT, with fine sand, low plasticity, wet.
						Brown, MEDIUM SAND, and rounded gravel, (0.5-1" diamater), little clay at 35 feet bgs, poorly sorted, saturated.
40	530					40.0
						40.4 GRAVEL, subrounded (0.5-1.5" diamater), poorly sorted, loose, saturated.
						Orange Brown, COARSE TO MEDIUM SAND, and gravel, (0.5-2" diameter), larger gravel at 43 feet bgs (4" diameter), poorly sorted, saturated.
						43.0
						Orange Brown, FINE TO MEDIUM SAND, and rounded gravel, (0.5" diameter), some

WELL DIAGRAM



CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Sandy Silt
- Poorly-graded Sand
- Silty Clay
- Silt
- Low Plasticity Sandy Clay
- Clayey Sand

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BORING BAC-10

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45	525	SC	106			larger subanagaulr gravel (6" diameter) at 44 feet bgs, poorly sorted, saturated. Orange Brown, FINE TO MEDIUM SAND, and rounded gravel, (0.5" diameter), some larger subanagaulr gravel (6" diameter) at 44 feet bgs, poorly sorted, saturated. *(continued)*	Filter Sand (43 to 57 feet bgs) (Global #5)
						44.5	
						Gray Brown, GRAVEL, with subrounded coarse sand, poorly sorted, saturated.	
						47.0	
50	520						Well Screen (45 to 55 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
		SC	84			Gray Brown, FINE TO MEDIUM SAND, some subrounded gravel, (0.5-1" diameter), poorly sorted, saturated.	
55	515						Sump (2" SCH 40 PVC/2' long)
						57.0	
						Bottom of Boring @ 57.00 feet bgs	
60	510						
65	505						

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Sandy Silt
- Poorly-graded Sand
- Silty Clay
- Silt
- Low Plasticity Sandy Clay
- Clayey Sand

ACRONYM LEGEND

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BORING BAC-11

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 6/15/2022
DATE COMPLETED: 6/15/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling & Wireline Rock Coring
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 135 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 600.180
PVC ELEVATION: 602.99
NORTHING: 339940.141
EASTING: 2077043.833

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/7/2022
DATE ENDED: 7/7/2022
DTW AT START: 62.04 feet bgs
DTW AT END: NM
VOLUME PURGED: 48 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
5	595	SC	47			Dark Brown, SILT, orange and black mottling, hard, moist.
						5.0
10	590	SC	57			Dark Brown, SILT, some subrounded gravel, (0.5" diameter), poorly sorted, hard, wet.
						10.0
						Brown, CLAYEY GRAVEL, little silt, subangular, (0.5-1" diameter), poorly sorted, loose, wet.
						11.3
15	585	SC	90			Brown, SILT, some red brown mottling, black medium sands at 19.5 feet bgs, hard, wet.
20	580					

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Well Riser (0 to 123 feet bgs) (2" SCH 40 PVC)
- Bentonite Grout (0 to 117 feet bgs)

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Poorly-graded Gravel with Clay
- Silty Clay
- Sandy Silt
- Poorly-graded Sand with Clay
- Poorly-graded Gravelly Sand

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BORING BAC-11

Client: Gavin Power, LLC
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Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Brown, SILT, some red brown mottling, black medium sands at 19.5 feet bgs, hard, wet. *(continued)*	
						24.0	
25	575	SC	103			24.7 Dark Gray, SILT, organics (root and plant material), wet.	
						Brown, SILT, little clay, some gray mottling, wet.	
30	570					30.0	Well Riser (0 to 123 feet bgs) (2" SCH 40 PVC)
35	565	SC	94			Brown, SILT, little clay, no mottling after 37 feet bgs, root material at 36.8 feet bgs, wet.	
40	560					40.0	Bentonite Grout (0 to 117 feet bgs)
						Brown, SILT, little clay, more clay with depth, wet.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Poorly-graded Gravel with Clay
- Silty Clay
- Sandy Silt
- Poorly-graded Sand with Clay
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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Telephone: 617-646-7800

BORING BAC-11

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45	555	SC	120			Brown, SILT, little clay, more clay with depth, wet. *(continued)*	
						45.0	Well Riser (0 to 123 feet bgs) (2" SCH 40 PVC)
						Brown, SILTY CLAY, some fine sand, low plasticity, wet.	
						47.3	
						Brown, SANDY SILT, and clay, loose, wet.	
50	550					50.0	
55	545	SC	111			Brown, SANDY CLAY, trace silt, medium plasticity, saturated.	Bentonite Grout (0 to 117 feet bgs)
60	540					62.5	
65	535	SC	94			Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), some gravel (4" diameter), poorly sorted, loose, saturated.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Poorly-graded Gravel with Clay
- Silty Clay
- Sandy Silt
- Poorly-graded Sand with Clay
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-11

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
70	530					Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), some gravel (4" diameter), poorly sorted, loose, saturated. *(continued)*	Bentonite Grout (0 to 117 feet bgs)
						72.0	
75	525	SC	80			Brown, COARSE SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	Well Riser (0 to 123 feet bgs) (2" SCH 40 PVC)
						78.0	
						Brown, MEDIUM TO COARSE SAND, little subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.	
						78.5	
						Brown, FINE SAND, well sorted, loose, saturated.	
80	520					80.0	
						Brown, FINE TO MEDIUM SAND, little subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
85	515	SC	106				
						88.0	
						Brown, GRAVEL, and medium sand, subrounded, (0.5-1.5" diameter), poorly sorted, loose, saturated.	
90	510					90.0	
						Brown, GRAVEL, little medium sand, poorly sorted, loose, saturated.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Poorly-graded Gravel with Clay
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Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						91.0 Brown, GRAVEL, little medium sand, poorly sorted, loose, saturated. *(continued)*	
						91.5 GRAVEL, (0.5-2" diameter), cobble at 91.5 feet bgs (5" diameter), loose, saturated.	
						Brown, MEDIUM SAND, and gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
95	505	SC	101				
						96.0	
						96.4 GRAVEL, rounded (0.5" diameter), poorly sorted, loose, saturated.	
						Brown, MEDIUM SAND, some gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
100	500					100.0	Well Riser (0 to 123 feet bgs) (2" SCH 40 PVC)
						Brown, FINE TO MEDIUM SAND, trace subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
						101.5	
						Brown, GRAVEL, and medium sand, subrounded, (0.5-1.5" diameter), poorly sorted, loose, wet.	
						102.3	
						Grayish Blue, CLAYSTONE, trace brown mottling, soft, moist.	
						104.0	
105	495	SC	107				Bentonite Grout (0 to 117 feet bgs)
						Gray, CLAYSTONE, brittle, dry.	
						108.0	
						Gray, CLAYSTONE, pulverized, dry.	
110	490					110.0	
		RC	6	0		Blue Gray, SILTSTONE, highly fractured and weathered , rubble zone at 111-112.7 feet bgs.	
						112.7	
		RC	40.8	1.5		Red Brown, SILTSTONE, brittle, natural fracture at 112.9 feet bgs, rubble zone at 113-116 feet bgs.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Poorly-graded Gravel with Clay
- Silty Clay
- Sandy Silt
- Poorly-graded Sand with Clay
- Poorly-graded Gravelly Sand

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Client: Gavin Power, LLC
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Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
115	485					Red Brown, SILTSTONE, brittle, natural fracture at 112.9 feet bgs, rubble zone at 113-116 feet bgs. *(continued)*
						116.0
		RC	60	32		Red Brown, SILTSTONE, brittle, purple, orange and gray coloration within the red brown matrix, natural fractures at 117.3, 117.5, 117.7, 117.9 feet bgs.
120	480					121.0
		RC	60	24		Gray, LIMESTONE, competant.
						123.0
125	475					Red Brown, SILTSTONE, brittle, purple, orange and gray coloration within the red brown matrix, natural fractures at 121.5, 122.7-123, 123-124.4, 124.4-124.6, 124.9-125.2 feet bgs.
						126.0
		RC	52.8	0		Gray, SANDSTONE, with shale, medium to coarse grained sandstone, natural fractures at 126.7, 126.8, 127, 127.7, 127.9, 130.4, rubble zone with shaley layers at 128.6-129.4 feet bgs (Cow Run).
130	470					
		RC	40	0		
135	465					135.0
						Bottom of Boring @ 135.00 feet bgs

WELL DIAGRAM

- Bentonite Grout (0 to 117 feet bgs)
- Bentonite Seal (117 to 121 feet bgs)
- Filter Sand (121 to 135 feet bgs) (Global #5)
- Well Screen (123 to 133 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
- Sump (2" SCH 40 PVC/2' long)

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Poorly-graded Gravel with Clay
- Silty Clay
- Sandy Silt
- Poorly-graded Sand with Clay
- Poorly-graded Gravelly Sand

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BORING BAC-12

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 7/8/2022
DATE COMPLETED: 7/8/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: RQD only applicable for bedrock wells

TOTAL DEPTH: 54 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 564.210
PVC ELEVATION: 567.01
NORTHING: 339189.076
EASTING: 2077674.445

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 8/12/2022
DATE ENDED: 8/12/2022
DTW AT START: 27.44 feet bgs
DTW AT END: NM
VOLUME PURGED: 17 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						0.5 Brown, MEDIUM SAND, some silt, organics (grass, roots), poorly sorted, loose, damp.
		SC	26			Dark Brown, SILT, some red, orange, and gray mottling, little black staining, brittle, damp.
5	559					5.0
						Gray, CLAYEY SILT, orange brown mottling, compact, moist.
		SC	60			7.0
						Brown, CLAYEY SILT, orange mottling at 7-8 feet bgs, no mottling after 8 feet bgs, compact, moist.
10	554					10.0
						Brown, SILT, trace clay, compact, wet.
15	549	SC	102			15.0
						Brown, CLAY, little silt, trace fine sand, medium plasticity, wet.
20	544					20.0

WELL DIAGRAM: Concrete Pad and 6" Aluminum Stickup Protective Casing; Bentonite Grout (0 to 36 feet bgs); Well Riser (0 to 42 feet bgs) (2" SCH 40 PVC)

CORING TYPE
Sonic Drilling (SC)

GRAPHIC LOG LEGEND
Poorly-graded Sand; Silt; Silty Clay; Low Plasticity Clay; High Plasticity Clay; Low Plasticity Sandy Clay

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BORING BAC-12

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Brown, CLAY, little silt, trace fine sand, high plasticity, wet. *(continued)*
25	539	SC	120			25.0
						Gray, CLAY, trace silt, medium plasticity, wet.
						29.0
						Gray, CLAY, trace silt, trace fine sand, low plasticity, wet.
30	534					30.0
35	529	SC	120			Gray, SILTY CLAY, increasing silt with depth, less plasticity with depth, medium plasticity, saturated.
						39.5
40	524					40.0 SILT, some subrounded gravel, (0.5" diameter), dry tan silt layer then a wet silt and gravel layer, poorly sorted, compact, saturated.
						Gray, CLAY, and sand, low plasticity, saturated.
						41.0
						Light Brown, FINE SAND, with subrounded gravel, (0.5-1.5" diameter), poorly sorted, loose, saturated.
						42.0
						Brown To Orange-Brown, MEDIUM TO COARSE SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.
						43.5

WELL DIAGRAM

- Well Riser (0 to 42 feet bgs) (2" SCH 40 PVC)
- Bentonite Grout (0 to 36 feet bgs)
- Bentonite Seal (36 to 40 feet bgs)
- Filter Sand (40 to 54 feet bgs) (Global #5)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Silt
- Silty Clay
- Low Plasticity Clay
- High Plasticity Clay
- Low Plasticity Sandy Clay

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BORING BAC-12

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45	519	SC	100			44.0 Brown, FINE SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated. *(continued)* 44.5 GRAVEL, subrounded (0.5-1" diameter), poorly sorted, loose, saturated.	Filter Sand (40 to 54 feet bgs) (Global #5) Well Screen (42 to 52 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
50	514					Brown, MEDIUM SAND, and subrounded gravel, (0.5-2" diameter), some fine sand at 50 feet bgs, poorly sorted, loose, saturated. 54.0	Sump (2" SCH 40 PVC/2' long)
55	509					*Bottom of Boring @ 54.00 feet bgs*	
60	504						
65	499						

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Sand; Silt; Silty Clay; Low Plasticity Clay; High Plasticity Clay; Low Plasticity Sandy Clay

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BORING BAC-13

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

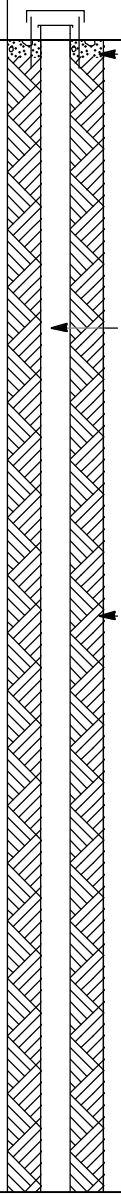
DATE STARTED: 6/14/2022
DATE COMPLETED: 6/14/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling & Wireline Rock Coring
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: RQD only applicable for bedrock wells

TOTAL DEPTH: 118 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 592.300
PVC ELEVATION: 584.71
NORTHING: 339262.324
EASTING: 2077481.342

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/6/2022
DATE ENDED: 7/7/2022
DTW AT START: 34.4 feet bgs
DTW AT END: NM
VOLUME PURGED: 40.92 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
5	587	SC	48			Brown, MEDIUM SAND, some silt, organics (grass, roots), poorly sorted, loose, damp.
10	582	SC	60			10.0
						Dark Brown, SILT, and gravel, some black medium sands with depth, decreasing gravel with depth, brittle, damp.
						12.5
15	577	SC	120			Red Brown, SILT, silt breaks in disks, loose, damp.
						17.0
						Brown, SANDY SILT, some clay, fine sands, loose, wet.
						18.5
20	572					Brown, SANDY SILT, and clay, fine sands, loose, wet.
						20.0

WELL DIAGRAM



CORING TYPE
- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND
- Poorly-graded Sand
- Silt
- Sandy Silt
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay

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BORING BAC-13

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Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25	567	SC	120			Brown, CLAYEY SILT, increasing clay with depth, compact, wet. *(continued)*	
30	562					30.0	
						30.5 Brown, CLAY, little silt, low plasticity, wet.	Well Riser (0 to 106 feet bgs) (2" SCH 40 PVC)
						Brown, SANDY CLAY, medium plasticity, saturated.	
35	557	SC	120			35.0	
						Brown, FINE SAND, interbedded clayey silt, some organic matter, soft, saturated.	
40	552					40.0	Bentonite Grout (0 to 100 feet bgs)
						Brown, FINE SAND, interbedded clayey silt, orange sands, more clay, increasing organics, soft, saturated.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Silt
- Sandy Silt
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay

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Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						44.0	
45	547	SC	120			Gray, SILT, some clay, organic matter, wet.	Well Riser (0 to 106 feet bgs) (2" SCH 40 PVC)
						47.0	
50	542					Orange Brown, MEDIUM SAND, trace rounded gravel, (0.5-1" diameter), poorly sorted, loose, wet.	
						53.0	
						Light Brown, MEDIUM SAND, some rounded gravel, (0.5-1" diameter), poorly sorted, loose, wet.	
						54.0	
55	537	SC	97			MEDIUM TO COARSE SAND, and rounded gravel, (0.5-1.5" diameter), color variation (about 4 inches each) from red brown, light brown, medium brown red, dark gray, poorly sorted, loose, wet.	Bentonite Grout (0 to 100 feet bgs)
						56.0	
60	532					Light Brown To Brown, MEDIUM SAND, some rounded gravel, (0.5" diameter), trace clay, less gravel with depth, poorly sorted, loose, wet.	
						64.0	
65	527	SC	98			Brown, MEDIUM TO COARSE SAND, and rounded gravel, (0.5" diameter), few gravel (3" diameter), poorly sorted, loose, wet.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Silt
- Sandy Silt
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay

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BORING BAC-13

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Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						68.0 Brown, MEDIUM TO COARSE SAND, and rounded gravel, (0.5" diameter), few gravel (3" diameter), poorly sorted, loose, wet. *(continued)*	
70	522					70.0 Brown, MEDIUM SAND, some subrounded gravel, (2-2.5" diameter), poorly sorted, loose, wet.	Bentonite Grout (0 to 100 feet bgs)
						Brown, GRAVELLY SAND, subrounded to subangular (0.5-2" diameter), medium to fine sands, finer with depth, poorly sorted, loose, wet.	
						74.0	
75	517	SC	92			74.7 Black, SILTY GRAVEL, trace medium sand, organic-like odor, angular gravel, poorly sorted, loose, wet.	Well Riser (0 to 106 feet bgs) (2" SCH 40 PVC)
						Brown, MEDIUM TO COARSE SAND, and subrounded gravel, (0.5-2" diameter), some larger gravel (5" diameter), poorly sorted, loose, wet.	
						76.5 Brown, GRAVEL, rounded (0.5-2" diameter), poorly sorted, loose, wet.	
						78.0 Brown, MEDIUM SAND, some subrounded gravel, (0.5-1" diameter), trace silt, poorly sorted, loose, wet.	
80	512					80.0	
						80.5 Brown, GRAVEL, rounded (0.5-2" diameter), poorly sorted, loose, wet.	
						81.5 Brown, COARSE SAND, and rounded gravel, (0.5-1" diameter), poorly sorted, loose, wet.	
						82.0 Brown, FINE TO MEDIUM SAND, trace rounded gravel, (0.5-1" diameter), poorly sorted, loose, wet.	
		SC	60			82.5 Gray, CLAYSTONE, weathered, dry.	
						Red Brown, CLAYSTONE, weathered, dry.	
						83.5	
85	507					Gray, CLAYSTONE, pulverized, dry.	
						85.0	
		RC	6	0		Gray, GRAVEL, gravel stuck in drill bit.	
						86.0	
		RC	26.4	0		Blue Gray, SILTSTONE, thinly layered, brittle, numerous mechanical fractures, pyrite at 86.2 feet bgs.	
90	502						

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Silt
- Sandy Silt
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay

ACRONYM LEGEND

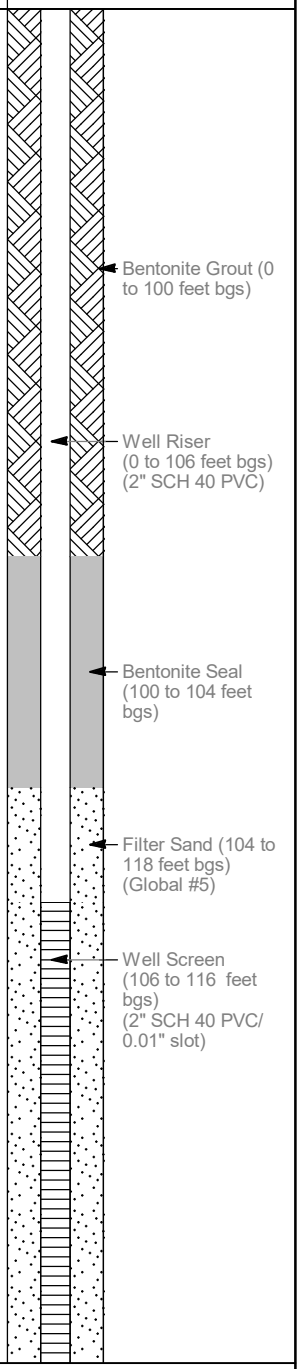
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BORING BAC-13

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						91.0
		RC	0	0		NO RECOVERY.
95	497					
						96.0
		RC	42	1.5		Red Brown, SILTSTONE, orange brown, and olive green coloration throughout, natural fractures at 98.3, 98.5, 99.0 feet bgs.
100	492					
						101.0
		RC	60	0		Gray To Blue Gray, SANDSTONE, trace mica, natural fracture with healing at 103.4 and 103.5 feet bgs, rubble zone at 103.5-105.5 feet bgs (Cow Run).
105	487					
						106.0
		RC	52.8	0		Gray To Blue Gray, SANDSTONE, brachiopod at 106 feet bgs, rubble zone at 106.3 feet bgs, natural fractures at 107, 110.2, 110.5 feet bgs (Cow Run).
110	482					
						111.0
						Gray To Blue Gray, SANDSTONE, natural weathered fracture at 111.2, 113.6 feet bgs, natural fracture with slicken lines at 112.9, 113 feet bgs, sincline shale layering at 114 feet bgs, shale layer at 114.5 feet bgs (Cow Run).



CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Silt
- Sandy Silt
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay

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BORING BAC-13

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
115	477	RC	54	0		Gray To Blue Gray, SANDSTONE, natural weathered fracture at 111.2, 113.6 feet bgs, natural fracture with slicken lines at 112.9, 113 feet bgs, sincline shale layering at 114 feet bgs, shale layer at 114.5 feet bgs (Cow Run). *(continued)*	Well Screen (106 to 116 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
						118.0	Sump (2" SCH 40 PVC/2' long)
						Bottom of Boring @ 118.00 feet bgs	
120	472						
125	467						
130	462						
135	457						

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Silt
- Sandy Silt
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-14

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 7/8/2022
DATE COMPLETED: 7/8/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 64 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 573.740
PVC ELEVATION: 576.22
NORTHING: 338465.312
EASTING: 2077446.344

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 8/12/2022
DATE ENDED: 8/12/2022
DTW AT START: 36.85 feet bgs
DTW AT END: NM
VOLUME PURGED: 80 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Gray, GRAVEL, rip rap from newly installed road.
						1.0
5	569	SC	24			Brown, CLAYEY SILT, and subrounded to subangular gravel, (0.5-1.5" diameter), poorly sorted, compact, wet.
10	564					10.0
						Gray, CLAYEY SILT, few subrounded gravel, (0.5" diameter), black and brown mottling, poorly sorted, compact, wet.
15	559					15.0

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Bentonite Grout (0 to 46 feet bgs)
- Well Riser (0 to 52 feet bgs) (2" SCH 40 PVC)

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel; Silty Clay; Low Plasticity Clay; Poorly-graded Sand with Clay; Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-14

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SC	89			Gray Brown, CLAYEY SILT, little black staining at 18 feet bgs, more brown than gray with depth, compact, wet. *(continued)*	
20	554					20.0	Well Riser (0 to 52 feet bgs) (2" SCH 40 PVC)
25	549	SC	120			Brown, CLAYEY SILT, increasing clay content with depth, increasing moisture with depth, compact, wet.	Bentonite Grout (0 to 46 feet bgs)
30	544					30.0	
						Brown, CLAY, with silt, medium plasticity, wet.	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel
Silty Clay
Low Plasticity Clay
Poorly-graded Sand with Clay
Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-14

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
35	539	SC	98			Brown, CLAY, with silt, medium plasticity, wet. *(continued)*
						37.0
						Brown, CLAY, trace fine sand, medium plasticity, saturated.
						39.0
						Brown, SANDY CLAY, medium plasticity, saturated.
40	534					40.0
						Gray Brown, CLAY, some silt, low plasticity, saturated.
						43.0
45	529	SC	99			Gray, SILTY CLAY, trace fine sand, low plasticity, saturated.
						49.0
						Gray, FINE SAND, and clay, cohesive, saturated.
50	524					50.0

WELL DIAGRAM

- Bentonite Grout (0 to 46 feet bgs)
- Well Riser (0 to 52 feet bgs) (2" SCH 40 PVC)
- Bentonite Seal (46 to 50 feet bgs)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravel
- Silty Clay
- Low Plasticity Clay
- Poorly-graded Sand with Clay
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-14

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Brown, MEDIUM SAND, and subrounded gravel, (1-1.5" diameter), poorly sorted, loose, saturated. *(continued)*	Filter Sand (50 to 64 feet bgs) (Global #5)
52.0							
55	519	SC	106			Orange Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	Well Screen (52 to 62 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
60	514						Sump (2" SCH 40 PVC/2' long)
64.0							
65	509					*Bottom of Boring @ 64.00 feet bgs*	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel
Silty Clay
Low Plasticity Clay
Poorly-graded Sand with Clay
Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-15

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 7/7/2022
DATE COMPLETED: 7/7/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 40 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 569.060
PVC ELEVATION: 571.50
NORTHING: 338363.707
EASTING: 2076990.939

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/8/2022
DATE ENDED: 7/8/2022
DTW AT START: 6.33 feet bgs
DTW AT END: NM
VOLUME PURGED: 6 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
0.5						Gray, GRAVEL, gravel from newly installed road.
5	564	SC	76			
10	559					Brown, CLAYEY SILT, trace black medium to coarse sands at 8 feet bgs, compact, wet.
15	554	SC	120			
20	549					20.0

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Bentonite Grout (0 to 17 feet bgs)
- Well Riser (0 to 23 feet bgs) (2" SCH 40 PVC)
- Bentonite Seal (17 to 21 feet bgs)

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel
Silty Clay
Low Plasticity Sandy Clay
Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-15

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25	544	SC	36			Brown, CLAYEY SILT, and fine sand, cohesive, saturated. *(continued)*	Filter Sand (21 to 35 feet bgs) (Global #5)
30	539						Well Screen (23 to 33 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
33.0						Gray, CLAY, and fine sand, cohesive, saturated.	Sump (2" SCH 40 PVC/2' long)
35	534	SC	120				
36.0						Orange Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	Borehole Collapse
40	529						
40.0						*Bottom of Boring @ 40.00 feet bgs*	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel
Silty Clay
Low Plasticity Sandy Clay
Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-16

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 7/6/2022
DATE COMPLETED: 7/7/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 57 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 560.780
PVC ELEVATION: 563.39
NORTHING: 338410.228
EASTING: 2076051.726

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/8/2022
DATE ENDED: 7/8/2022
DTW AT START: 22.15 feet bgs
DTW AT END: NM
VOLUME PURGED: 65 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Gray, GRAVEL, loose, dry.
						1.0
5	556	SC	64			Brown, CLAYEY SILT, lots of gray mottling, some black medium to coarse sand, compact, wet.
10	551					10.0
						Brown, CLAYEY SILT, some angular gravel, (0.5-1" diameter), black medium to coarse sand from 10-13 feet bgs, poorly sorted, compact, wet.
						13.0
						Brown, SILTY CLAY, gray mottling, low plasticity, wet.
15	546	SC	116			15.0
						Brown, CLAY, trace fine sand, medium plasticity, wet.
						18.5
						Brown, SANDY CLAY, medium plasticity, wet.
20	541					20.0

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Bentonite Grout (0 to 39 feet bgs)
- Well Riser (0 to 45 feet bgs) (2" SCH 40 PVC)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravel
- Silty Clay
- Low Plasticity Clay
- Low Plasticity Sandy Clay
- Silt
- Well-graded Sand

ACRONYM LEGEND

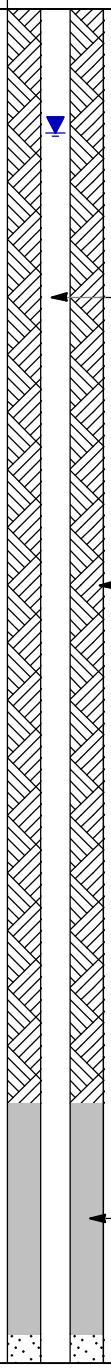
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DTW = depth to water
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NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-16

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						20.5 Brown, SANDY CLAY, medium plasticity, wet. *(continued)*
						Gray Brown, CLAYEY SILT, some fine sand, sand lenses, low plasticity, wet.
						22.5
						23.0 Gray Brown, FINE SAND, with clay, medium plasticity, saturated.
						Gray, CLAY, little silt, some orange brown sand lenses, medium plasticity, saturated.
25	536	SC	120			25.0
						Gray, FINE SAND, with clay, medium plasticity, saturated.
						27.0
						Gray, SILT, some clay, white flakes, compact, saturated.
						29.0
30	531					Gray, CLAY, medium plasticity, saturated.
						31.5
						Orange, FINE SAND, cohesive, saturated.
						32.5
						33.0 Gray, SILT, and fine sand, poorly sorted, compact, saturated.
						33.5 Orange, FINE SAND, saturated.
35	526	SC	104			Orange Brown, MEDIUM SAND, and subrounded gravel, (0.5-1.5" diameter), some subangular gravel (4" diameter) at 36 feet bgs, poorly sorted, loose, saturated.
						36.0
						Brown, MEDIUM SAND, trace subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.
						37.0
						Brown, FINE TO MEDIUM SAND, trace subrounded gravel, (0.5" diameter), some orange sands at 37-38 feet bgs, finer sands with depth, poorly sorted, loose, saturated.
40	521					40.0
						Brown, FINE TO MEDIUM SAND, trace subrounded gravel, (0.5" diameter), increasing gravel with depth, poorly sorted, loose, saturated.



CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel
Silty Clay
Low Plasticity Clay
Low Plasticity Sandy Clay
Silt
Well-graded Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-16

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45	516	SC	112			Brown, FINE TO MEDIUM SAND, trace subrounded gravel, (0.5" diameter), increasing gravel with depth, poorly sorted, loose, saturated. *(continued)*	Filter Sand (43 to 57 feet bgs) (Global #5)
50	511						Well Screen (45 to 55 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
55	506						Sump (2" SCH 40 PVC/2' long)
						57.0	
						Bottom of Boring @ 57.00 feet bgs	
60	501						
65	496						

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Poorly-graded Gravel
- Silty Clay
- Low Plasticity Clay
- Low Plasticity Sandy Clay
- Silt
- Well-graded Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-17

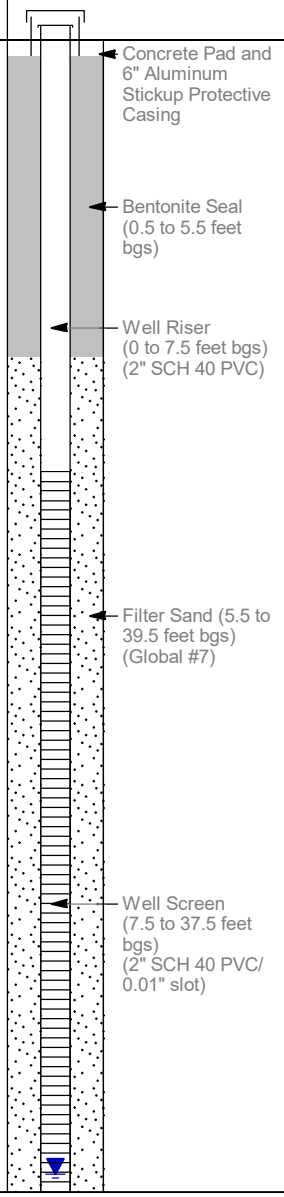
Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 7/7/2022
DATE COMPLETED: 7/7/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: RQD only applicable for bedrock wells

TOTAL DEPTH: 39.5 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 560.720
PVC ELEVATION: 563.49
NORTHING: 338411.758
EASTING: 2076039.626

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/8/2022
DATE ENDED: 7/8/2022
DTW AT START: 19.7 feet bgs
DTW AT END: NM
VOLUME PURGED: 65 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Gray, GRAVEL, loose, dry.
						1.0
5	556	SC	64			Brown, CLAYEY SILT, lots of gray mottling, some black medium sand, compact, wet.
10	551					10.0
						Brown, CLAYEY SILT, some angular gravel, (0.5-1" diameter), black medium to coarse sand from 10-13 feet bgs, poorly sorted, compact, wet.
						13.0
						Brown, SILTY CLAY, gray mottling, low plasticity, wet.
15	546	SC	116			15.0
						Brown, CLAY, trace fine sand, medium plasticity, wet.
						18.5
						Brown, SANDY CLAY, medium plasticity, wet.
20	541					20.0



CORING TYPE
Sonic Drilling (SC)

GRAPHIC LOG LEGEND
Poorly-graded Gravel; Silty Clay; Low Plasticity Clay; Poorly-graded Sand with Clay; Silt; Poorly-graded Sand

ACRONYM LEGEND
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bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-17

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						20.5 Brown, SANDY CLAY, medium plasticity, wet. *(continued)*	
						Gray Brown, CLAYEY SILT, some fine sand, sand lenses, low plasticity, wet.	
						22.5	
						23.0 Gray Brown, FINE SAND, with clay, medium plasticity, saturated.	Well Screen (7.5 to 37.5 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
						Gray, CLAY, little silt, some orange brown sand lenses, medium plasticity, saturated.	
25	536	SC	120			25.0	
						Gray, FINE SAND, with clay, medium plasticity, saturated.	
						27.0	
						Gray, SILT, some clay, white flakes, compact, saturated.	
						29.0	
30	531					Gray, CLAY, medium plasticity, saturated.	
						31.5	
						Orange, FINE SAND, cohesive, saturated.	
						32.5	
						33.0 Gray, SILT, and fine sand, poorly sorted, compact, saturated.	
						33.5 Orange, FINE SAND, saturated.	
						Orange Brown, MEDIUM SAND, and subrounded gravel, (0.5-1.5" diameter), some subangular gravel (4" diameter) at 36 feet bgs, poorly sorted, loose, saturated.	Filter Sand (5.5 to 39.5 feet bgs) (Global #7)
35	526	SC	104			36.0	
						Brown, MEDIUM SAND, trace subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.	
						37.0	
						Brown, FINE TO MEDIUM SAND, trace subrounded gravel, (0.5" diameter), some orange sands at 37-38 feet bgs, finer sands with depth, poorly sorted, loose, saturated.	Sump (2" SCH 40 PVC/2' long)
						39.5	
40	521					*Bottom of Boring @ 39.50 feet bgs*	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel; Silty Clay; Low Plasticity Clay; Poorly-graded Sand with Clay; Silt; Poorly-graded Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-18

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

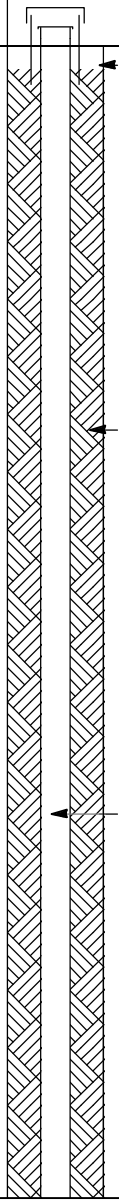
DATE STARTED: 7/7/2022
DATE COMPLETED: 7/7/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 90 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 599.320
PVC ELEVATION: 601.95
NORTHING: 338525.719
EASTING: 2076056.126

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/5/2022
DATE ENDED: 7/5/2022
DTW AT START: 58.25 feet bgs
DTW AT END: NM
VOLUME PURGED: 25 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
5	594	SC	60			Brown, SILT, trace clay, trace black medium sand, hard, wet.
10	589	SC	48			10.0
15	584					Brown, SILT, trace clay, trace black medium sand until 18 feet bgs, some gray mottling, hard, wet.

WELL DIAGRAM



CORING TYPE
- Sonic Drilling (SC)

GRAPHIC LOG LEGEND
- Silt
- Low Plasticity Clay
- Low Plasticity Sandy Clay
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND
amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-18

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SC	100			Brown, SILT, trace clay, trace black medium sand until 18 feet bgs, some gray mottling, hard, wet. *(continued)*	
20	579					20.0	Bentonite Grout (0 to 69 feet bgs)
25	574	SC	120			Brown, SILT, trace clay, some black medium sand, some gray mottling, hard, wet.	Well Riser (0 to 75 feet bgs) (2" SCH 40 PVC)
30	569					30.0	
						Brown, SILT, trace clay, some gray mottling, hard, wet.	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Silt
Low Plasticity Clay
Low Plasticity Sandy Clay
Sandy Silt
Poorly-graded Sand
Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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Boston MA, 02108
Telephone: 617-646-7800

BORING BAC-18

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Brown, SILT, trace clay, some gray mottling, hard, wet. *(continued)*	
35	564	SC	108			35.0	Bentonite Grout (0 to 69 feet bgs)
						Gray, SILT, brown mottling, hard, wet.	
						37.5	
						Brown, SILT, hard, wet.	
40	559					40.0	
						Gray, SILT, little clay, some brown mottling, clay content increasing with depth, hard, wet.	
45	554	SC	120				Well Riser (0 to 75 feet bgs) (2" SCH 40 PVC)
						48.0	
						Brown, CLAY, some silt, trace fine sand, low plasticity, wet.	
50	549					50.0	

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Low Plasticity Sandy Clay
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-18

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
55	544	SC	98			Brown, SANDY CLAY, some silt, sand content increases with depth to a clayey sand, medium plasticity, saturated. *(continued)*	
						58.7	
						Gray, SANDY CLAY, with silt, fine sands, some orange sands, low plasticity, saturated.	
60	539					60.0	Bentonite Grout (0 to 69 feet bgs)
						Gray Brown, SANDY CLAY, some silt, low plasticity, saturated.	
						64.5	
65	534	SC	97			Gray, SANDY SILT, little clay, some light gray mottling, compact, saturated.	Well Riser (0 to 75 feet bgs) (2" SCH 40 PVC)

CORING TYPE

Sonic Drilling

GRAPHIC LOG LEGEND

Silt
Low Plasticity Clay
Low Plasticity Sandy Clay
Sandy Silt
Poorly-graded Sand
Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-18

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Gray, SANDY SILT, little clay, some light gray mottling, compact, saturated. *(continued)*
70	529					70.0
						Gray, FINE TO MEDIUM SAND, little clay, some brown sand, loose, wet.
						71.0
						Brown, MEDIUM SAND AND GRAVEL, trace clay, rounded, (0.5-1" diameter), poorly sorted, loose, wet.
75	524	SC	120			75.7
						Brown, MEDIUM TO COARSE SAND, and gravel, 4 inches of orange sand at 77 feet bgs, 3 inches of dark gray sand at 77.5 feet bgs, loose, wet.
						77.5
80	519					Dark Brown, MEDIUM SAND, and rounded gravel, (0.5" diameter), poorly sorted, loose, wet.
		SC	95			83.7
						Brown, COARSE SAND, lithic sand, loose, wet.
						84.5
85	514					Brown, CLAYEY SAND, trace rounded gravel, (0.5-2" diameter), gravel ends at 85 feet bgs, some gray mottling towards 90 feet bgs, poorly sorted, loose, wet.

WELL DIAGRAM

- Well Riser (0 to 75 feet bgs) (2" SCH 40 PVC)
- Bentonite Seal (69 to 73 feet bgs)
- Filter Sand (74 to 87 feet bgs) (Global #5)
- Well Screen (75 to 85 feet bgs) (2" SCH 40 PVC/ 0.01" slot)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Low Plasticity Sandy Clay
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-18

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
90	509					Brown, CLAYEY SAND, trace rounded gravel, (0.5-2" diameter), gravel ends at 85 feet bgs, some gray mottling towards 90 feet bgs, poorly sorted, loose, wet. *(continued)*	Sump (2" SCH 40 PVC/2' long)
						90.0	Borehole Collapse
						Bottom of Boring @ 90.00 feet bgs	
95	504						
100	499						

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Low Plasticity Sandy Clay
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-19

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

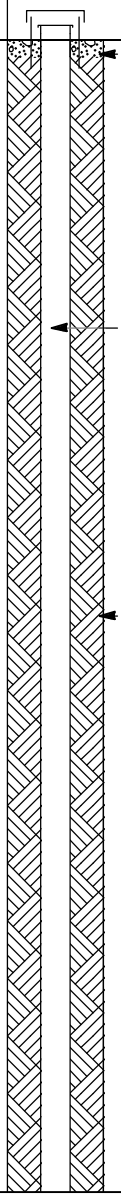
DATE STARTED: 6/14/2022
DATE COMPLETED: 6/14/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling & Wireline Rock Coring
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: RQD only applicable for bedrock wells

TOTAL DEPTH: 122 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 599.280
PVC ELEVATION: 602.11
NORTHING: 338526.438
EASTING: 2076037.426

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/5/2022
DATE ENDED: 7/5/2022
DTW AT START: 58.2 feet bgs
DTW AT END: NM
VOLUME PURGED: 25 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
5	594	SC	60			Brown, SILT, trace clay, trace bottom ash, hard, wet.
10	589	SC	48			10.0
15	584	SC	100			Brown, SILT, trace clay, trace bottom ash until 18 feet bgs, some gray mottling, hard, wet.
20	579					20.0

WELL DIAGRAM



CORING TYPE
- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND
- Silt
- Low Plasticity Clay
- Clayey Sand
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

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BORING BAC-19

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25	574	SC	120			Brown, SILT, trace clay, some bottom ash, some gray mottling, hard, wet. *(continued)*	
30	569					30.0	Well Riser (0 to 110 feet bgs) (2" SCH 40 PVC)
						Brown, SILT, trace clay, some gray mottling, hard, wet.	
35	564	SC	108			35.0	
						Gray, SILT, brown mottling, hard, wet.	
						37.5	
						Brown, SILT, hard, wet.	
40	559					40.0	Bentonite Grout (0 to 104 feet bgs)
						Gray, SILT, little clay, some brown mottling, increasing clay content with depth, hard, wet.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Clayey Sand
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-19

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45	554	SC	120			Gray, SILT, little clay, some brown mottling, increasing clay content with depth, hard, wet. *(continued)*	Well Riser (0 to 110 feet bgs) (2" SCH 40 PVC)
						48.0	
						Brown, CLAY, some silt, trace fine sand, low plasticity, wet.	
50	549					50.0	
55	544	SC	98			Brown, SANDY CLAY, some silt, sand content increases with depth to a clayey sand, medium plasticity, saturated.	
						58.7	
						Gray, SANDY CLAY, with silt, some fine sands, some orange sands, low plasticity, saturated.	
60	539					60.0	Bentonite Grout (0 to 104 feet bgs)
						Gray Brown, SANDY CLAY, some silt, low plasticity, saturated.	
						64.5	
65	534	SC	97			Gray, SANDY SILT, little clay, some light gray mottling, compact, saturated.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Clayey Sand
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-19

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Gray, SANDY SILT, little clay, some light gray mottling, compact, saturated. *(continued)*	
70	529					70.0	Bentonite Grout (0 to 104 feet bgs)
						Gray, FINE TO MEDIUM SAND, little clay, some brown sand, loose, wet.	
						71.0	
						Brown, MEDIUM SAND AND GRAVEL, trace clay, rounded, (0.5-1" diameter), poorly sorted, loose, wet.	
75	524	SC	120				Well Riser (0 to 110 feet bgs) (2" SCH 40 PVC)
						75.7	
						Brown, MEDIUM TO COARSE SAND, and gravel, 4 inches of orange sand at 77 feet bgs, 3 inches of dark gray sand at 77.5 feet bgs, loose, wet.	
						77.5	
80	519					Dark Brown, MEDIUM SAND, and rounded gravel, (0.5" diameter), poorly sorted, loose, wet.	
						83.7	
						Brown, COARSE SAND, lithic sand, loose, wet.	
						84.5	
85	514	SC	95			Brown, CLAYEY SAND, trace rounded gravel, (0.5-2" diameter), gravel ends at 85 feet bgs, some gray mottling towards 90 feet bgs, poorly sorted, loose, wet.	
90	509					90.0	
						Gray, FINE SANDY SILT, some clay, some orange mottling, loose, wet.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Clayey Sand
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-19

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Gray, FINE SANDY SILT, some clay, some orange mottling, loose, wet. *(continued)*	
						92.5	
95	504	SC	103			Brown, GRAVEL, some coarse sand, subrounded to subangular, poorly sorted, loose, saturated.	Bentonite Grout (0 to 104 feet bgs)
						97.0	
						Brown, COARSE SAND, some subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
100	499					100.0	Well Riser (0 to 110 feet bgs) (2" SCH 40 PVC)
						Brown, GRAVELLY SAND, rounded (2.5-3" diameter), may be beginning of the Round Knob, poorly sorted, loose, saturated.	
						103.0	
						Gray, SILT, weathered, lots of brown mottling, wet.	
						104.0	
105	494	SC	108			Gray, CLAYSTONE, (Round Knob), brittle, dry.	Bentonite Seal (104 to 108 feet bgs)
						109.0	Filter Sand (108 to 122 feet bgs) (Global #5)
110	489	RC	0	0		NO RECOVERY.	
						111.0	Well Screen (110 to 120 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
		RC	39.6	0		Red Brown, CLAYSTONE, (Round Knob), natural fractures seen at 111.5-111.9, 112.6, 113.0-113.4, and 113.8 feet bgs.	

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Clayey Sand
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-19

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
115	484						Well Screen (110 to 120 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
		RC	72			Red Brown, CLAYSTONE, (Round Knob), natural fractures seen at 111.5-111.9, 112.6, 113.0-113.4, and 113.8 feet bgs. *(continued)*	
120	479						Filter Sand (108 to 122 feet bgs) (Global #5)
						122.0	Sump (2" SCH 40 PVC/2' long)
						Bottom of Boring @ 122.00 feet bgs	
125	474						
130	469						
135	464						

CORING TYPE

- Sonic Drilling (SC)
- Wireline Rock Coring (RC)

GRAPHIC LOG LEGEND

- Silt
- Low Plasticity Clay
- Clayey Sand
- Sandy Silt
- Poorly-graded Sand
- Poorly-graded Gravelly Sand

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BORING BAC-20

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 6/23/2022
DATE COMPLETED: 6/23/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 30 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 562.570
PVC ELEVATION: 565.06
NORTHING: 338477.169
EASTING: 2075096.614

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/5/2022
DATE ENDED: 7/6/2022
DTW AT START: 20.2 feet bgs
DTW AT END: NM
VOLUME PURGED: 1.25 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Gray, GRAVEL, rip rap from the newly installed road, dry.
						1.1
		SC	36			Brown, SILTY CLAY, compact, wet.
5	558					
		SC	55			
						7.5
						Dark Brown, SILT, trace clay, some gray mottling, brittle, wet.
10	553					10.0
						Brown, CLAYEY GRAVEL, some silt, subangular, (1-2" diameter), poorly sorted, loose, saturated.
						14.5
15	548					Brown, SILT, and clay, compact, saturated.

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Well Riser (0 to 12 feet bgs) (2" SCH 40 PVC)
- Bentonite Seal (0.3 to 10 feet bgs)
- Filter Sand (10 to 25 feet bgs) (Global #7)
- Well Screen (12 to 22 feet bgs) (2" SCH 40 PVC/ 0.01" slot)

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel; Silty Clay; Silt; Clayey Gravel; Clayey Sand; Poorly-graded Gravelly Sand

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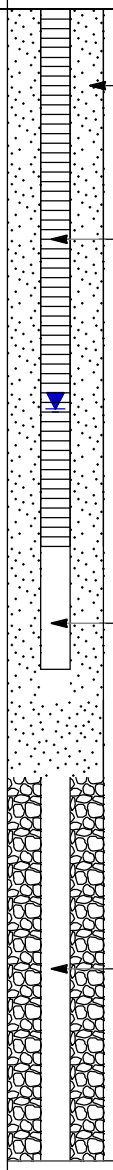
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BORING BAC-20

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
20	543	SC	114			Brown, SILT, and clay, compact, saturated. *(continued)*
						24.0
						Brown, SANDY CLAY, medium plasticity, saturated.
25	538	SC	108			25.0
						Brown To Dark Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, loose, saturated.
30	533					30.0
						Bottom of Boring @ 30.00 feet bgs

WELL DIAGRAM



CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Gravel
Silty Clay
Silt
Clayey Gravel
Clayey Sand
Poorly-graded Gravelly Sand

ACRONYM LEGEND

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DTW = depth to water
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BORING BAC-21

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 7/5/2022
DATE COMPLETED: 7/5/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 60 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 569.300
PVC ELEVATION: 572.41
NORTHING: 339439.529
EASTING: 2074896.107

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/7/2022
DATE ENDED: 7/7/2022
DTW AT START: 35.0 feet bgs
DTW AT END: NM
VOLUME PURGED: 27 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
5	564	SC	37			Black To Brown, MEDIUM SAND, poorly sorted, loose, damp.
5.0						
10	559	SC	47			Black To Brown, MEDIUM SAND, trace subangular gravel, (1-2" diameter), poorly sorted, loose, damp.
10.0						
15	554					Black To Brown, MEDIUM SAND, trace subangular gravel, (1-2" diameter), wet at 20 feet bgs, poorly sorted, loose, moist.

WELL DIAGRAM

- Concrete Pad and 6" Aluminum Stickup Protective Casing
- Bentonite Grout (0 to 34 feet bgs)
- Well Riser (0 to 40 feet bgs) (2" SCH 40 PVC)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Poorly-graded Sand
- Low Plasticity Clay
- High Plasticity Clay
- Silty Clay
- Poorly-graded Gravelly Sand
- Poorly-graded Sandy Gravel

ACRONYM LEGEND

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PVC = polyvinyl chloride

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BORING BAC-21

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
20	549	SC	108			Black To Brown, MEDIUM SAND, trace subangular gravel, (1-2" diameter), wet at 20 feet bgs, poorly sorted, loose, moist. *(continued)*	Bentonite Grout
						20.0 — Brown, CLAY, trace silt, low plasticity, wet.	
						20.5 — Brown, CLAY, some silt, medium plasticity, wet.	
						23.0 — Gray Brown, CLAY, high plasticity, wet.	
25	544	SC	114			26.0 — Brown, CLAY, little silt, medium plasticity, wet.	Well Riser (0 to 40 feet bgs) (2" SCH 40 PVC)
30	539					30.0 — Gray, SILTY CLAY, with fine sand, sand increases with depth, increasing silt at 33-36 feet bgs, tan and brown mottling, white fragments from 37-39 feet bgs, low plasticity, saturatred.	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Sand
Low Plasticity Clay
High Plasticity Clay
Silty Clay
Poorly-graded Gravelly Sand
Poorly-graded Sandy Gravel

ACRONYM LEGEND

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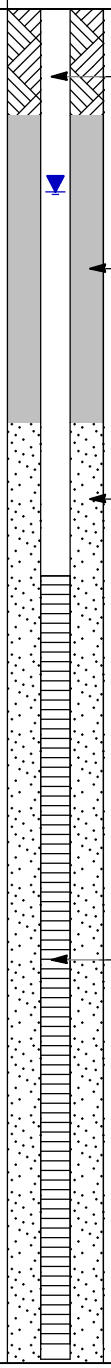
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BORING BAC-21

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
35	534	SC	115			Gray, SILTY CLAY, with fine sand, sand increases with depth, increasing silt at 33-36 feet bgs, tan and brown mottling, white fragments from 37-39 feet bgs, low plasticity, saturatred. *(continued)*
						39.0
40	529					Orange Brown, MEDIUM SAND, and subrounded gravel, (0.5-1" diameter), little black staining, poorly sorted, loose, saturated.
						40.0
						Orange Brown, GRAVEL, and coarse sand, subrounded, (0.5-1.5" diameter), poorly sorted, loose, saturated.
						43.0
						Orange Brown, MEDIUM TO COARSE SAND, some subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.
						44.0
45	524	SC	118			Light Brown, MEDIUM SAND, little subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.
						45.0
						Orange Brown, GRAVEL, some coarse sand, subrounded, (0.5-1" diameter), poorly sorted, loose, saturatred.
						47.0
						Gray, GRAVEL, some coarse sand, subrounded, (0.5-1" diameter), poorly sorted, loose, saturated.
						48.0
						Gray, GRAVEL, little coarse sand, subrounded to subangular, (0.5-1.5" diameter), poorly sorted, loose, saturated.
						49.0
						Gray, MEDIUM SAND, trace subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.
						49.5
50	519					Gray, SILTY CLAY, and subrounded gravel, (0.5" diameter), poorly sorted, firm, saturated.
						50.0

WELL DIAGRAM



CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Sand
Low Plasticity Clay
High Plasticity Clay
Silty Clay
Poorly-graded Gravelly Sand
Poorly-graded Sandy Gravel

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-21

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Gray, GRAVEL, and coarse sand, subrounded, (0.5-1" diameter), poorly sorted, loose, saturated. *(continued)*	
						51.0	Sump (2" SCH 40 PVC/2' long)
						Light Brown, FINE SAND, trace subrounded gravel, (0.5" diameter), poorly sorted, cohesive, saturated.	
						54.0	
55	514	SC	107			Gray Brown, FINE SAND, trace subrounded gravel, (0.5" diameter), trace subrounded gravel (4" diameter), poorly sorted, cohesive, saturated.	Borehole Collapse
						57.0	
						Dark Gray, MEDIUM SAND, and subrounded to subangular gravel, (0.5-1" diameter), poorly sorted, loose, saturated.	
60	509					60.0	
						Bottom of Boring @ 60.00 feet bgs	
65	504						

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Poorly-graded Sand
Low Plasticity Clay
High Plasticity Clay
Silty Clay
Poorly-graded Gravelly Sand
Poorly-graded Sandy Gravel

ACRONYM LEGEND

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bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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Telephone: 617-646-7800

BORING BAC-22

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

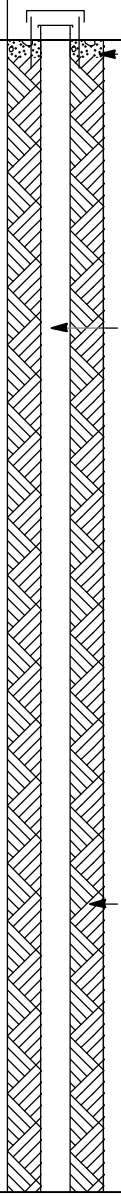
DATE STARTED: 7/1/2022
DATE COMPLETED: 7/1/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 75 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 572.280
PVC ELEVATION: 574.88
NORTHING: 340273.51
EASTING: 2074761.802

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/6/2022
DATE ENDED: 7/6/2022
DTW AT START: 27.9 feet bgs
DTW AT END: NM
VOLUME PURGED: 35 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Brown, CLAYEY SILT, compact, saturated.
						3.0
						Dark Brown, MEDIUM SAND, and subrounded gravel, (0.5-2" diameter), poorly sorted, loose, moist.
5	567	SC	112			5.0
						Brown, SILT, and subrounded gravel, (0.5-1" diameter), poorly sorted, compact, moist.
10	562					10.0
		SC	47			Brown, COARSE SAND, and subrounded to subangular gravel, (0.5-1.5" diameter), some dark gray to black sands, poorly sorted, loose, saturated.
						13.0
15	557					Dark Gray To Black, MEDIUM TO COARSE SAND, some clay, poorly sorted, compact, saturated.
						16.5
		SC	58			17.0 Dark Gray To Black, MEDIUM TO COARSE SAND, some clay, poorly sorted, compact, saturated.
						Gray, CLAYEY SILT, compact, wet.
20	552					20.0

WELL DIAGRAM



CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Silty Clay
Poorly-graded Gravelly Sand
Gravelly Silt
Poorly-graded Sand
Low Plasticity Clay
Poorly-graded Sand with Clay

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-22

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25	547	SC	114			Brown, CLAYEY SILT, more clay with depth, gray mottling begins at 24 feet bgs, compact, wet. *(continued)*	Bentonite Grout (0 to 54 feet bgs)
30	542					30.0	Well Riser (0 to 60 feet bgs) (2" SCH 40 PVC)
						Brown, CLAYEY SILT, low plasticity, wet.	
						33.0	
35	537	SC	109			Gray, CLAY, trace fine sand, trace silt, high plasticity, wet.	
40	532					40.0	
						Gray, CLAY, trace fine sand, more silt with depth, medium plasticity, wet.	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Silty Clay
Poorly-graded Gravelly Sand
Gravelly Silt
Poorly-graded Sand
Low Plasticity Clay
Poorly-graded Sand with Clay

ACRONYM LEGEND

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bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-22

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
45	527	SC	119			Gray, CLAY, trace fine sand, more silt with depth, medium plasticity, wet. *(continued)*
						47.0
						Gray, FINE SAND, and clay, black wood fragment at 47.5 feet bgs, cohesive, wet.
50	522					50.0
						Gray, GRAVEL, and medium sand, subrounded, (0.5-1" diameter), poorly sorted, loose, saturated.
						52.5
						Gray, FINE TO MEDIUM SAND, trace subrounded gravel, (0.5" diameter), poorly sorted, loose, saturated.
						53.0
						Gray, GRAVEL, subangular (0.5-2" diameter), poorly sorted, loose, saturated.
						53.5
55	517	SC	112			Gray, FINE TO MEDIUM SAND, finer sands with depth, cohesive, saturated.
60	512					60.0
		SC	60			Gray, FINE TO MEDIUM SAND, cohesive, saturated.
65	507					65.0
						Brown, FINE SAND, trace subrounded gravel, (0.5" diameter), trace gravel at 68 feet bgs, poorly sorted, loose, saturated.

WELL DIAGRAM

- Bentonite Grout (0 to 54 feet bgs)
- Well Riser (0 to 60 feet bgs) (2" SCH 40 PVC)
- Bentonite Seal (54 to 58 feet bgs)
- Filter Sand (58 to 72 feet bgs) (Global #5)
- Well Screen (60 to 70 feet bgs) (2" SCH 40 PVC/ 0.01" slot)

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Silty Clay
- Poorly-graded Gravelly Sand
- Gravelly Silt
- Poorly-graded Sand
- Low Plasticity Clay
- Poorly-graded Sand with Clay

ACRONYM LEGEND

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bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-22

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
70	502	SC	112			Brown, FINE SAND, trace subrounded gravel, (0.5" diameter), trace gravel at 68 feet bgs, poorly sorted, loose, saturated. *(continued)*	Filter Sand (58 to 72 feet bgs) (Global #5)
						72.0	Well Screen (60 to 70 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
							Sump (2" SCH 40 PVC/2' long)
						Blue Gray, CLAYSTONE, dry.	Borehole Collapse
75	497					75.0	
						Bottom of Boring @ 75.00 feet bgs	
80	492						
85	487						
90	482						

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Silty Clay
- Poorly-graded Gravelly Sand
- Gravelly Silt
- Poorly-graded Sand
- Low Plasticity Clay
- Poorly-graded Sand with Clay

ACRONYM LEGEND

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bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

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BORING BAC-23

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DATE STARTED: 6/30/2022
DATE COMPLETED: 6/30/2022
DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHODS: Sonic Drilling
LOGGED BY: K. Popyack
CHECKED BY: A. Harford
NOTES: Well ran dry during development, RQD only applicable for bedrock wells

TOTAL DEPTH: 67 feet bgs
DIAMETER: 6 inches
GROUND ELEVATION: 574.790
PVC ELEVATION: 577.47
NORTHING: 340155.161
EASTING: 2075954.818

WELL DEVELOPMENT
METHOD(S): Grundfos & Buffalo Pump
DATE STARTED: 7/6/2022
DATE ENDED: 7/6/2022
DTW AT START: 36.35 feet bgs
DTW AT END: NM
VOLUME PURGED: 15 gallons

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
						Dark Brown, SANDY SILT, few subangular gravel, (0.5-1" diameter), organics, poorly sorted, damp.
						1.0
						Black, MEDIUM TO COARSE SAND, trace silt, poorly sorted, loose, damp.
						2.0
		SC	60			Light Brown, SILT, and angular gravel, (0.5-2 diameter), poorly sorted, loose, damp.
5	570					5.0
						Brown, SILT, trace subrounded gravel, (1" diameter), little gray mottling, some black medium to coarse sand, trace clay, poorly sorted, compact, moist.
		SC	60			7.5
						Brown, SILT, with subrounded gravel, (0.5-1" diameter), poorly sorted, brittle, moist.
10	565					10.0
						Brown, SILT, with subrounded gravel, (0.5-1" diameter), trace gravel, poorly sorted, brittle, moist.
						12.0
						Brown, CLAYEY SILT, trace fine sand, loose, wet.
15	560					

WELL DIAGRAM: Concrete Pad and 6" Aluminum Stickup Protective Casing; Bentonite Grout (0 to 49 feet bgs); Well Riser (0 to 55 feet bgs) (2" SCH 40 PVC)

CORING TYPE
- Sonic Drilling (SC)

GRAPHIC LOG LEGEND
- Sandy Silt
- Poorly-graded Sand
- Gravelly Silt
- Silt
- Silty Clay
- Poorly-graded Gravelly Sand

ACRONYM LEGEND
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Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						15.3 Brown, CLAYEY SILT, trace fine sand, loose, wet. *(continued)*	
						Brown, CLAYEY SILT, some gray mottling, compact, wet.	
						17.0	
		SC	118			Brown, SANDY SILT, trace clay, trace fine sand, cohesive, wet.	
20	555					20.0	Well Riser (0 to 55 feet bgs) (2" SCH 40 PVC)
25	550	SC	53			Brown, FINE SAND, little silt, some black organics, trace medium sands, loose, wet.	Bentonite Grout (0 to 49 feet bgs)
30	545					30.0	
						Brown, MEDIUM SAND, trace rounded gravel, (0.5" diameter), poorly sorted, wet.	

CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Sandy Silt
Poorly-graded Sand
Gravelly Silt
Silt
Silty Clay
Poorly-graded Gravelly Sand

ACRONYM LEGEND

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bgs = below ground surface
DTW = depth to water
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PVC = polyvinyl chloride

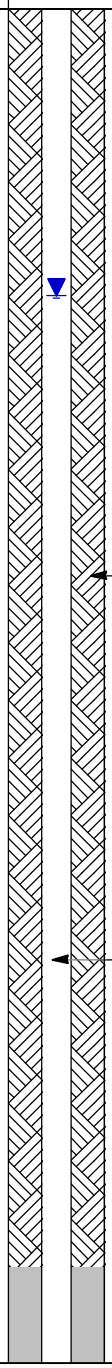
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Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION
35	540	SC	39			Brown, MEDIUM SAND, trace rounded gravel, (0.5" diameter), poorly sorted, wet. *(continued)*
40	535					40.0
45	530	SC	112			Brown, MEDIUM SAND, trcae rounded gravel, (0.5" diameter), poorly sorted, wet.
						47.0
						Brown, MEDIUM TO COARSE SAND, and subrounded gravel, (0.5" diameter), trace angular gravel (4" diameter) gravel at 49 feet bgs, poorly sorted, wet.
						49.5
50	525					Orange Brown, COARSE SAND, and subrounded gravel, (0.5-1" diameter), poorly sorted, saturated.
						50.0
						Brown, FINE SAND, well sorted, saturated.

WELL DIAGRAM



CORING TYPE

Sonic Drilling (SC)

GRAPHIC LOG LEGEND

Sandy Silt
Poorly-graded Sand
Gravelly Silt
Silt
Silty Clay
Poorly-graded Gravelly Sand

ACRONYM LEGEND

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BORING BAC-23

Client: Gavin Power, LLC
Project Name: Bottom Ash Pond Monitoring Well Installation
Project Number: 0643653
Project Location: Cheshire, OH

DEPTH (feet)	ELEVATION (feet amsl)	SAMPLE TYPE & RUN	RECOVERY (inches)	RQD %	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Brown, FINE SAND, well sorted, saturated. *(continued)*	Bentonite Seal (49 to 53 feet bgs)
						52.0	
							Filter Sand (53 to 67 feet bgs) (Global #5)
55	520						
		SC	64			Brown, MEDIUM SAND, and subrounded gravel, (0.5-1.5" diameter), finer sand at 65 feet bgs, poorly sorted, saturated.	
60	515						Well Screen (55 to 65 feet bgs) (2" SCH 40 PVC/ 0.01" slot)
65	510						Sump (2" SCH 40 PVC/2' long)
						67.0	
						Bottom of Boring @ 67.00 feet bgs	

CORING TYPE

- Sonic Drilling (SC)

GRAPHIC LOG LEGEND

- Sandy Silt
- Poorly-graded Sand
- Gravelly Silt
- Silt
- Silty Clay
- Poorly-graded Gravelly Sand

ACRONYM LEGEND

amsl = above mean sea level
bgs = below ground surface
DTW = depth to water
NA = not applicable
NM = not measured
NR = no recovery
PVC = polyvinyl chloride

APPENDIX C GAVIN BOTTOM ASH POND FIRST SEMIANNUAL SAMPLING EVENT OF 2024 ALTERNATE SOURCE DEMONSTRATION REPORT

First Semiannual Sampling Event of 2024 Alternate Source Demonstration Report

Gavin Bottom Ash Pond

PREPARED FOR

Gavin Power, LLC

DATE
06 August 2024

REFERENCE
0720782

SIGNATURE PAGE

First Semiannual Sampling Event of 2024 Alternate Source Demonstration Report

Gavin Bottom Ash Pond

0720782



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ACRONYMS AND ABBREVIATIONS

Name	Description
AEP	American Electric Power Service Corporation
ASD	Alternate Source Demonstration
ATSDR	Agency for Toxic Substances and Disease Registry
BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
CSM	Conceptual Site Model
ERM	Environmental Resources Management
Gavin	Gavin Power, LLC
K	Hydraulic Conductivity
H1	First Semiannual
mg/L	milligrams per liter
NFAP	North Fly Ash Pond
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
ORSANCO	Ohio River Valley Water Sanitation Commission
OVEC	Ohio Valley Electric Corporation
Plant	General James M. Gavin Power Plant
SFAP	South Fly Ash Pond
SSI	Statistically significant increase
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
uS/cm	microsiemens per centimeter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

1. INTRODUCTION

1.1 REGULATORY AND LEGAL FRAMEWORK

In accordance with Title 40 Code of Federal Regulations (CFR), Part 257, Subpart D – Standards for the Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments (CCR Rule) – Gavin Power, LLC (Gavin) has been implementing the groundwater monitoring requirements of 40 CFR § 257.90 et seq. for the Bottom Ash Pond (BAP) CCR Surface Impoundment at the General James M. Gavin Power Plant (Plant). Gavin calculated background levels and conducted statistical analyses for Appendix III constituents in accordance with 40 CFR § 257.93(h). Currently, Gavin is performing detection monitoring at the BAP in accordance with 40 CFR § 257.94. Statistically significant increases (SSIs) over background concentrations were detected in downgradient monitoring wells for some Appendix III constituents for the first semiannual (H1) groundwater sampling event of 2024 and are explained in this Alternate Source Demonstration (ASD) Report. The first semiannual groundwater sampling event of 2024 was performed from March 18, 2024 to March 22, 2024. Review of data for quality assurance and statistical comparison was completed on May 08, 2024. Pursuant to 40 CFR § 257.94(e)(1), Gavin must establish an assessment monitoring program at the BAP if an Alternate Source Demonstration (ASD) is not completed and certified by a Professional Engineer by August 6, 2024. This ASD Report, which was prepared and certified by August 6, 2024, will be included with the 2024 annual groundwater monitoring and corrective action report required under CFR § 257.90(e), which is due January 31, 2025.

An SSI for one or more Appendix III constituents is a *potential* indication of a release of constituents from a CCR unit to groundwater. In the event of an SSI, the CCR Rule provides that "… the owner or operator may demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality…" (40 CFR § 257.94(e)(2)). If it is demonstrated that the SSI is the result of a source other than the CCR unit, then the CCR unit may remain in the Detection Monitoring Program instead of transitioning to an Assessment Monitoring Program. To implement this demonstration, an ASD must be made in writing and the accuracy of the information must be verified through certification by a qualified Professional Engineer (40 CFR § 257.94(e)(2)).

The United States Environmental Protection Agency (USEPA) guidance document, "Solid Waste Disposal Facility Criteria Technical Manual, EPA530-R-93-017, Subpart E" (USEPA 1993), specifies the following six lines of evidence that must be addressed to determine whether an SSI resulted from a source other than the regulated disposal unit:

- an alternative source exists;
- a hydraulic connection exists between the alternative source and the well with a statistically significant increase;
- constituent(s) (or precursor constituents) are present at the alternative source or along the flow path from the alternative source prior to possible release from the unit;

- the relative concentration and distribution of constituents in the zone of contamination are more strongly linked to the alternative source than to the unit when the fate and transport characteristics of the constituents are considered;
- the concentration observed in groundwater could not have resulted from the unit given the waste constituents and concentrations in the unit leachate and wastes, and the site hydrogeologic conditions; and
- the data supporting conclusions regarding the alternative source are historically consistent with the hydrogeologic conditions and findings of the monitoring program.

This ASD Report addresses each of these lines of evidence for the SSIs detected in groundwater collected from downgradient compliance wells at the BAP. The groundwater monitoring program and ASD have been prepared utilizing accepted practices incorporating both site specific and regional information. In 2022, the USEPA provided feedback on the groundwater monitoring program at the BAP (USEPA 2022) and Gavin formally responded to the concerns (Gavin 2022). In consideration of this feedback, Gavin installed additional monitoring wells and conducted supplemental characterization at the BAP to refine the conceptual site model (CSM). Findings and updates were originally provided in the 2022 and 2023 Annual Groundwater Monitoring and Corrective Action Reports (ERM 2023, 2024), and are also discussed below.

Some of the topics discussed in this report are also addressed in USEPA's November 22, 2022 Final Decision: Denial of Alternative Closure Deadline for General James M. Gavin Plant, Cheshire, Ohio (Final Decision). In other documents, Gavin has explained how the approaches described and documented in this report are consistent with USEPA regulations and guidance as well as with best engineering practices and judgment. Gavin has contested USEPA's findings in the Final Decision from a factual, technical and legal perspective. ERM notes that USEPA's findings and determinations in the Final Decision are the subject of pending litigation.

1.2 BACKGROUND

The Plant is a coal-fired generating station located in Cheshire, Gallia County, Ohio (Figure 1-1), and is bounded to the east by the Ohio River. The BAP is one of three CCR units at the Plant that are subject to regulation under the CCR Rule and is located adjacent to and immediately south of the main Plant area (Figure 1-2). Adjacent to the BAP is the smaller Reclaim Pond (Figure 1-3) which, along with the BAP, make up the Bottom Ash Complex (BAC) that has operated since 1974. The Reclaim Pond was not designed to retain an accumulation of CCR; did not and does not receive any significant amount of CCR; and did not and does not treat, store, or dispose of CCR. Therefore, it is not subject to the CCR Rule.

The certified groundwater monitoring well network (ERM 2021a) consists of three upgradient monitoring wells (BAC-01, MW-1, and MW-6) along the western perimeter of the BAP, two upgradient monitoring wells (BAC-06 and BAC-07) along the southern perimeter, and four downgradient monitoring wells (BAC-02, BAC-03, BAC-04, and BAC-05) positioned along the northern and eastern perimeter of the BAP (Figure 1-3). These wells are herein referred to as "network" wells for the purposes of this report.

Consistent with the CCR Rule and the Groundwater Monitoring Plan developed for Gavin (ERM 2017), an interwell prediction limit approach was used to identify potential impacts to groundwater. Upper prediction limits, and a lower prediction limit specifically for pH, were established based on the upgradient groundwater data. The 2017 Annual Groundwater Monitoring and Corrective Action Report was prepared to document the status of the groundwater monitoring program for the BAP (ERM 2018a) and included results from eight background sampling events performed from August 2016 to July 2017. The 2017 report and each subsequent Annual Groundwater Monitoring and Corrective Action Report have included comparisons of the sampling results obtained from downgradient wells during each semiannual detection monitoring event with the upper and lower prediction limits calculated based on the initial eight background samples taken from upgradient wells. ASD reports (ERM 2018b; ERM 2019; ERM 2020; ERM 2021b; ERM 2022; ERM 2023; ERM 2024) were prepared to address SSIs that were identified during the initial and subsequent reporting periods.

Sixteen additional monitoring wells were installed in key areas around the BAP in 2022 (Figure 1-3). These wells have not yet been added to the certified network. In order to obtain more information on groundwater quality surrounding the BAP, samples were collected from these wells in H1 2024.

1.3 GEOLOGY

Observation of bedrock cores collected around the BAP in 2022 (ERM 2023) indicates the uppermost bedrock layers are claystone/siltstone (interpreted to be the Round Knob) and an underlying sandstone stratum (interpreted to be the Cow Run). A sharp contact exists between the bedrock units and the overlying coarser-grained glacial sands and gravels. These coarser sediments, consisting primarily of medium to coarse sands and gravel, are buried by a younger, finer-grained unit, which exists as a laterally extensive layer of clays and silts. This younger, finer-grained unit (referred to as the separation layer), exists between the base of the BAP and the coarser sediments below (the uppermost aquifer). Some fine-grained sands are also observed within the separation layer, though they are primarily intermixed within the clay and silt matrix and generally found at depth, closer to the alluvial aquifer.

1.4 SITE HYDROLOGY AND HYDROGEOLOGY

The uppermost aquifer beneath the BAP area is approximately 20 to 40 feet thick and consists primarily of the coarser-grained sands and gravels described in section 1.3, though some fine sand is also present. Also referred to as the alluvial aquifer, the uppermost aquifer is confined by the clay and silt separation layer above and by the siltstone/claystone bedrock unit below (Figure 1-4). The Ohio River acts as a hydraulic boundary condition to the east that is dynamic in nature due to fluctuations in river stage. Two water supply wells operated by the Plant (FW-15 and FW-1101) exist approximately 400 to 700 feet north of the BAP (Figure 1-3). These wells have 20-to-30-foot screens established within the alluvial aquifer and have a significant combined influence on groundwater flow at the BAP, which is discussed further in Sections 3 through 5. The use of the wells is variable in both duration and frequency and is dependent on Plant needs; however, when in use, the pumping rates are consistent at 550 and 650 gallons per minute for FW-1101 and FW-

15, respectively. Two additional water supply wells (FW-17 and FW-1102) exist approximately 0.4 to 0.5 miles further north and are not expected to have a significant influence on groundwater at the BAP due to their distance from the BAP and infrequency of their use.

Five undisturbed Shelby tube samples of the clay and silt separation layer (mentioned above, located between the uppermost aquifer and the bedrock unit below) were collected from a barge within the BAP in 2020 for laboratory grain size distribution and permeameter testing (ERM 2021c). The samples ranged from 0.9% to 32.3% sand and 67.7% to 99.1% silt and clay. The permeameter testing of these samples yielded hydraulic conductivity values (K values) ranging from 1.44×10^{-8} cm/sec to 1.18×10^{-7} cm/sec. Thus, even the samples with a higher amount of sand yielded very low K values. These data are direct evidence that the separation layer beneath the BAP acts as an aquitard to downward migration of water stored in the BAP.

1.5 2024 H1 GROUNDWATER SAMPLING EVENT

The data from the first semiannual groundwater sampling event from 2024 were compared to the upper and lower prediction limits for the respective parameters, and SSIs for Appendix III analytes were identified. Table 1-1 summarizes occurrences of SSIs from the March 2024 sampling event.

TABLE 1-1: SSIS IN GROUNDWATER BENEATH THE BAP[1]

Analyte	Monitoring Well			
	BAC-02	BAC-03	BAC-04	BAC-05
Boron	X	X	X	X
Calcium	X	ϕ	ϕ	ϕ
Chloride	X	X	X	X
Fluoride	X	ϕ	ϕ	ϕ
pH	X	X	X	X
Sulfate	X	X	X	X
Total Dissolved Solids	X	ϕ	X	X

This ASD Report identifies the regional discharge of naturally occurring brine discharging from the bedrock as the source of calcium, chloride, fluoride, and total dissolved solids (TDS), and the Kyger Creek North Fly Ash Pond (NFAP) is identified as the source of boron, sulfate, and low pH. Supporting information and additional discussion of each of the lines of evidence are presented in subsequent sections of this ASD Report.

[1] Notes: ϕ = No SSI; X = SSI; BAP = Bottom Ash Pond; SSI = statistically significant increase.

2. DESCRIPTION OF ALTERNATE SOURCES

Identified alternate sources for the Appendix III constituents that are observed at the BAP include Regional Brine and the Kyger Creek Generating Station Closed NFAP.

- Regional Brine – Naturally occurring brine originating from bedrock (i.e., Cow Run Sandstone) as observed in shallow groundwater in and around Gavin. Identified as the alternate source of calcium, chloride, fluoride, and TDS.
- Kyger Creek Generating Station Closed NFAP – CCR-impacted groundwater migrating from the Closed North Fly Ash Pond. Identified as the alternate source for boron, low pH, and sulfate.

Additional influence on groundwater quality at the BAP is observed from mixing of the alternate sources and upgradient alluvial aquifer groundwater from west of the BAP and/or surface water from the Ohio River.

A summary of each of these alternate sources and influences on groundwater quality is provided below.

2.1 REGIONAL BRINE

Naturally occurring brine, which is known in the Ohio River Valley to have elevated levels of chloride, fluoride, and other trace elements, exists in the subsurface (Stout et al. 1932; ORSANCO 1984; ODNR 1995). The discharge of brines is seen at a regional scale, with shallow wells near the Ohio River observing brine impacts as a result of the vertical head gradient driving overall flow upwards from bedrock to alluvium (USGS 1997). The Cow Run Sandstone is the shallowest sandstone of any importance in Ohio where brine of marine origin has been observed (Phalen 1919; Stout et al. 1932). Brine was discovered at the land surface approximately 10 miles southwest of the Plant in Gallipolis, Ohio and was utilized for the commercial production of salt beginning in 1807 (Stout et al. 1932). Naturally occurring brine was also identified at the land surface in Jackson, Ohio approximately 30 miles west of the Plant (ODNR 1995). The regional presence of shallow brine indicates the potential for naturally occurring brine to contribute Appendix III constituents to groundwater at the Plant. Evidence of brine impacts near the Plant includes specific conductivity measurements at several monitoring wells upgradient of the Residual Waste Landfill that are consistently greater than 30,000 µS/cm and reach as high as 50,062 µS/cm. A brine signature was also observed in supplemental BAP monitoring well BAC-11 during sampling in March 2024. This signature included a specific conductivity field measurement of 62,435 µS/cm, TDS of 35,000 mg/L, and chloride levels of 25,000 mg/L. For reference, the approximate specific conductivity of seawater is 50,000 µS/cm (USGS 2019).

The background groundwater data set is discussed further in Section 4.

2.2 KYGER CREEK NORTH FLY ASH POND

The Kyger Creek Generating Station, owned and operated by Ohio Valley Electric Corporation, is located along the Ohio River in Gallia County, south of and adjacent to the Plant (Figure 2-1). The Kyger Creek Fly Ash Pond complex consists of the 110-acre NFAP (which is closed) and 60-acre South Fly Ash Pond (SFAP) (which is active). The ponds were constructed in 1955 using locally

available native materials (i.e. soil). Between 2 and 10 feet of silty clay soils were removed to create base elevations of 550 feet above mean sea level for the SFAP and 558 feet above mean sea level for the NFAP. No liner was installed at either of the ponds prior to emplacement of CCR materials. The NFAP cap includes 5 feet of boiler slag, 2 feet of compacted clay and one foot of topsoil. (AEP 2016; AEP 1994; CHA, 2010; OEPA 1996). According to the approved Ohio Environmental Protection Agency (OEPA) Permit–to-Install (PTI), construction activities to close the NFAP were initiated in March 1998 and concluded in October 2000 (OVEC 2017). Semiannual groundwater sampling for PTI compliance at the NFAP has been performed since October 1997 and currently includes sampling of six monitoring wells (OEPA 1996). Per the PTI, samples are collected semiannually for:

- Groundwater Contamination Indicator Parameters – alkalinity, specific conductivity, sulfate, and total dissolved solids; and
- Groundwater Quality Parameters – barium, calcium, chloride, iron, lead, magnesium, manganese, selenium, sodium, gross alpha and gross beta, and pH.

Groundwater monitoring for federal CCR compliance is performed at the SFAP only.

The closed Kyger Creek NFAP is located less than 300 feet south of the Gavin BAP, and the units share an approximately 2,000-foot-long border (Figure 2-1). Gavin's network wells BAC-06 and BAC-07 were installed in 2020 at the top of the south berm of the BAP along this boundary and screened within the alluvial aquifer. Six supplemental monitoring wells were installed along the south berm between the BAP and the Kyger Creek NFAP in 2022 to better understand the hydraulic relationship between the BAP and the NFAP and groundwater quality along the boundary. These supplemental wells include alluvial aquifer wells BAC-16 and BAC-18, separation layer wells BAC-15 and BAC-20, bedrock well BAC-19, and separation layer and alluvial aquifer well BAC-17.

The Kyger Creek NFAP has a higher potential to impact groundwater than the BAP because the Kyger Creek NFAP contains fly ash (approximately 1.7 million cubic yards), which when compared to bottom ash, has a greater potential to leach CCR constituents due to higher concentrations of CCR constituents and increased surface area due to smaller particle size (Cox et al. 1978; OEPA 1996; Jones et al. 2012), as described further in Section 7. The NFAP also contains approximately 900,000 cubic yards of boiler slag and boiler slag fines used to construct the NFAP berm and as cover material (OEPA 1996).

2.3 UPGRADIENT ALLUVIAL AQUIFER GROUNDWATER

Groundwater from upgradient of the BAP is observed at upgradient monitoring locations west of the BAP, including network wells MW-1, MW-6 and BAC-01, and supplemental wells BAC-08, BAC-21, BAC-22, and BAC-23. The upgradient status of these locations is confirmed by potentiometric surface maps which consistently show higher potentiometric elevations west of the BAP than in wells north, south, or east of the BAP. Potentiometric surface maps are presented and discussed further in Section 3. Groundwater from west of the BAP flows through the alluvial aquifer beneath the BAP where it ultimately mixes with groundwater migrating northward from the Kyger Creek NFAP, groundwater discharging upward from bedrock, and surface water from the Ohio River.

2.4 OHIO RIVER

The Ohio River extends approximately 981 river miles from Pittsburgh, Pennsylvania to Cairo, Illinois and drains approximately 205,000 square miles (ORSANCO 2018). The Ohio River is located approximately 700 feet east of the BAP, and the alluvial aquifer beneath the BAP is hydraulically connected to the river.

While the Ohio River is not considered a source of impacts to groundwater under the BAP, the mixing of Ohio River surface water with groundwater does influence groundwater quality at the BAP through interaction of groundwater and river water (see Section 3). Surface water from the Ohio River enters the alluvial aquifer and interacts with groundwater beneath the BAP, driven by induced infiltration caused by pumping of the onsite water supply wells and during periods of rapidly rising and high river stage conditions (i.e., flooding). When the Ohio River floods, water from the river mixes with groundwater within the alluvial aquifer (ERM 2018b) beneath the BAP. The quality of the Ohio River water that mixes with groundwater is discussed in Section 4.

3. HYDRAULIC CONNECTIONS TO THE ALTERNATE SOURCES

Explanations of the hydraulic connections between potential alternate sources and the downgradient wells of the BAP were previously provided in the first ASD Report for the BAP (ERM 2018b). An updated summary of each of these connections is provided below.

3.1 HYDRAULIC CONNECTION TO REGIONAL BRINE

Regional groundwater within the fractured sedimentary bedrock in the Ohio River Valley generally flows from areas of higher topographic elevation towards areas of lower elevation, ultimately discharging to the Ohio River (ORSANCO 1984). Precipitation infiltrates the land surface to recharge the underlying aquifers below, and flow of groundwater within these aquifers is primarily driven by the gravitational force on groundwater (differences in hydraulic head) within the bedrock.

At the BAP, groundwater discharges upward from shallow fractured bedrock into the overlying alluvial aquifer under certain hydraulic conditions. This upward discharge of groundwater from the bedrock aquifer to the overlying alluvial aquifer is attributable to the following three primary drivers:

- Hydraulic pressure (head) in the bedrock aquifer compared to the alluvial aquifer driven by recharge at the adjacent higher elevation ridges;
- Areas of high hydraulic conductivity related to the interconnected fracture network within the bedrock; and
- Active pumping conditions related to operation of the two water supply wells directly north of the BAP (FW-15 and FW-1101).

3.1.1 EVALUATION OF VERTICAL GRADIENTS

As water is removed from the alluvial aquifer via pumping, it reduces the pressure that water within the aquifer exerts on the surrounding system. As described in the 2022 H2 Alternate Source Demonstration Report (ERM 2023), upward vertical gradients between the bedrock aquifer and the alluvial aquifer were observed.

In order to evaluate the nature of vertical gradients beneath the BAP, transducers were deployed in several alluvial & bedrock well couplets around the BAP, and continuous long-term, high-resolution potentiometric elevation data were collected from January through May 2024. Transducer data were evaluated to determine the direction of vertical gradients and the conditions that lead to upward vertical gradients. Hydrographs of alluvium-bedrock well pairs at the northern (BAC-02/BAC-11), eastern (BAC-04/BAC-13), southern (BAC-18/BAC-19), and western (BAC-01/ BAC-09) boundaries of the BAP are shown in Figures 3-1, 3-2, 3-3, and 3-4, respectively.

Alluvial wells located to the north of the BAP are most sensitive to pumping activities (Figure 3-1). When pumping was active at the water supply wells, and the river stage was low, there were sporadic periods of upward vertical gradients observed in late February, late March, and mid-April. During periods of extended pumping and low river stage, upward vertical gradients persisted for multiple days in late April 2024. The effects of pumping are less noticeable in the well couplets

to the east (Figure 3-2), south (Figure 3-3), and west (Figure 3-4) of the BAP due to their greater distance from the water supply wells and the relatively low hydraulic conductivity of the bedrock wells. Upward vertical gradients were observed at the southern well couplet (Figure 3-3) during February and late April and at the western well couplet (Figure 3-4) in late April.

Considering the chemical signature of the underlying bedrock groundwater (see Section 2.1 and Section 4.1), the periods of upward vertical migration likely result in the concentrations observed in the downgradient monitoring wells.

3.1.2 HYDRAULIC CONDUCTIVITY

Groundwater flow within bedrock occurs primarily via flow through the network of interconnected and saturated fractures, which provides a much higher effective porosity (fracture/secondary porosity) than does the bedrock aquifer matrix (primary porosity). This is due to the effective pore size of the fractures (the ratio of volume of open fractures to the bulk volume of the bedrock matrix) as compared to the miniscule pore sizes between sedimentary grains making up the bedrock matrix. Consequently, the fracture network provides a flow system with significantly higher hydraulic conductivity than the overall bedrock matrix porosity.

This network of fractures is highly heterogeneous, varying greatly in connectivity and conductivity from location to location. The fracture network is also anisotropic, which means the hydraulic conductivity varies in magnitude depending on the direction of measurement. As such, the occurrence of fracture interconnectivity and saturation varies greatly at a regional scale. In the Ohio River Valley, stress relief fracturing in bedrock provides a structural framework for bedrock overlain by coarse glacial outwash alluvial deposits to be hydraulically interconnected. The degree of stress fracturing is generally greatest in bedrock directly underlying the alluvial valley bottom, driving enhanced transmissivity of the fracture network in these areas (USGS 1981). Such is the case of the BAP area, where the Ohio River acts as a major regional groundwater discharge boundary, driving shallow brines towards the surface due to differences in hydraulic head. In addition, the depth of brine is shallower along the Ohio River than in the surrounding ridges due to flow from areas of recharge to areas of discharge (USGS 1997).

Heterogeneity and anisotropy of the fracture network is clearly observed in the bedrock wells installed around the BAP. Hydraulic conductivity was measured to be 4.17×10^{-2} cm/sec at bedrock well BAC-11 where observations of significant fractures were made during drilling and geophysical logging. This high hydraulic conductivity value (K value) in BAC-11 is similar to K values measured in the alluvial aquifer. Conversely, substantially lower K values were measured at bedrock wells BAC-09 (1.23×10^{-6} cm/sec) and BAC-19 (2.65×10^{-8} cm/sec), where fewer fractures were observed. This difference in hydraulic conductivity values between wells screened within the same bedrock unit exemplifies the effect of fracture network connectivity on hydraulic conductivity and helps to explain why some portions of the alluvial aquifer can be impacted by regional discharge (i.e., near BAC-02) while other areas may not be substantially influenced (i.e., near BAC-01 and BAC-18).

3.2 HYDRAULIC CONNECTION TO KYGER CREEK NORTH FLY ASH POND

Groundwater flow directions around the BAP are heavily influenced by pumping of Gavin water supply wells FW-15 and FW-1101. Based on 2024 transducer data from monitoring wells around the BAP, the alluvial aquifer continued to have an immediate response to pumping, similar to observations in 2022 & 2023, regardless of whether one or both wells were active.

When the pumping at the water supply wells was inactive and the river stage was low, the interpreted direction of groundwater flow was to the east, towards the Ohio River (Figure 3-5).

Transducer data from the first half of 2024 was evaluated to analyze the effects of pumping on horizontal hydraulic gradients and flow directions in the alluvial aquifer beneath the BAP. Horizontal gradients were calculated for each day from January 17, 2024, through May 2, 2024, using an R tool that calculates the best fit of a 2D plane to the potentiometric elevations based on the geometry of a given well-network. The approach was adapted from the EPA On-line Hydraulic Gradient Magnitude and Direction tool (USEPA 2021). The tool output is an overall flow vector frequency and direction for the transducer network. The frequency and direction of groundwater flow in 2024 is diagrammed in Figure 3-6. During this time period, the predominant direction of groundwater flow was to the east-northeast, with less frequent flow to the north-northwest. These findings are consistent with those observed historically (ERM 2023) and confirm the following key points:

- Due to the prevailing northeasterly groundwater flow direction, the Kyger Creek NFAP is not situated upgradient of the monitoring wells located along the western and northwestern areas of the Gavin BAP;
- Monitoring wells on the south side of the BAP are located downgradient of the Kyger Creek NFAP and upgradient of the BAP;
- During all groundwater flow conditions (pumping and non-pumping), the Kyger Creek NFAP is hydraulically upgradient of the monitoring wells along the southern and southeastern areas of the BAP; and
- During pumping conditions, the Kyger Creek NFAP is hydraulically upgradient of the monitoring wells along the southern, eastern, and northeastern areas of the BAP.

It is evident that the Kyger Creek NFAP is hydraulically connected to the downgradient BAP monitoring wells based on the prevalent northeasterly direction of groundwater flow and the presence of the same alluvial aquifer beneath both the Kyger Creek NFAP and the BAP. Pumping activity of water supply wells FW-15 and FW-1101 creates a clear and nearly immediate influence on groundwater flow directions around the BAP, shifting groundwater flow northward, especially across the eastern half of the BAP. This shift in localized groundwater flow directions orients the Kyger Creek NFAP as upgradient to a larger area of the BAP and results in an increased hydraulic connection between the Kyger Creek NFAP and the aquifer beneath the BAP.

4. CONSTITUENTS ARE PRESENT AT THE ALTERNATE SOURCES OR ALONG THE FLOW PATHWAYS

Groundwater quality at the BAP is influenced by multiple sources, as described in Sections 2 and 3. The Kyger Creek NFAP is identified as the source of boron, low pH, and sulfate. Regional brine is identified as the source of calcium, chloride, fluoride and TDS in BAP downgradient groundwater. The mixing of upgradient alluvial groundwater and water from the Ohio River also affects groundwater chemistry downgradient of the BAP. A summary of the constituents present at these sources is provided below.

4.1 REGIONAL BRINE

Regional brine is present in the area of the Plant and locally in bedrock under the BAP. Supplemental monitoring wells BAC-09, BAC-11, BAC-13, and BAC-19, which are installed in the Cow Run Sandstone at the BAP, all have chemical signatures indicating the presence of brine. As described in Section 3.1, the bedrock wells are upgradient of compliance wells BAC-02, BAC-03, BAC-04, and BAC-05 during certain portions of the year when upward vertical gradients exist. The ranges for calcium, chloride, fluoride and TDS in bedrock groundwater and downgradient alluvial groundwater (BAC-02, BAC-03, BAC-04 and BAC-05) at the BAP is presented in Table 4-1.

TABLE 4-1: COMPARISON OF BEDROCK GROUNDWATER TO DOWNGRADIENT BAP GROUNDWATER[2,3]

Analyte	Units	Bedrock Groundwater at BAP	Downgradient Alluvial Groundwater at BAP
Calcium	mg/L	55-2,500	79-140
Chloride	mg/L	460-25,000	31-77
Fluoride	mg/L	0.5-0.99	0.046-0.18
TDS	mg/L	1,600-35,000	430-900

Cross section view figures for calcium (Figure 4-1a and 4-1b), chloride (Figure 4-2a and 4-2b), TDS (Figure 4-3a and 4-3b), and fluoride (Figures 4-4a and 4-4b) depict the distribution of concentrations for these four constituents within bedrock and the alluvial aquifer around the area of the BAP. Concentrations of calcium, chloride, fluoride and TDS are generally higher, and in some cases one to two orders of magnitude higher in bedrock than in the overlying alluvial aquifer, consistent with a regional brine signature. Therefore, the higher concentrations of calcium, chloride, fluoride, and TDS in the bedrock groundwater and the observed upward hydraulic gradients indicate the SSIs are attributable to the discharge of groundwater from bedrock to the overlying alluvial aquifer.

[2] Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter; TDS = total dissolved solids. Results from samples collected in March 2024

[3] Bedrock Groundwater at BAP includes data from BAC-09, BAC-11, BAC-13, and BAC-19. Downgradient Alluvial Groundwater at BAP includes data from BAC-02, BAC-03, BAC-04, and BAC-05.

4.2 KYGER CREEK NORTH FLY ASH POND

4.2.1 BORON

Figure 4-5 depicts the distribution of boron concentrations across the BAP monitoring well network and the general horizontal flow path of boron from the northern boundary of the Kyger Creek NFAP. The plume orientation is consistent with the average observed daily groundwater flow vector as depicted on Figure 4-5, which is predominantly towards the north and/or northeast. The vector diagram summarizes transducer data collected from January 17, 2024, through May 2, 2024.

Boron concentrations and the approximated extent of boron impacts along the two primary flow directions (northeast and northward) from the Kyger Creek NFAP are also presented in cross section views (Figures 4-6a and 4-6b), as summarized by the following points:

- BAC-17 was installed in 2022 as a replicant monitoring point for B-0904 (which historically had a higher boron concentration than any BAP well; located on Kyger Creek Generating Station property and no longer accessible for sampling). BAC-17 is located downgradient of the Kyger Creek NFAP and upgradient of the BAP, and is screened in both the separation layer and into the underlying alluvial aquifer, mirroring the well screen of B-0904. The concentration of boron in BAC-17 was 3.2 mg/L in March 2024, a higher concentration than was observed in any downgradient well at the BAP in H1 2024.
- The highest boron concentrations in BAP downgradient wells were measured at wells BAC-04 and BAC-05, which are located nearest to and downgradient from the Kyger Creek NFAP.
- Concentrations of boron decrease with distance downgradient from the Kyger Creek NFAP, along the northeastern flow path (i.e., from BAC-05 to BAC-03).
- Monitoring wells BAC-06 and BAC-07 demonstrated slightly lower concentrations than measured in groundwater from monitoring well BAC-17 (and historically monitoring well B-0904), likely due to the slightly deeper position of the well screens within the aquifer.

Correspondence obtained from the OEPA regarding Kyger Creek NFAP concluded that groundwater below the NFAP appears to be impacted by a release from the Kyger Creek NFAP and that an assessment of groundwater should be conducted (Appendix A and Appendix B). Although groundwater around the Kyger Creek NFAP is not sampled for boron, the Kyger Creek SFAP data suggest that boron is present in groundwater below both Kyger Creek fly ash ponds. Table 4-2 summarizes boron analytical results from two groundwater sampling events conducted in March/April and September/October 2023 at monitoring wells downgradient of the Kyger Creek SFAP (AGES 2024). The highest concentrations were observed on the northeastern and southeastern boundaries of the Kyger Creek SFAP. The northeastern boundary was interpreted to be downgradient from the Kyger Creek NFAP in 2020 (AGES 2021).

TABLE 4-2: KYGER CREEK SFAP BORON 2023 RESULTS[4]

Analyte	Units	Maximum	Average
Boron	mg/L	16	7.82

The average concentration of boron (7.82 mg/L) in the Kyger Creek SFAP for 2023 is substantially higher than the maximum concentration of boron measured in groundwater beneath the BAP (2.7 mg/L) in spring 2024 from network wells. The Kyger Creek SFAP and the now-closed NFAP both contain fly ash generated at the Kyger Creek Generating Station. As such, it is reasonable to expect that the chemical characteristics of the fly ash are similar in both units. Given the elevated boron concentrations in groundwater downgradient of the Kyger Creek SFAP and considering that both units are unlined, elevated concentrations of boron in groundwater downgradient of the Kyger Creek NFAP would be expected. Thus, this evidence supports the conclusion that boron is present in groundwater at the Kyger Creek Generating Station.

4.2.2 SULFATE

Figure 4-7 depicts the distribution of sulfate concentrations across the BAP monitoring well network and includes results from the four monitoring wells screened in the alluvial aquifer located around the Kyger Creek NFAP. The figure also depicts the location of three additional Kyger Creek NFAP monitoring wells that were not sampled for sulfate. Figure 4-7 also depicts the general horizontal flow path of sulfate from the northern boundary of the Kyger Creek NFAP under pumping conditions, along with the approximated extent of sulfate impacts from the Kyger Creek NFAP around the BAP. This plume is consistent with the average observed daily groundwater flow vector as depicted on Figure 4-7, which is predominantly towards the northeast.

According to the December 2023 Kyger Creek Generating Station Closed North Fly Ash Pond Groundwater Semiannual Data Analysis (OVEC 2023), sulfate is present in wells surrounding the NFAP at concentrations exceeding those observed in groundwater around the BAP. In October 2023, sulfate was present in monitoring well KC-9507 (located to the southeast of NFAP) at 876 mg/L and monitoring well KC-9502 (located to the northeast of the NFAP adjacent to the Gavin property boundary) at 363 mg/L. Toxicity Characteristic Leaching Procedure (TCLP) data included with the Permit to Install for the Ohio Valley Electric-Kyger Creek Plant North Fly Ash Pond Closure Project indicate that fly ash produced at Kyger Creek Generating Station and placed in the NFAP leaches water with sulfate concentrations of 559 mg/L (OEPA 1996).

4.2.3 PH

The pH of groundwater emanating from the Kyger Creek NFAP was previously measured in well B-0904 and was historically slightly acidic (ERM 2018b). Acidic pH results of 5.62 and 5.73 were measured at B-0904 replicant well BAC-17 and Kyger Creek NFAP well KC-9502 (located at the northeast corner of Kyger Creek Generating Station property) in March 2024 and October 2023, respectively (OVEC 2023; Appendix A). The low pH at KC-9502 has been observed since 1997

[4] Notes: mg/L = milligrams per liter; SFAP = South Fly Ash Pond.

(Appendix A) and was identified by OEPA in 1998 (OEPA 1998; Appendix B). Table 4-3 summarizes the pH data in groundwater in sources around the BAP.

TABLE 4-3: GROUNDWATER AND SURFACE WATER PH VALUES[5]

Location	pH (SU)
Kyger Creek NFAP: Upgradient BAP Groundwater (KC-9502; 25 October 2023)	5.73
BAP: Upgradient Groundwater – Northwest (BAC-01, MW-1, and MW-6; March 2024)	6.84-7.14
BAP: Upgradient Groundwater – South (BAC-06, BAC-07, and BAC-17; March 2024)	5.62-6.65
BAP: Downgradient Groundwater (BAC-02 through BAC-05; March 2024)	6.04-6.59
BAP: Bedrock Groundwater (BAC-09, BAC-11, BAC-13, and BAC-19; March 2024)	7.06-8.55
Ohio River (March 2024)	7.85

The spring 2024 results remain consistent with previous ASD Reports for the BAP (ERM 2018b; ERM 2019; ERM 2020; ERM 2021b; ERM 2022; ERM 2023; ERM 2024). As shown in Figure 4-8, the distribution of pH and the northward flow direction demonstrate that low pH groundwater flows on-site from the Kyger Creek NFAP, where it mixes with upgradient alluvial groundwater, bedrock discharge, and water from the Ohio River, resulting in the intermediate pH observed in groundwater downgradient of the BAP. Monitoring wells BAC-06 and BAC-07 are not impacted to the same degree as BAC-17 by acidic groundwater migrating from the Kyger Creek NFAP, as evidenced by their higher pH. This is attributable to the well screens of BAC-06 and BAC-07 being substantially deeper than the well screens at B-0904 and BAC-17, lending to more influence by the regional discharge of groundwater from bedrock to the alluvial aquifer, as described further in Section 6.

[5] Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SU = Standard pH Units.

5. LINKAGES OF CONSTITUENT CONCENTRATIONS AND DISTRIBUTIONS BETWEEN ALTERNATE SOURCES AND DOWNGRADIENT WELLS

5.1 REGIONAL BRINE

As discussed in Section 4.1, the concentrations of calcium, chloride, fluoride and TDS are significantly higher in bedrock groundwater compared to alluvial groundwater, in particular at bedrock monitoring well BAC-11. Table 5-1 demonstrates that the concentrations of calcium, chloride, fluoride, and TDS range from 14 to 485 times higher in bedrock compared to alluvial groundwater. Brine impacted bedrock groundwater is the alternate source of calcium, chloride, fluoride, and TDS. As described in Section 3.1, groundwater discharges from bedrock upward into the overlying alluvial aquifer (uppermost aquifer) under certain hydraulic conditions. The presence of higher concentrations of calcium, chloride, fluoride, and TDS establishes bedrock groundwater as the source, and the presence of upward hydraulic gradients is the linkage (i.e., the means to migrate) between the alternate source and downgradient wells.

TABLE 5-1: RATIO OF BEDROCK GROUNDWATER TO DOWNGRADIENT BAP GROUNDWATER FOR REGIONAL BRINE[6]

Analyte	Units	Maximum Brine-Impacted Groundwater in Bedrock Beneath BAP (As measured at BAC-09/ BAC-11)	Average Downgradient Well at BAP	Bedrock to Alluvial Aquifer Ratio
Calcium	mg/L	2,500	101.5	25:1
Chloride	mg/L	25,000	51.5	485:1
Fluoride	mg/L	0.99	0.07	14:1
TDS	mg/L	35,000	605	58:1

5.2 KYGER CREEK NORTH FLY ASH POND

As described in Section 3.3, the average direction of groundwater flow in the alluvial aquifer is generally to the north and northeast from the Kyger Creek NFAP across the BAP towards the water supply wells. Figures 4-5, 4-7, and 4-8 show the linkage between the alternate source and the downgradient monitoring wells for boron, sulfate, and low pH, respectively.

5.2.1 BORON AND SULFATE

The maximum boron concentration measured in onsite groundwater monitoring wells at the BAP was 3.2 mg/L at BAC-17 (Figure 4-5). The average boron concentration observed at the Kyger Creek SFAP in 2023 was 7.82 mg/L, with a maximum boron concentration reported to be 16 mg/L. Groundwater at the Kyger Creek NFAP is not analyzed for boron, but it is expected to have

[6] Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter; TDS = total dissolved solids. Results from samples collected in March 2024.

similar concentrations due to the same materials placed both at the Kyger Creek SFAP and the NFAP. The maximum sulfate concentration measured in upgradient onsite groundwater monitoring wells along the southern boundary of the BAP was 250 mg/L at BAC-17 in spring 2024, while the maximum sulfate concentrations observed at the Kyger Creek NFAP in fall 2023 were 363 mg/L in well KC-9502 located in the northeast corner of the Kyger Creek NFAP and 876 mg/L in well KC-9507 located in the southeast corner of the Kyger Creek NFAP (Figure 4-7). The ratio of the maximum Kyger Creek fly ash pond concentrations to the maximum downgradient BAP well is provided in Table 5-2. These ratios, and the predominance of pumping-influenced flow directions to the northeast, demonstrate the linkage between boron and sulfate observed in downgradient BAP wells and the Kyger Creek NFAP, the alternate source.

TABLE 5-2: RATIO OF KYGER CREEK GROUNDWATER TO DOWNGRADIENT BAP GROUNDWATER FOR BORON/SULFATE[7]

		Maximum Concentration		Ratio: Kyger Creek Fly Ash Ponds to Downgradient BAP
Analyte	Units	Kyger Creek NFAP/SFAP (2023)	Downgradient BAP Well (BAC-05/BAC-02)	
Boron	mg/L	16	2.7	5.9:1
Sulfate	mg/L	876	380	2.3:1

5.2.2 PH

Table 5-3 summarizes the range of pH values measured at the Kyger Creek NFAP, the BAP and the Ohio River. The observed pH SSIs at the BAP were below the lower prediction limit of 6.63, which was derived based on background data from MW-1, BAC-01 and MW-6. BAP background groundwater, BAP bedrock groundwater and water from the Ohio River all have relatively neutral pH. Groundwater migrating from Kyger Creek NFAP has an acidic pH, as confirmed by the October 2023 pH measurement of 5.73 at monitoring well KC-9502, which is located approximately 150 feet south of the BAP. As discussed in Section 4.2.3, the low pH at KC-9502 has been observed since 1997 and was identified by OEPA in 1998 (Appendix B). As discussed in Section 3, groundwater migrating northward from the Kyger Creek NFAP mixes with upgradient groundwater migrating from the west and can mix with Ohio River water during high river stage conditions. This mixing of neutral and acidic waters causes groundwater at the downgradient BAP wells to become slightly acidic. These observations demonstrate the linkage between low pH groundwater observed in downgradient BAP wells and low pH groundwater from the Kyger Creek NFAP, the alternate source.

[7] Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter.
Results from Gavin samples collected in March 2024, Kyger Creek NFAP samples collected in October 2023, and Kyger Creek SFAP samples collected in 2023.

TABLE 5-3: COMPARISON OF BEDROCK, KYGER CREEK NFAP, AND DOWNGRADIENT BAP GROUNDWATER FOR PH[8]

Analyte	Units	Lowest Measured		Upgradient Wells West of BAP	Bedrock Wells	Ohio River	Downgradient BAP Wells (Mixing Area)
		Onsite BAP Well (BAC-17)	Kyger Creek NFAP (KC-9502)				
pH	SU	5.62	5.73	6.75 – 7.14	7.06 – 8.55	7.85	6.04 – 6.59

[8] Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SU = Standard pH Units.
Results from Gavin samples collected in March 2024, Kyger Creek NFAP samples collected in October 2023, and Ohio River sample collected March 2024.

6. DATA INDICATES THAT THE BAP IS NOT THE SOURCE

6.1 EVALUATION OF POTENTIAL GROUNDWATER MOUNDING AT THE BAP

From August 2022 through November 2023, programmable electronic data loggers equipped with a pressure-sensitive water level transducer were installed at four pairs of alluvial aquifer monitoring wells (eight monitoring wells) at the southern, western, northern, and eastern boundaries of the BAP to evaluate the potential for groundwater mounding. These monitoring well pairs were chosen based on their proximity to one another, and to the BAP. Each well pair included a well directly adjacent to the BAP, and the other located approximately 150-250 ft away from the BAP, which allowed for the evaluation of hydraulic heads and resulting hydraulic gradients between each couplet. A signature of mounding would be identified by consistently higher potentiometric elevations at the well located closer to the BAP compared to its counterpart located further from the BAP. The four well couplet pairs included the following:

- BAC-01 (further from BAP) and BAC-08 (closer to BAP), installed at the western boundary of the BAP;
- BAC-10 (further from BAP) and BAC-02 (closer to BAP), installed at the northern boundary of the BAP;
- BAC-12 (further from BAP) and BAC-04 (closer to BAP), installed at the eastern boundary of the BAP; and
- BAC-16 (further from BAP) and BAC-18 (closer to BAP), installed at the southern boundary of the BAP.

Mounding was not observed at the BAP (ERM 2024). The potentiometric elevation at the northern boundary of the BAP is largely controlled by the operation of the pumping wells located north of the BAP. Well BAC-10 is located closer to the pumping wells and typically has a lower potentiometric surface during times of pumping. This signature is consistent with greater drawdown at BAC-10 because it is closer to the water supply wells than BAC-02 and is not a result of mounding at the northern boundary at the BAP. At the eastern, southern, and western boundaries of the BAP, potentiometric elevations in the wells located further from the BAP were consistently very similar to or higher than the potentiometric elevations in the wells located closer to the BAP. These observations are not consistent with mounding at the BAP.

6.2 OBSERVED BORON CONCENTRATIONS

Surface water samples at the BAP and Reclaim Pond were collected during each groundwater sampling event between 2016 and 2022. Prior to dewatering of the BAP, boron was consistently detected in surface water at 0.50 mg/L or lower, except for one event in 2019 when boron was measured at 1.30 mg/L. Table 6-1 compares the boron concentrations measured in surface water and monitoring wells. Based on this data, the boron concentration in the BAP surface water was too low to be the source of boron to the downgradient BAP wells. In contrast, groundwater flowing towards the BAP from under the Kyger Creek NFAP has consistently had a boron concentration higher than what is detected in downgradient groundwater. The average concentration at B-0904 from March 2018 to March 2020 was 3.95 mg/L, and BAC-17 had an average boron concentration

of 3.82 mg/L from October 2022 to March 2024, making the Kyger Creek NFAP the most likely source.

Boron in the environment typically exists as boric acid or the borate ion. Both species are water-soluble and are not sensitive to redox conditions. Although adsorption/desorption reactions occur, adsorption is strongest in slightly-to-moderately basic conditions (pH 7.5-10), which are not observed in groundwater around the BAP (ATSDR 2010). Therefore, it is not likely that oxidizing conditions present in surface water would impact boron concentrations in the BAP, nor is it likely that adsorption/desorption processes are significantly impacting the concentrations of boron in groundwater surrounding the BAP. Boron is expected to act as a conservative tracer due to its high solubility and mobility in groundwater.

TABLE 6-1: BAP BORON RESULTS[9]

Analyte	Units	Bottom Ash Pond[a]	Reclaim Pond[a]	Downgradient BAP Wells[b]
Boron	mg/L	0.44	0.51	2.15

6.3 LEACHING DATA

Based on leaching testing performed on bottom ash from the BAP, the CCR material present in the BAP does not yield concentrations of Appendix III parameters above background (or below background in the case of pH). Therefore, the BAP does not constitute a source of impact to groundwater.

Gavin collected composite bottom ash samples annually from the BAP. These samples were extracted by modified TCLP following method ASTM D3987 to evaluate the leaching potential of bottom ash material from the BAP. A summary of the results is included in Table 6-2, including minimum, maximum, and average leachate concentrations for the bottom ash samples from 2016 to 2023. Table 6-2 also includes applicable LPL and UPL values derived for the BAP Appendix III parameters, as well as the average of nine samples collected from monitoring well BAC-21, located west of the BAP to represent groundwater quality hydraulically upgradient and distant from the BAP.

[9] [a] Average sample results from February 2018 to October 2022.
[b] Average sample results from BAC-02, BAC-03, BAC-04, and BAC-05 in March 2024.

TABLE 6-2: BAP TCLP RESULTS[10]

Appendix III Parameter	Units	App III LPL	App III UPL	BAC-21 (Avg)	Gavin Modified TCLP			
					n	Min	Max	Avg
Fluoride	mg/L	-	0.161	0.08	8	<0.01	0.059	0.053
Chloride	mg/L	-	24.7	69.6	8	0.174	0.91	0.621
Sulfate	mg/L	-	140	126.4	8	2.1	42	10
TDS	mg/L	-	505	530.8	8	<10.0	56	29
pH	SU	6.63	7.22	6.84	8	6.5	9.7	8.02
Calcium	mg/L	-	129	125.8	4	3	12	6.1
Boron	mg/L	-	0.177	0.36	4	<0.1	<0.1	<0.1

These results indicate that the Appendix III parameters do not leach from Gavin bottom ash at concentrations above the Appendix III UPLs. We note that the pH SSI is for pH levels lower than the LPL, so the fact that the average pH level in the TCLP results is not only above the LPL but also above the UPL is further indication that the BAP is not the source of the low pH SSI. Leaching results are generally lower than background groundwater observed west of the BAP. Accordingly, concentrations observed in downgradient wells must be caused by a source other than the BAP.

6.4 CHEMICAL FINGERPRINTS

The geochemical fingerprints of surface water from the BAP, upgradient groundwater west of the BAP, groundwater flowing from the Kyger Creek NFAP, and surface water from the Ohio River were evaluated using the concentrations of parameters that are not expected to sorb strongly or participate in redox reactions. Boron, chloride, and potassium were chosen for these comparisons due to their higher water solubility, limited redox chemistry, and presence in groundwater around the BAP. Boron-chloride and boron-potassium plots are shown in Figure 6-1 and Figure 6-2, respectively.

The samples presented on the concentration plots were collected from 2016 through 2024. The primary observations based on the concentration plots (Figures 6-1 and 6-2) are the following:

- Multiple samples collected from a single location (e.g., the Ohio River or Well BAC-01) tended to be tightly clustered, indicating that the chemical signatures of individual locations were consistent over time.
- Monitoring wells collected from a similar environment (i.e., upgradient wells located west of the BAP) tended to have similar concentrations and plot near each other.
- Groundwater from BAP upgradient wells MW-1, BAC-01, and MW-6 has a unique signature with relatively low boron, chloride, and potassium. The Ohio River has similar concentrations of boron and chloride, but generally has a higher concentration of potassium.

[10] *Notes: n = number of samples available from 2016 to 2023; < = not detected at the listed reporting limit; SU = standard units.*

- Groundwater migrating from the Kyger Creek NFAP is captured by monitoring wells B-0904 and BAC-17, which was installed to replace B-0904. Concentrations of boron, chloride, and potassium at these wells are similar. These wells are characterized by high boron and low chloride and potassium.
- Groundwater from BAP downgradient wells BAC-02, BAC-03, BAC-04, and BAC-05 has a signature similar to groundwater migrating onto Gavin from the Kyger Creek NFAP (B-0904 and BAC-17). BAC-05, which is located closest to the Kyger Creek NFAP, plots closest to the Kyger Creek NFAP groundwater, followed by BAC-04, BAC-03, and BAC-02, respectively. This is consistent with their distance from the Kyger Creek NFAP. Groundwater at these wells is characterized by high boron, with elevated chloride and potassium relative to Kyger Creek NFAP groundwater due to the influence of bedrock groundwater. Supplemental monitoring wells BAC-12 and BAC-14 have chemical fingerprints consistent with other BAP downgradient wells.
- Groundwater from monitoring wells BAC-06 and BAC-07 shows a distinct signature with similar concentrations of chloride and potassium to Kyger Creek NFAP groundwater, with lower but still elevated concentrations of boron. These wells are screened at a deeper interval than B-0904 and BAC-17, indicating that the boron plume flowing from the Kyger Creek NFAP is primarily located in the upper part of the alluvial aquifer.
- Groundwater from supplemental bedrock wells BAC-09, BAC-11, BAC-13, and BAC-19 has a unique signature with moderate concentrations of boron (comparable to those observed at some upgradient locations) and very high chloride. Chloride concentrations are up to three orders of magnitude higher in bedrock groundwater than in alluvial background groundwater, which is consistent with the interpretation of brine influencing Cow Run groundwater quality.
- Groundwater from supplemental upgradient monitoring wells located farther to west/northwest (BAC-21, BAC-22, and BAC-23) has a signature similar to the network upgradient wells, (MW-1, BAC-01 and MW-6) but with slightly more boron and potassium.
- Groundwater from supplemental separation layer monitoring well BAC-15 has a distinct signature characterized by moderate boron and potassium and very low chloride. This well has limited connectivity to surrounding groundwater due to the low hydraulic conductivity of the separation layer.
- BAP surface water through 2023 had a signature distinct from downgradient groundwater, characterized by moderate boron and chloride, with potassium concentrations higher than both upgradient and downgradient groundwater.

Based on the data summarized above and the chemical fingerprints of the groundwater at issue, the BAP is not the source of the SSIs.

7. ALTERNATE SOURCE DATA ARE HISTORICALLY CONSISTENT WITH HYDROGEOLOGIC CONDITIONS AND FINDINGS OF THE MONITORING PROGRAM

7.1 REGIONAL BRINE

The existence of Regional Brine in the area surrounding the plant is supported by historical studies and data. Regional groundwater flow regimes through fractured bedrock upgradient of the BAP were established after the last deglaciation, which occurred approximately 14,000 years ago (Hansen 2017). Enhancement of transmissivity in the Ohio River Valley from stress-relief fracturing in bedrock provides conditions for bedrock to be interconnected to coarse glacial outwash alluvial deposits (USGS 1981; USGS, 1997). Regional groundwater within the fractured sedimentary bedrock in the Ohio River Valley generally flows from areas of higher topographic elevation towards areas of lower elevation, ultimately discharging to the Ohio River (ORSANCO 1984). Assuming a conservatively high effective porosity of 1 percent, estimated groundwater velocity values for the Morgantown Sandstone and Cow Run Sandstone units are approximately 77 feet per year and 31 feet per year, respectively. These flow rates would allow ample time for groundwater to migrate from upgradient regional background sources to Plant property. The data supporting these conclusions are historically consistent with hydrogeologic conditions and findings of the BAP monitoring program.

The discharge of brines is seen at a regional scale along the Ohio River with shallow wells near the Ohio River observing saltwater impacts; whereas, further from the Ohio River shallow wells report little to no brine impacts (USGS 1997). At the site, upward gradients between bedrock and alluvial wells near the Ohio River have been observed, and locations with the strongest observed upward gradients generally have high hydraulic conductivities, which supports the conclusion that bedrock and alluvial aquifers are hydraulically connected on-site. Additionally, the influence of pumping conditions further contributes to upward vertical gradients, as described in previous sections. Total dissolved solids concentrations observed in bedrock wells around the BAP are consistent with observations seen at brine-freshwater mixing zones at other brine-impacted sites (Yager et al. 2017). The regional and site-specific data are in strong agreement and support the conclusion that regional brines are discharging under the BAP and mixing with alluvial groundwater underneath the BAP.

7.2 KYGER CREEK NORTH FLY ASH POND

The Kyger Creek NFAP was constructed in 1955 on a native soil base and without an engineered liner system to capture and contain leachate. The unit was used to manage fly ash until it was drained and closed from 1998 to 2000. However, despite closure, ash is still present within the Kyger Creek NFAP (AEP 1994). The NFAP was capped with boiler slag and clay but did not include synthetic materials that would be more likely to prevent infiltration of precipitation, subsequent migration of water through highly leachable CCR materials in the subsurface and resulting recharge of sulfate and boron-impacted water to the alluvial aquifer. Approximately 900,000 cubic yards of boiler slag and boiler slag fines were also used as surface fill and as material to build berms. Both materials yielded low pH samples during leachability testing (OEPA 1996).

Groundwater in the alluvial aquifer flows from the Kyger Creek NFAP in a northeasterly direction toward the BAP. Given the six decades that this unit has contained fly ash and the alluvial aquifer groundwater velocity estimates of 130 to 200 feet per year, ample time has passed for groundwater to migrate from the Kyger Creek NFAP beneath the BAP. The following evidence therefore supports that the Kyger Creek NFAP is the alternate source of boron, sulfate, and low pH.

- The low concentration of boron in water from the BAP compared to the higher concentrations of boron in groundwater beneath the BAP (Section 4 and Section 6).
- Analytical results from groundwater samples collected for the Kyger Creek NFAP and SFAP suggest boron and sulfate are present in Kyger Creek groundwater and groundwater has an acidic pH. Given the similarity in construction and types of CCR managed, it is reasonable to interpret Kyger Creek SFAP groundwater results for boron are also representative of Kyger Creek NFAP groundwater quality (Section 4).
- TCLP data indicates that material placed in the Kyger Creek NFAP leaches high sulfate and low pH, while bottom ash from the BAP leaches low sulfate, low boron, and near-neutral pH.
- The chemical fingerprinting evidence suggests groundwater from the Kyger Creek NFAP mixes with upgradient groundwater from west of the BAP, groundwater discharging from the bedrock, and water from the Ohio River water under the eastern portion of the BAP (Section 6).
- The OEPA has concluded that groundwater appears to be impacted by a release (i.e., elevated conductivity, sulfate, TDS, and low pH) from the Kyger Creek NFAP (Appendix A and Appendix B).

A comparison of the materials managed in the BAP provides evidence that the BAP is not the source of boron and that the Kyger Creek NFAP is a more likely source of boron. The Kyger Creek NFAP has contained fly ash since 1955, while the BAP has been used primarily for the management of bottom ash since 1974. Bottom ash and fly ash have different physical and chemical properties; laboratory investigations have demonstrated elements (including Appendix III constituents) have a much greater potential to leach from fly ash compared to bottom ash (Cox et al. 1978; Jones et al. 2012). The higher concentrations of boron observed in Kyger Creek SFAP groundwater compared to the lower concentration of boron observed in groundwater downgradient of the BAP are consistent with the known leaching properties of fly ash and bottom ash. Boron, therefore, is more likely to leach from the Kyger Creek SFAP/NFAP than the BAP based on the historical use of each unit. These observations support the conclusion that the Kyger Creek NFAP, and not the BAP, is the source of boron in groundwater under the BAP. Thus, the data supporting these conclusions are historically consistent with hydrogeologic conditions and findings of the BAP monitoring program.

8. CONCLUSIONS

The SSIs identified in this ASD Report are based on results from downgradient BAP monitoring well samples collected in March 2024. Review of data for quality assurance and statistical comparison was completed on May 8, 2024. In response to the SSIs, this ASD Report was prepared within the required 90-day period in accordance with 40 CFR § 257.94(e)(2).

SSIs in the downgradient BAP monitoring wells have been determined to result from alternate sources based on analysis of the gathered data: discharge of regional brine present in bedrock and the Kyger Creek Power Plant NFAP. Table 8-1 summarizes the six lines of evidence for each of the SSIs.

In conclusion, the BAP is not the source of the SSIs associated with the first semiannual sampling event groundwater results for 2024. Thus, Gavin will continue detection monitoring at the BAP in accordance with 40 CFR § 257.94(e)(2).

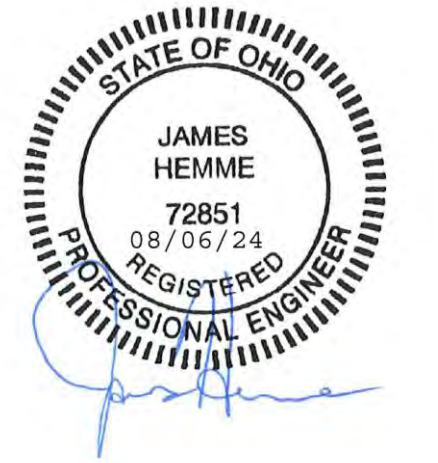
TABLE 8-1: BAP ASD SUMMARY[11]

Analyte	SSI Location	Six Lines of Evidence from USEPA Guidance					
		Alternate Source	Hydraulic Connection	Constituent Present at Source or along Flow Path	Constituent Distribution More Strongly Linked to Alternate Source	Constituent Could Not Have Resulted from the BAP	Data Are Historically Consistent with Hydrogeologic Conditions
Boron	BAC-02 BAC-03 BAC-04 BAC-05	Kyger Creek NFAP	X	X	X	X	X
Calcium	BAC-02	Regional Brine	X	X	X	X	X
Chloride	BAC-02 BAC-03 BAC-04 BAC-05	Regional Brine	X	X	X	X	X
Fluoride	BAC-02	Regional Brine	X	X	X	X	X
pH	BAC-02 BAC-03 BAC-04 BAC-05	Kyger Creek NFAP	X	X	X	X	X
Sulfate	BAC-02 BAC-03 BAC-04 BAC-05	Kyger Creek NFAP	X	X	X	X	X
TDS	BAC-02 BAC-04 BAC-05	Regional Brine	X	X	X	X	X

[11] Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SSI = statistically significant increase; TDS = total dissolved solids; USEPA = United States Environmental Protection Agency.

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I, or an agent under my review, have prepared this Alternate Source Demonstration Report for the Bottom Ash Pond and it meets the requirements of 40 CFR § 257.94(e)(2). To the best of my knowledge, the information contained in this Report is true, complete, and accurate.



James A. Hemme, P.E.
State of Ohio License No.: 72851

Date: 8/6/24

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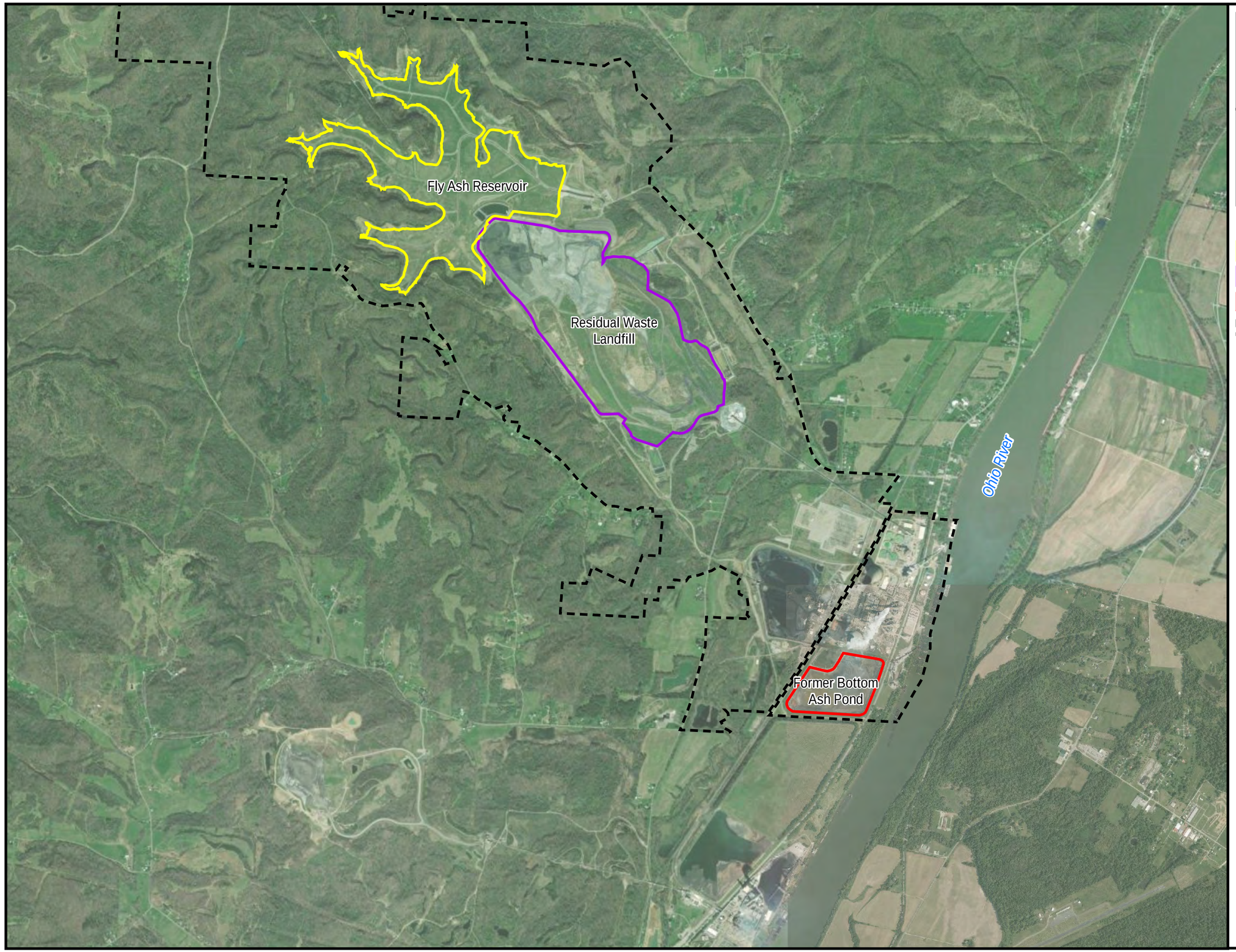
FIGURES

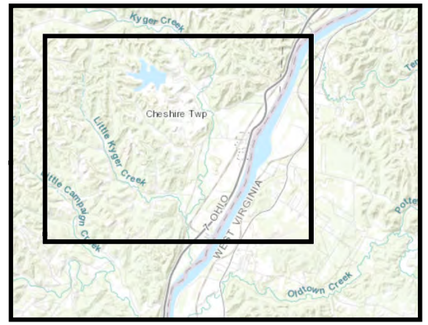


Figure 1-1: Gavin Plant Location
Gavin Generating Station
Cheshire, Ohio

ERM

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Legend

- Fly Ash Reservoir
- Residual Waste Landfill
- Former Bottom Ash Pond
- Property Boundary

NOTES:

1. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
     Reproduced under license in ArcGIS 10.8

N

0 500 1,000 2,000 3,000 4,000

Feet

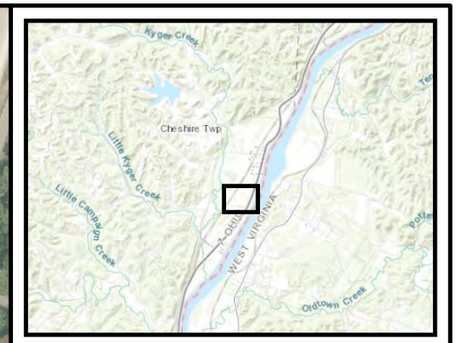
Figure 1-2: Former Bottom Ash Pond Location

Gavin Generating Station
Cheshire, Ohio

ERM

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Legend

- 2022 Monitoring Well (Not in Federal Program)
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Water Supply Well
- Piezometer
- BAC — Alluvium Well
- BAC — Silt and Clay/Alluvium Well
- BAC — Silt and Clay Well
- BAC — Bedrock Well
- Approximate location of Bottom Ash Pond boundary
- Gavin Property Boundary

NOTES:

1. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
     Reproduced under license in ArcGIS Pro 3.2.2

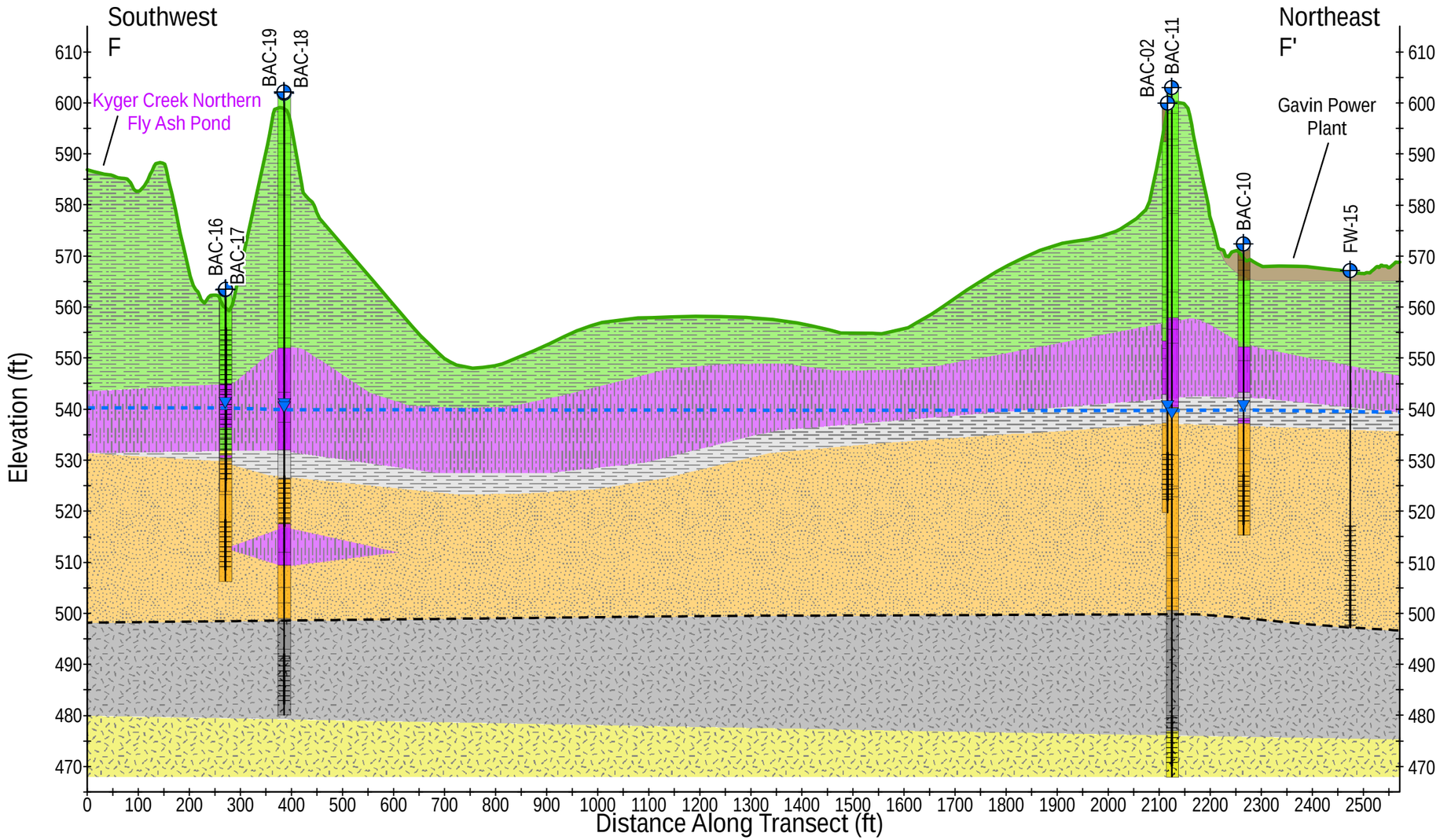
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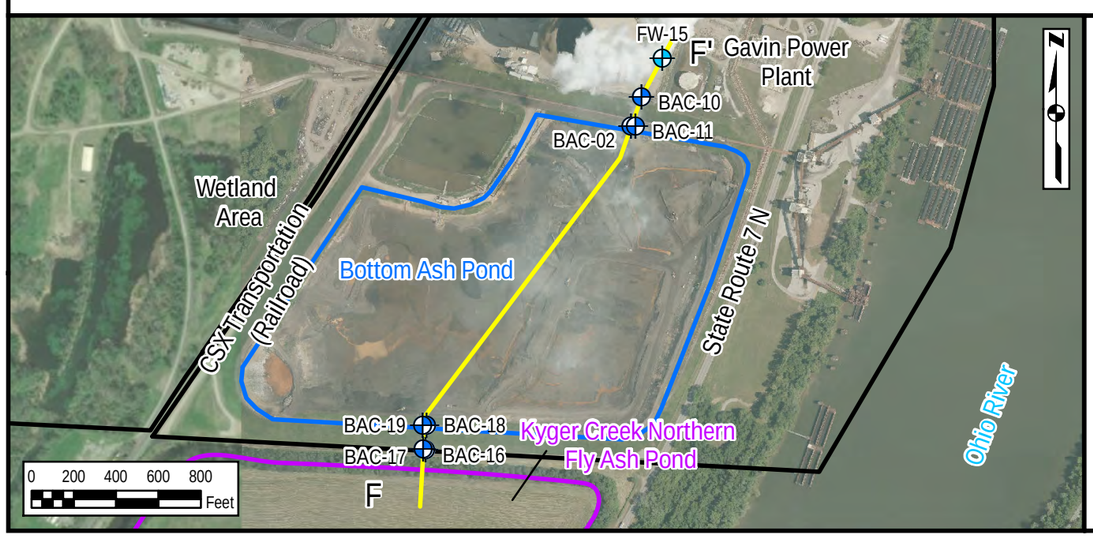
0 62.5 125 250 375 500

Feet

Figure 1-3: Bottom Ash Pond Monitoring Well Network
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

- Water Supply Well
- Monitoring Well
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Generalized Lithology

- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

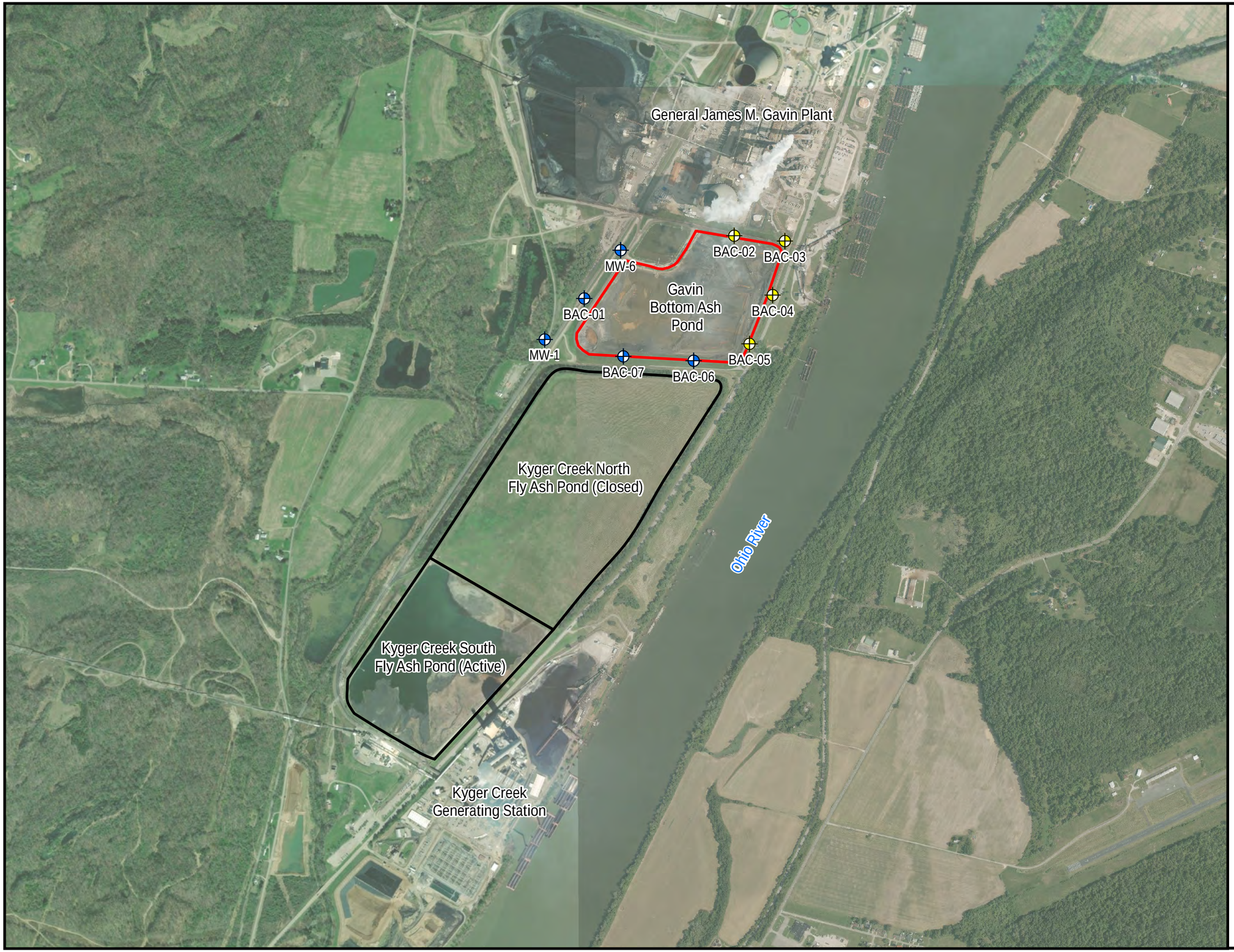
NOTE:
1. Potentiometric elevations from March 2024.
2. Surface profile from OGRIP LiDAR 2020.
3. Elevation is exaggerated 10X.
4. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
5. The geology is generalized based on the lithology descriptions.
6. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

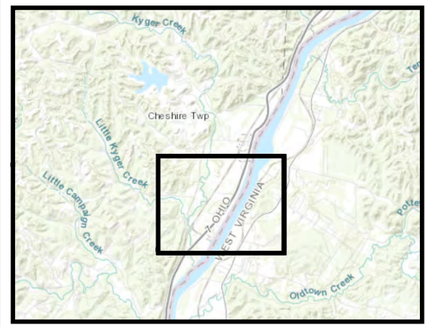
Figure 1-4: Bottom Ash Pond Cross Section

Gavin Power, LLC
Cheshire, Ohio

ERM

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Legend

- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Gavin Bottom Ash Pond
- Kyger Creek Fly Ash Ponds

NOTES:

1. Kyger Creek features are from AEP. 1994. Hydrogeologic Site Investigation Plan for the Proposed North Fly Ash Pond Closure, Kyger Creek Station, Ohio Valley Electric Corporation, Gallia County, Ohio.
2. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
   Reproduced under license in ArcGIS 10.8

N

0 250 500 1,000 1,500 2,000

Feet

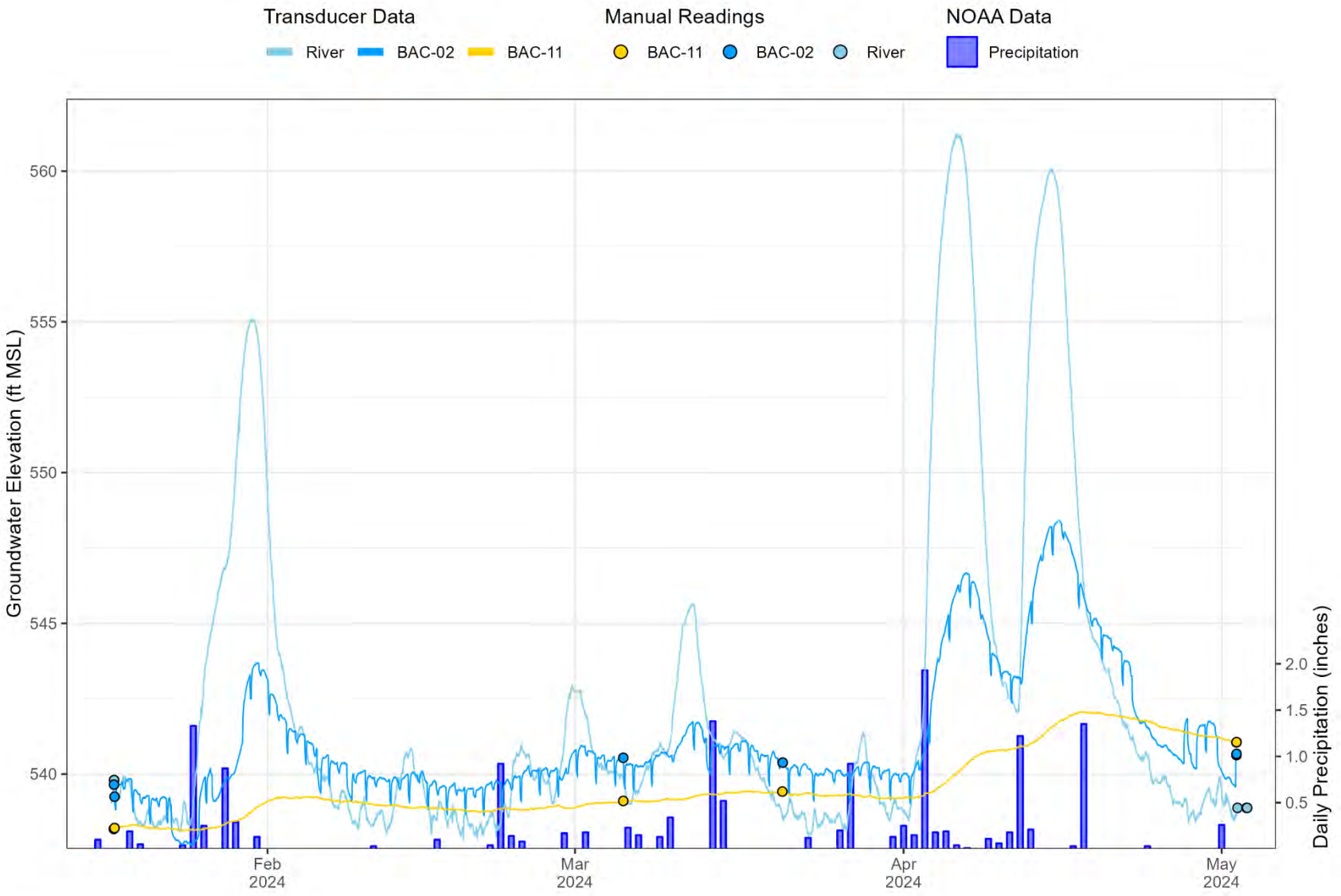
Figure 2-1: Kyger Creek Generating Station Location

Gavin Generating Station

Cheshire, Ohio

ERM

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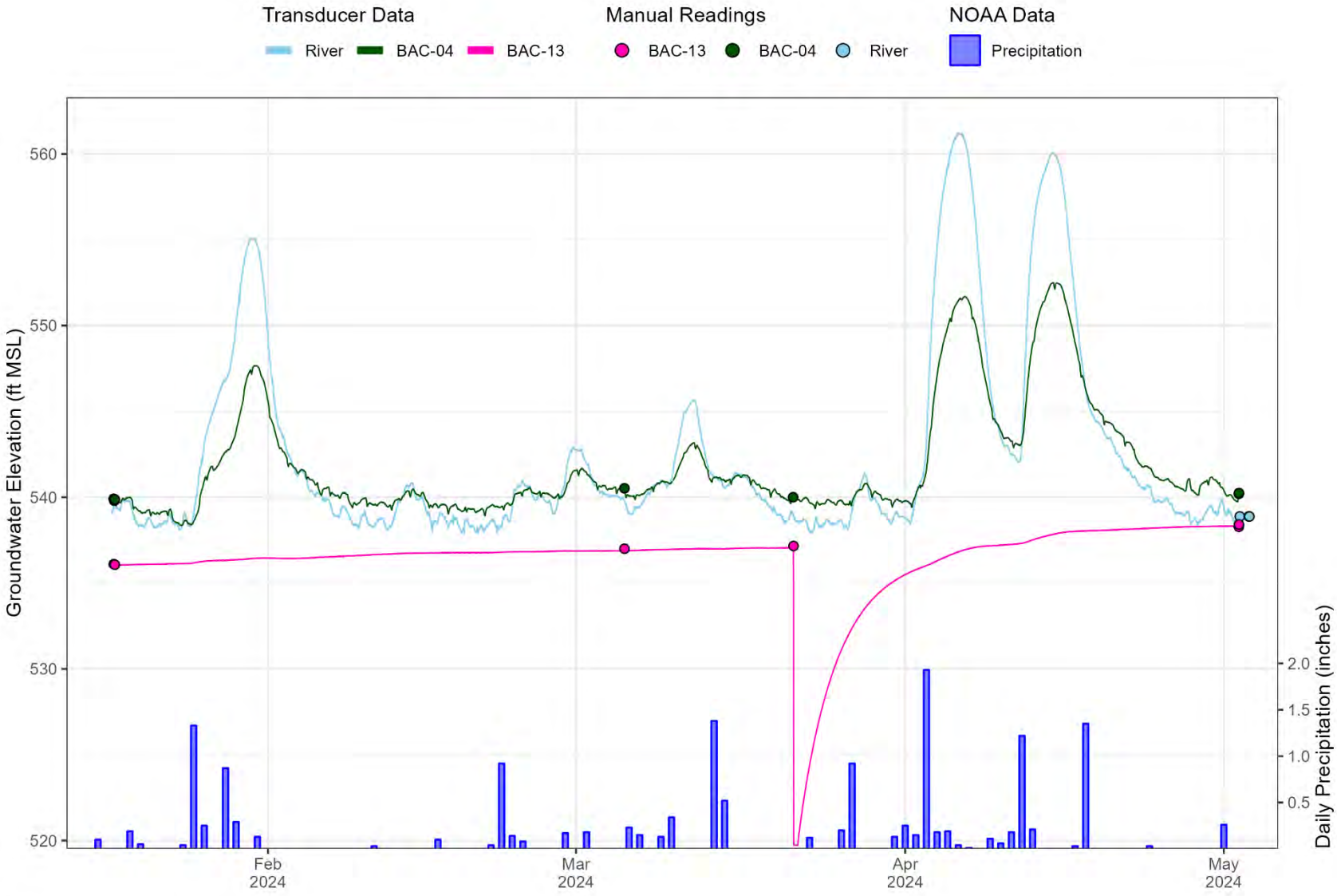


Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-1: BAC-02 and BAC-11 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM



Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-2: BAC-04 and BAC-13 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM

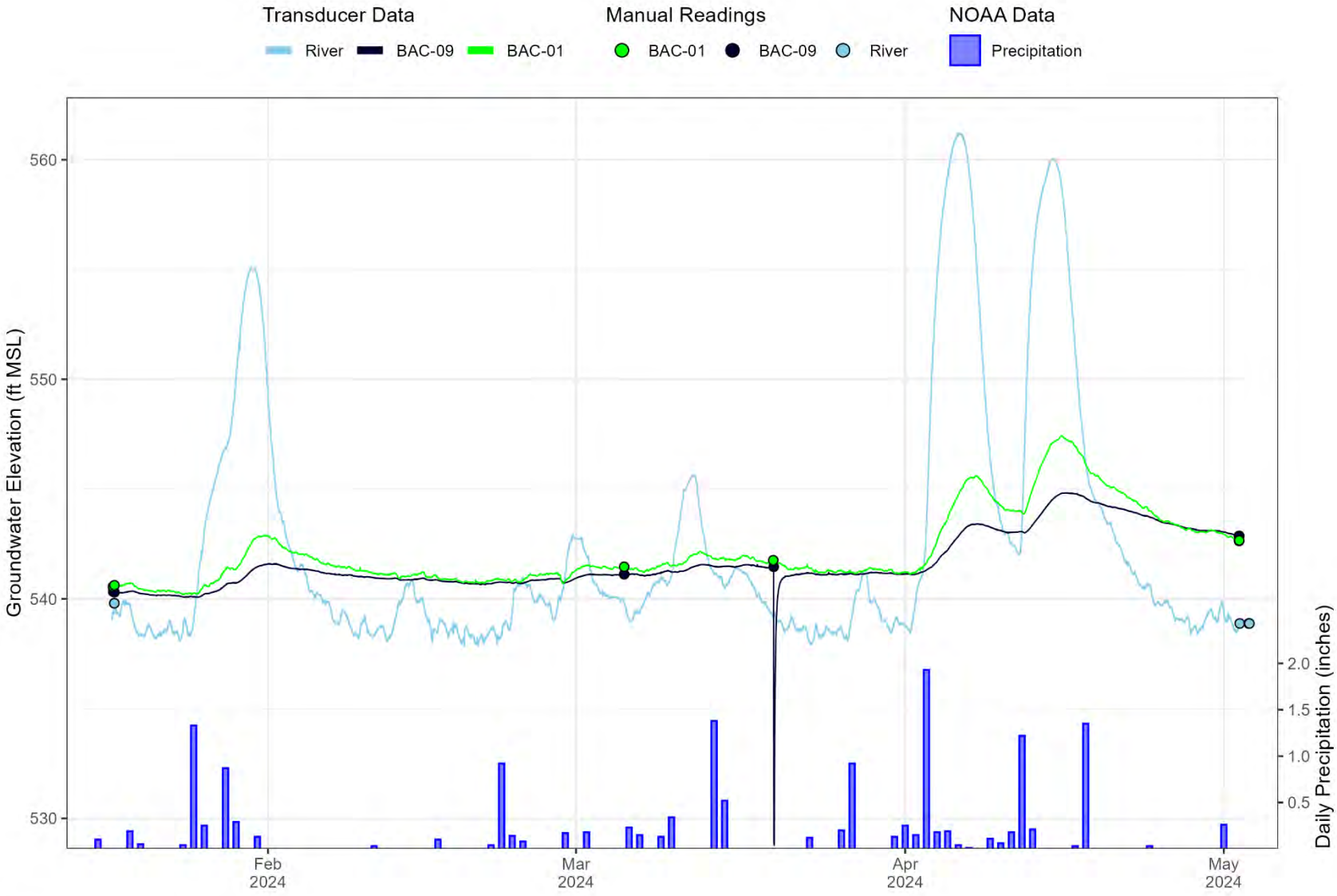


Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-3: BAC-18 and BAC-19 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM

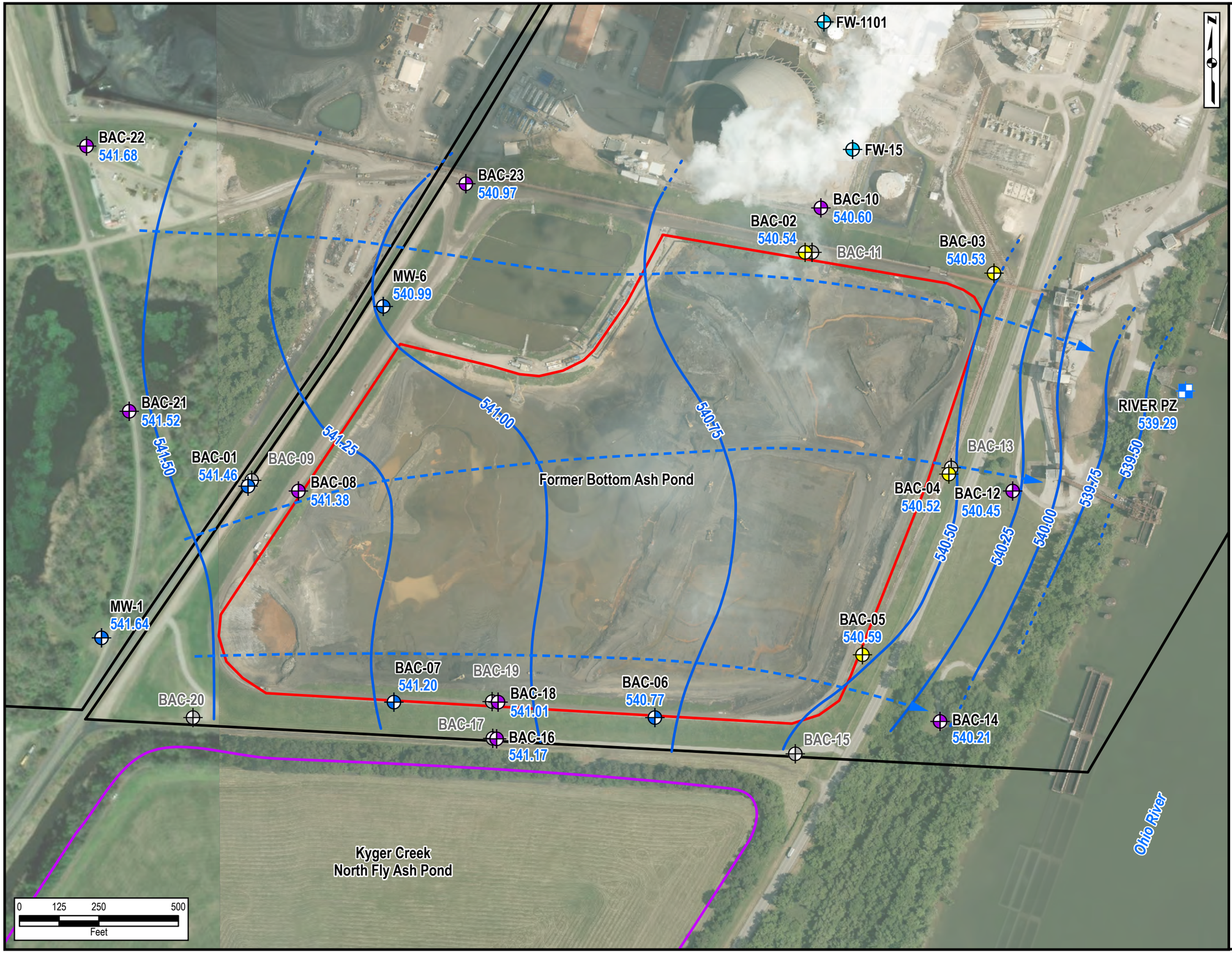


Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-4: BAC-01 and BAC-09 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM



Legend

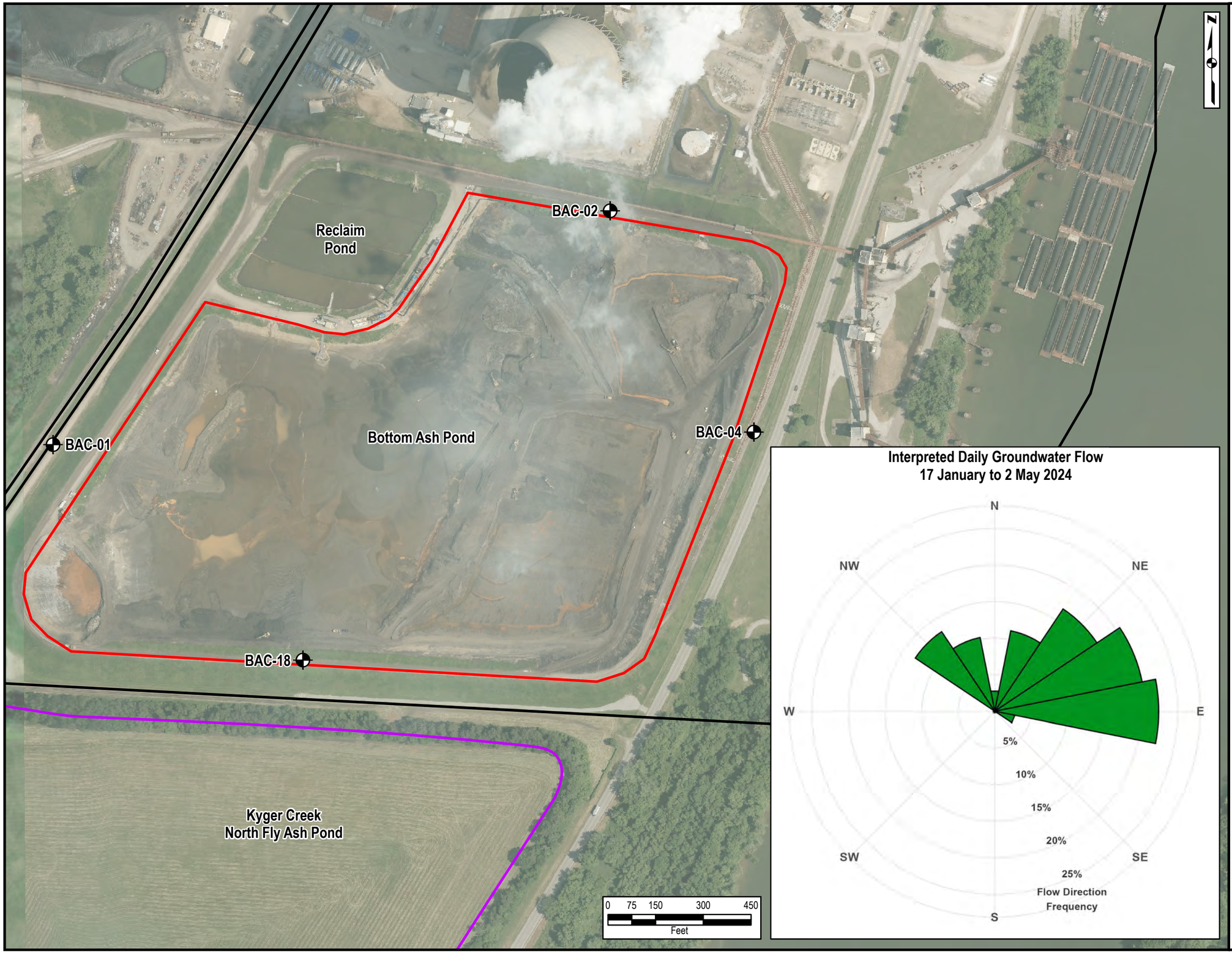
- New 2022 Monitoring Well
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- River Stilling Well Location
- Bedrock or Silt/Clay Well (excluded from contouring)
- Water Supply Well
- 539.85 Groundwater Elevation (ft)
- Spring 2024 Interpreted Groundwater Potentiometric Contour
- Spring 2024 Interpreted Generalized Groundwater Flow Direction
- Approximate Location of Former Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

NOTES:

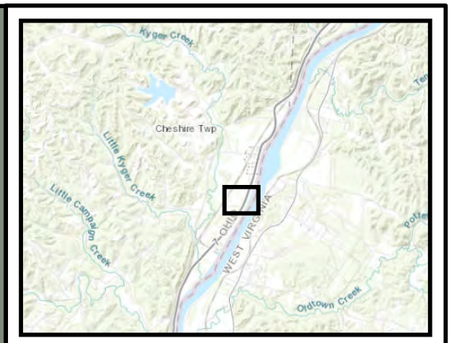
- Monitoring wells were gauged on 3/4/2024 and 3/5/2024.
- Wells not used for contouring of the Alluvium include wells screened in silt/clay or bedrock.
- Flow lines indicate a general groundwater flow direction within alluvium beneath the Former Bottom Ash Pond. They do not represent all potential flow paths within the alluvium, nor do they represent preferential flow paths or convergence of flow.
- Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.8

Figure 3-5: Interpreted Groundwater Potentiometric Contour Map Spring 2024 - Non-Pumping Conditions
Gavin Generating Station
Cheshire, Ohio

ERM



Interpreted Daily Groundwater Flow
17 January to 2 May 2024



Legend

- Groundwater Monitoring Locations
- Frequency of Vector Flow Direction (% Days)
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

NOTES:

1. Groundwater flow vector diagrams calculated using an R Studio Shiny application.
2. The approach was adapted from the EPA On-line Hydraulic Gradient Magnitude and Direction tool.
3. Interpreted groundwater flow directions calculated based on data from transducers installed in the four displayed wells.
4. Transducer data were collected from 17 January through 2 May 2024.
5. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
     Reproduced under license in ArcGIS Pro 3.2.2

Figure 3-6: Interpreted 2024 Groundwater Flow Directions
Gavin Power, LLC
Cheshire, Ohio

ERM

West
B

East
B'

BAC-21
BAC-01
BAC-09
BAC-08
BAC-04
BAC-13
BAC-12
RIVER PZ

CSX Transportation
(Railroad)

Wetland Area

State Route
7 N

Ohio
River

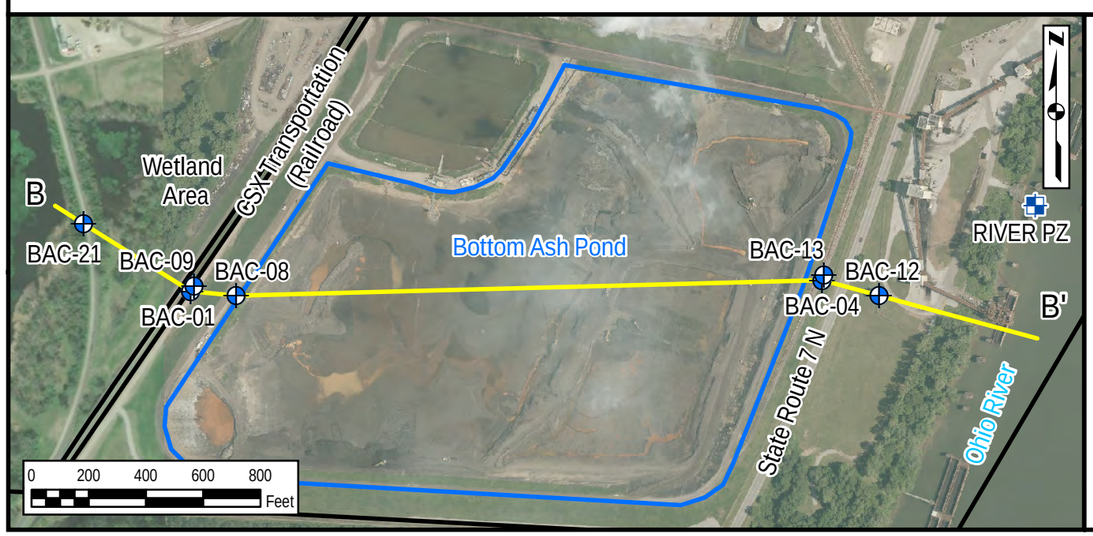
120
99
84
55
95
76
26
230

Elevation (ft)

610
600
590
580
570
560
550
540
530
520
510
500
490
480
470

0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500 2,600 2,700 2,800 2,900 3,000 3,100 3,200 3,300 3,400 3,500

Distance Along Transect (ft)



Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Calcium Concentrations in Groundwater (mg/L)

- <129
- 129 - 200
- 200 - 500
- 500 - 1,000
- >1,000

Generalized Lithology

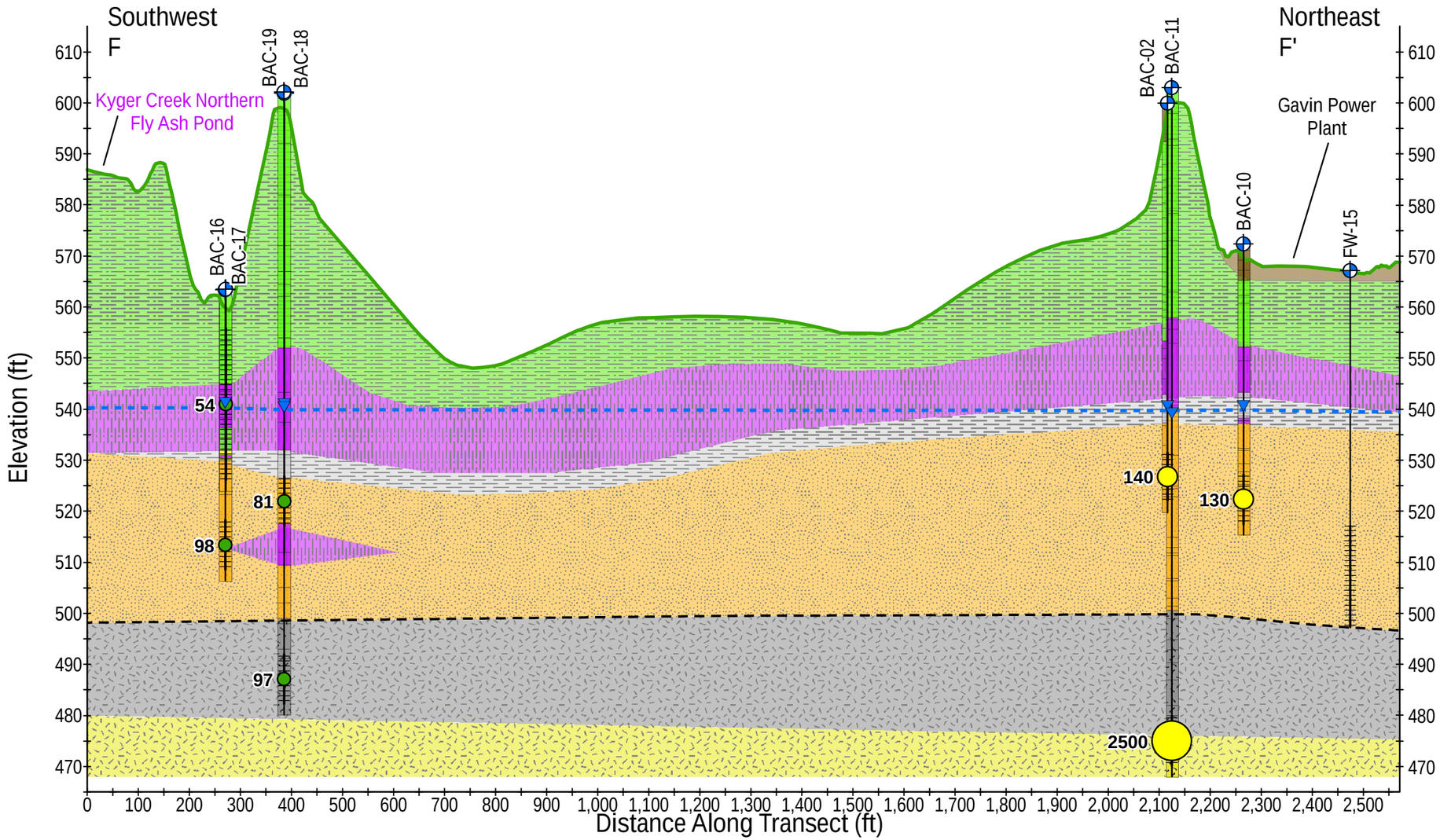
- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

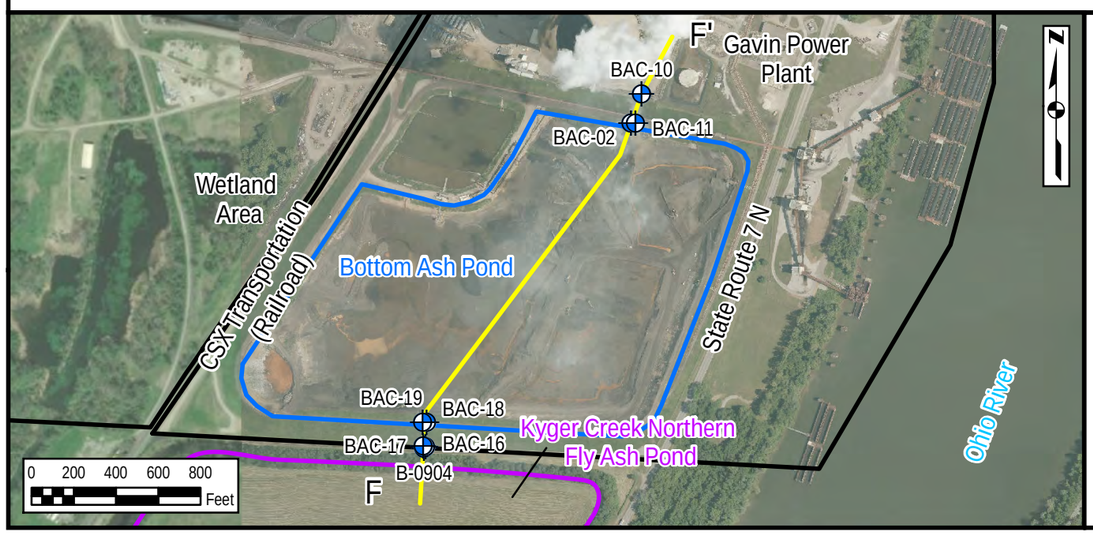
Figure 4-1a: Calcium Concentrations - Cross Section View 1
Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater and Ohio River samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

- Monitoring Well
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Calcium Concentrations in Groundwater (mg/L)

- <129
- 129 - 200
- 200 - 500
- 500 - 1,000
- >1,000

Generalized Lithology

- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

Figure 4-1b: Calcium Concentrations - Cross Section View 2

Gavin Power, LLC
Cheshire, Ohio

NOTE:

1. Potentiometric elevations from March 2024.
2. Groundwater samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 reporting limit elevated due to sample dilution.

ERM

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West
B

East
B'

BAC-21
BAC-01
BAC-09
BAC-08
BAC-04
BAC-13
BAC-12
RIVER PZ

CSX Transportation
(Railroad)

Wetland Area

State Route
7 N

Ohio
River

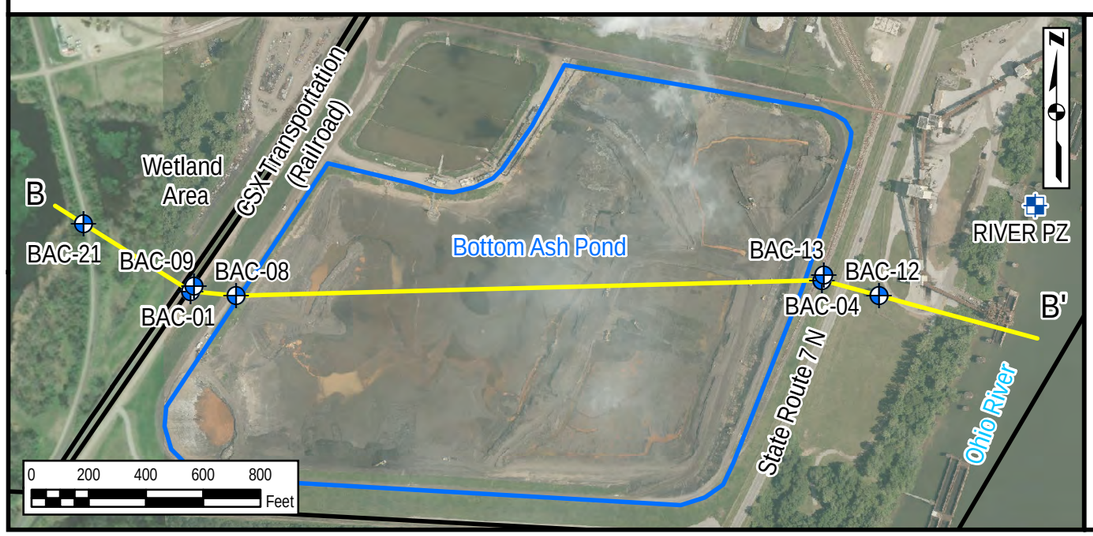
65
27
21
460
37
54
20
2300

Elevation (ft)

610 600 590 580 570 560 550 540 530 520 510 500 490 480 470

0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500 2,600 2,700 2,800 2,900 3,000 3,100 3,200 3,300 3,400 3,500

Distance Along Transect (ft)



Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Chloride Concentrations in Groundwater (mg/L)

- <24.7
- 24.7 - 100
- 100 - 1,000
- 1,000 - 10,000
- >10,000

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

Figure 4-2a: Chloride Concentrations - Cross Section View 1

Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater and Ohio River samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Southwest
F

Northeast
F'

Kyger Creek Northern
Fly Ash Pond

Gavin Power
Plant

BAC-19
BAC-18
BAC-16
BAC-17
BAC-02
BAC-11
BAC-10
FW-15

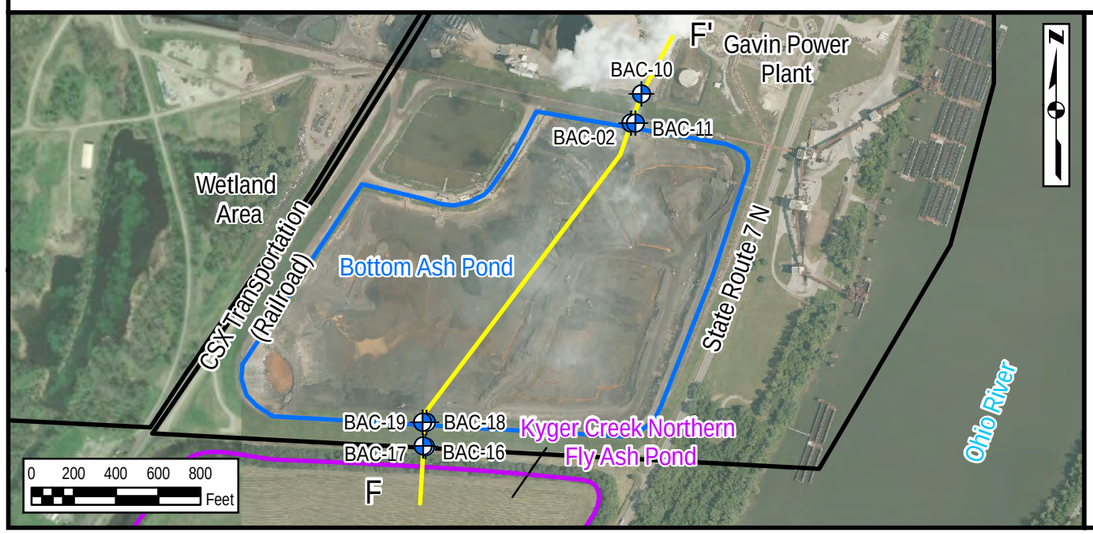
22
25
27
1000
77
64
25000

Elevation (ft)

610
600
590
580
570
560
550
540
530
520
510
500
490
480
470

0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500

Distance Along Transect (ft)



Legend

- Monitoring Well
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Chloride Concentrations in Groundwater (mg/L)

- <24.7
- 24.7 - 100
- 100 - 1,000
- 1,000 - 10,000
- >10,000

Generalized Lithology

- Road Material
- Clay and Silt — Separation Layer
- Sandy Clay and Silt — Separation Layer
- Sand and Clay
- Sand and Gravel — Alluvial Aquifer
- Sand — Alluvial Aquifer
- Claystone/Siltstone — Bedrock Units
- Sandstone — Bedrock Units

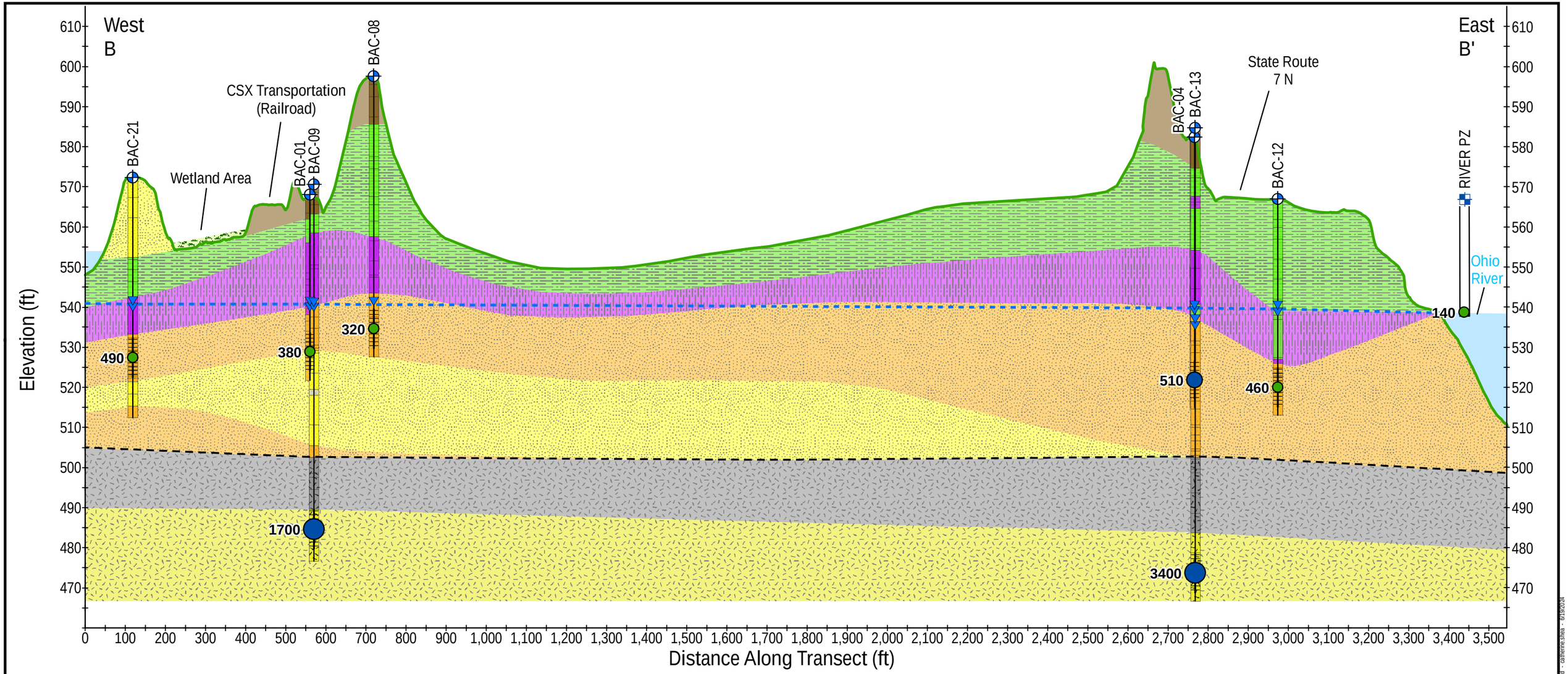
Figure 4-2b: Chloride Concentrations - Cross Section View 2

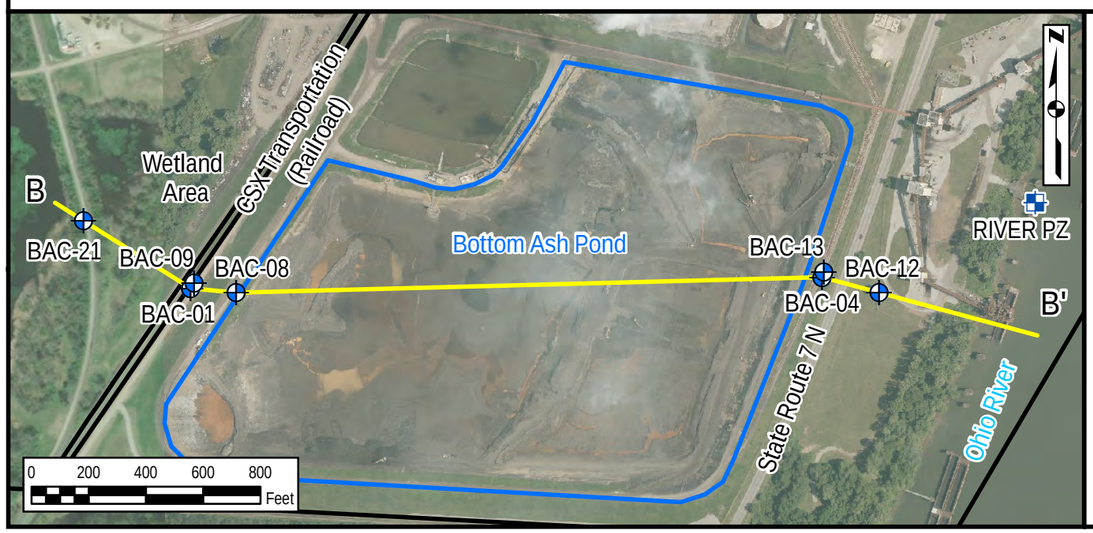
Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 reporting limit elevated due to sample dilution.

ERM

M:\US\Projects\OH-CBlackstone_Cpl\GavinPowerPlant\MXD\2024Spring_BAP_ASD_Report\Figure4-2b_FF_ChlorideConcen_20240529.mxd - catherine.shea - 6/19/2024





Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Total Dissolved Solids Concentrations in Groundwater (mg/L)

- < 505
- 505 - 1,000
- 1,000 - 10,000
- 10,000 - 20,000
- >20,000

Generalized Lithology

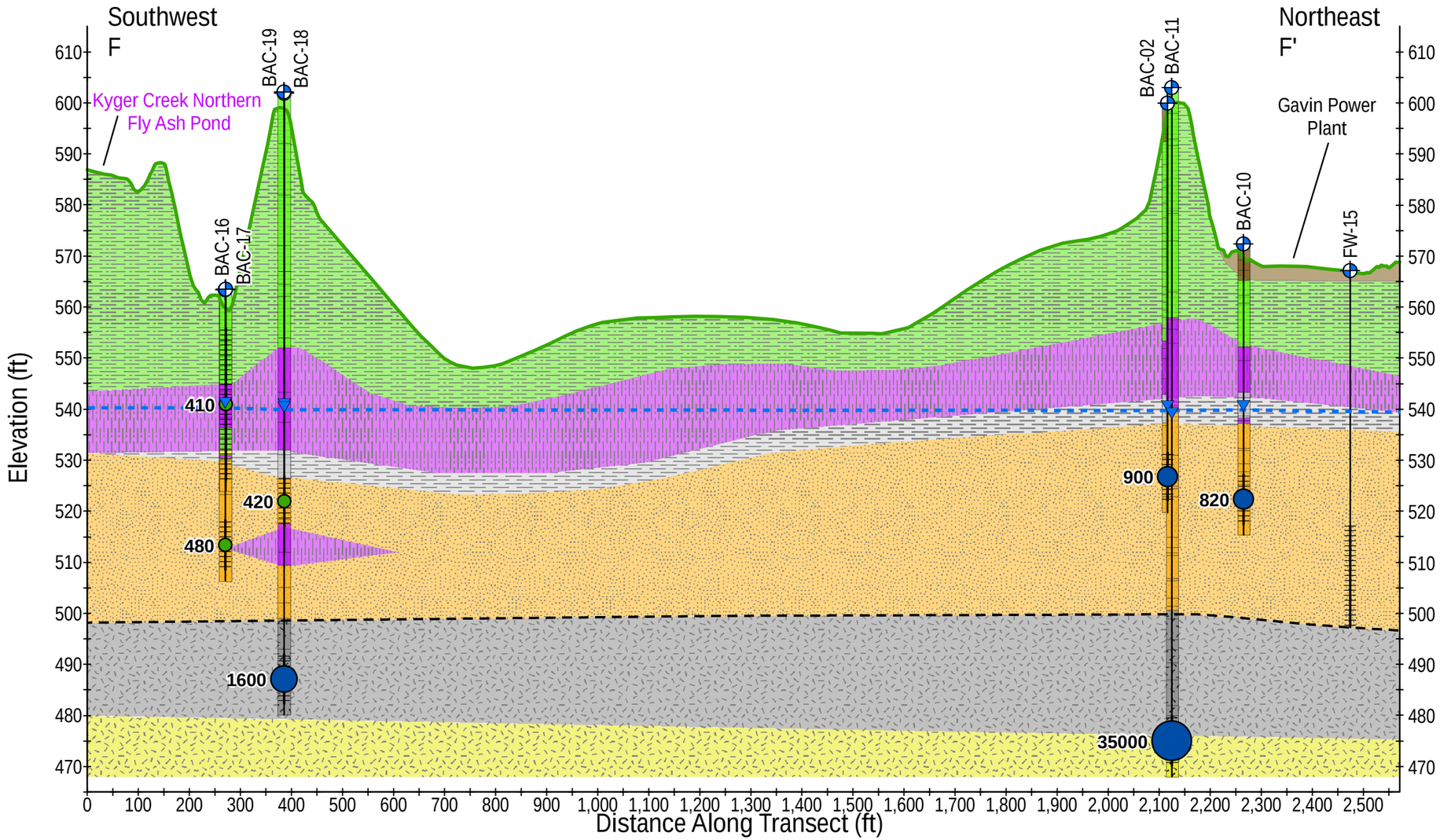
- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

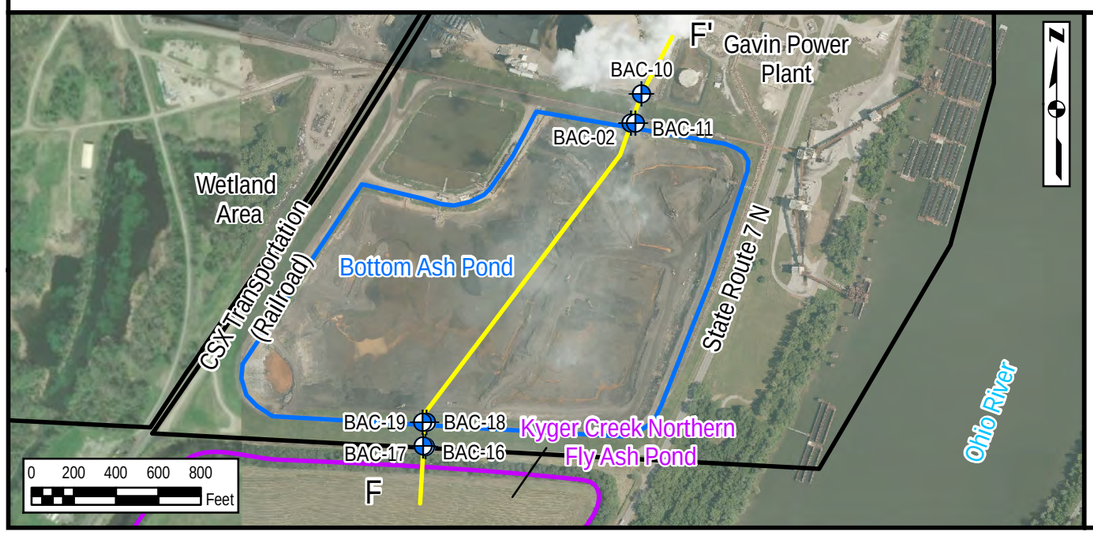
Figure 4-3a: TDS Concentrations - Cross Section View 1
Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater and Ohio River samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

- Monitoring Well
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Total Dissolved Solids Concentrations in Groundwater (mg/L)

- < 505
- 505 - 1,000
- 1,000 - 10,000
- 10,000 - 20,000
- > 20,000

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

Figure 4-3b: TDS Concentrations - Cross Section View 2

Gavin Power, LLC
Cheshire, Ohio

NOTE:

1. Potentiometric elevations from March 2024.
2. Groundwater samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 reporting limit elevated due to sample dilution.

ERM

M:\US\Projects\OH\Blacksstone_Grp\GavinPowerPlant\MXD\2024\Spring_GWP_ASD_Report\Figure4-3b_FH_TDSConcen_20240529.mxd - catherine.shea - 6/19/2024

West
B

East
B'

BAC-21
BAC-01
BAC-09
BAC-08
BAC-04
BAC-13
BAC-12
RIVER PZ

CSX Transportation
(Railroad)

Wetland Area

State Route
7 N

Ohio
River

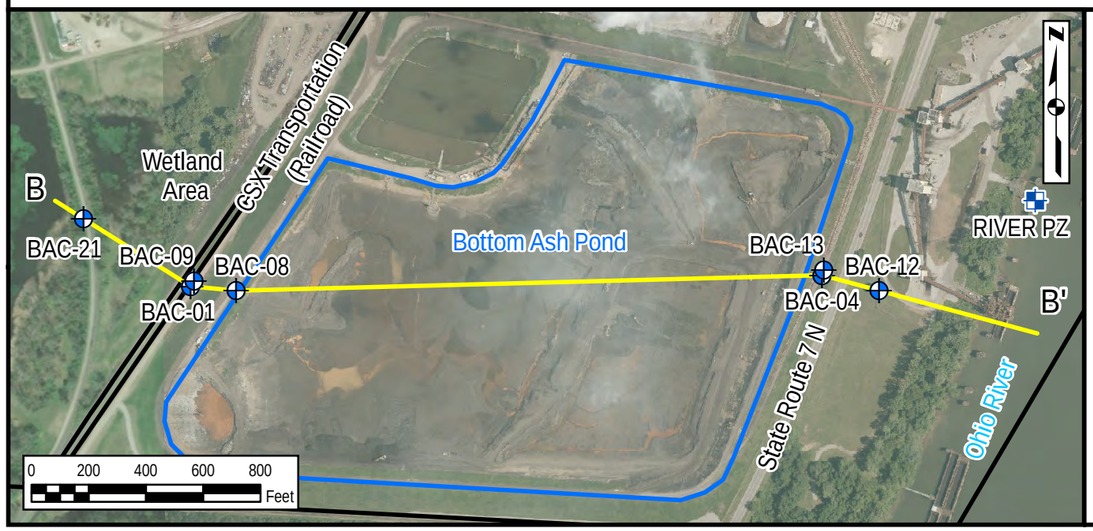
0.069
0.11
0.12
0.065
0.066
0.07
0.99
0.84

Elevation (ft)

610
600
590
580
570
560
550
540
530
520
510
500
490
480
470

0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500 2,600 2,700 2,800 2,900 3,000 3,100 3,200 3,300 3,400 3,500

Distance Along Transect (ft)



Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Fluoride Concentrations in Groundwater (mg/L)

- <0.161
- 0.161 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- >0.4

Generalized Lithology

- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

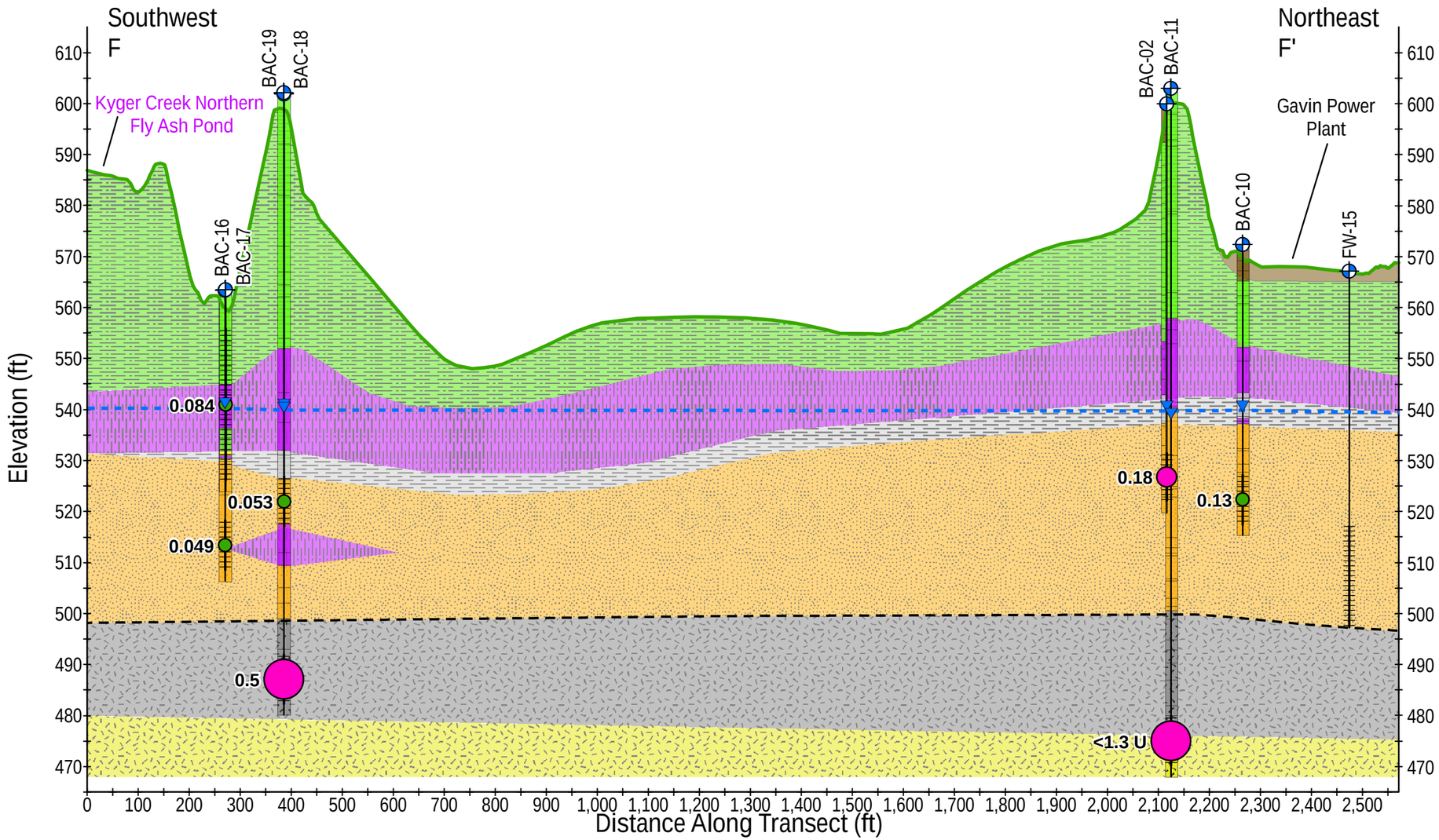
Figure 4-4a: Fluoride Concentrations - Cross Section View 1

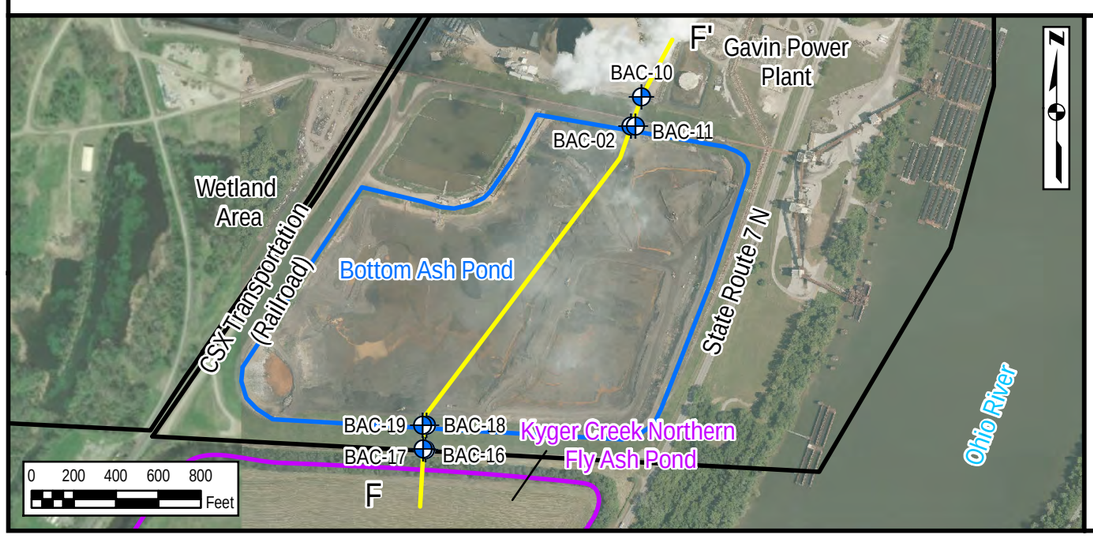
Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater and Ohio River samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

- Monitoring Well
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Fluoride Concentrations in Groundwater (mg/L)

- <0.161
- 0.161 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- >0.4

Generalized Lithology

- Road Material
- Clay and Silt — Separation Layer
- Sandy Clay and Silt — Separation Layer
- Sand and Clay
- Sand and Gravel — Alluvial Aquifer
- Sand — Alluvial Aquifer
- Claystone/Siltstone — Bedrock Units
- Sandstone — Bedrock Units

Figure 4-4b: Fluoride Concentrations - Cross Section View 2

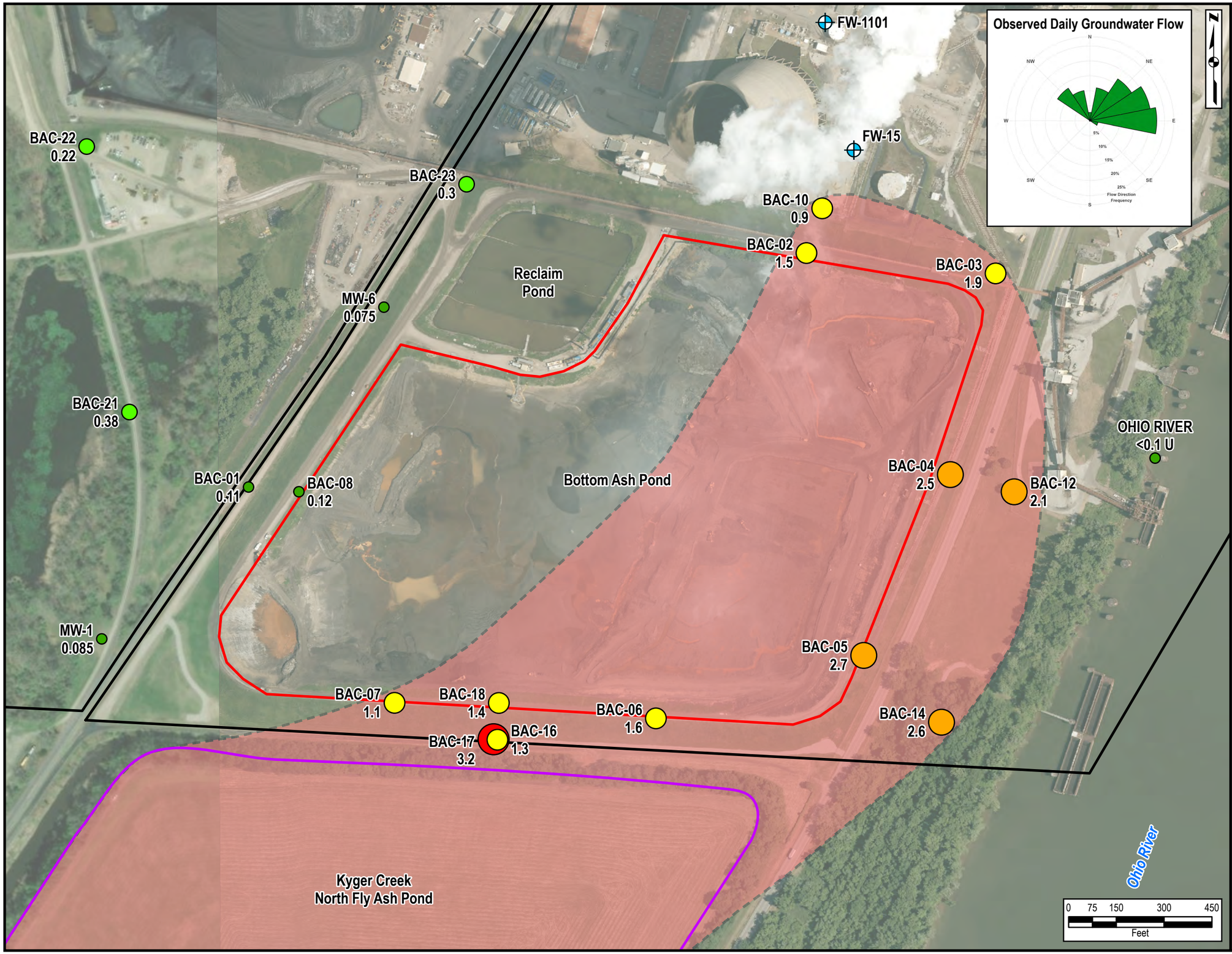
Gavin Power, LLC
Cheshire, Ohio

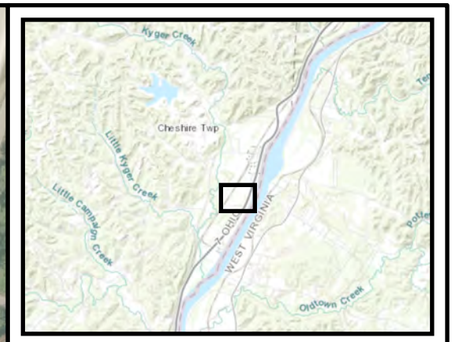
NOTE:

1. Potentiometric elevations from March 2024.
2. Groundwater samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 reporting limit elevated due to sample dilution.

ERM

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Legend

Boron Concentrations in Groundwater (mg/L)

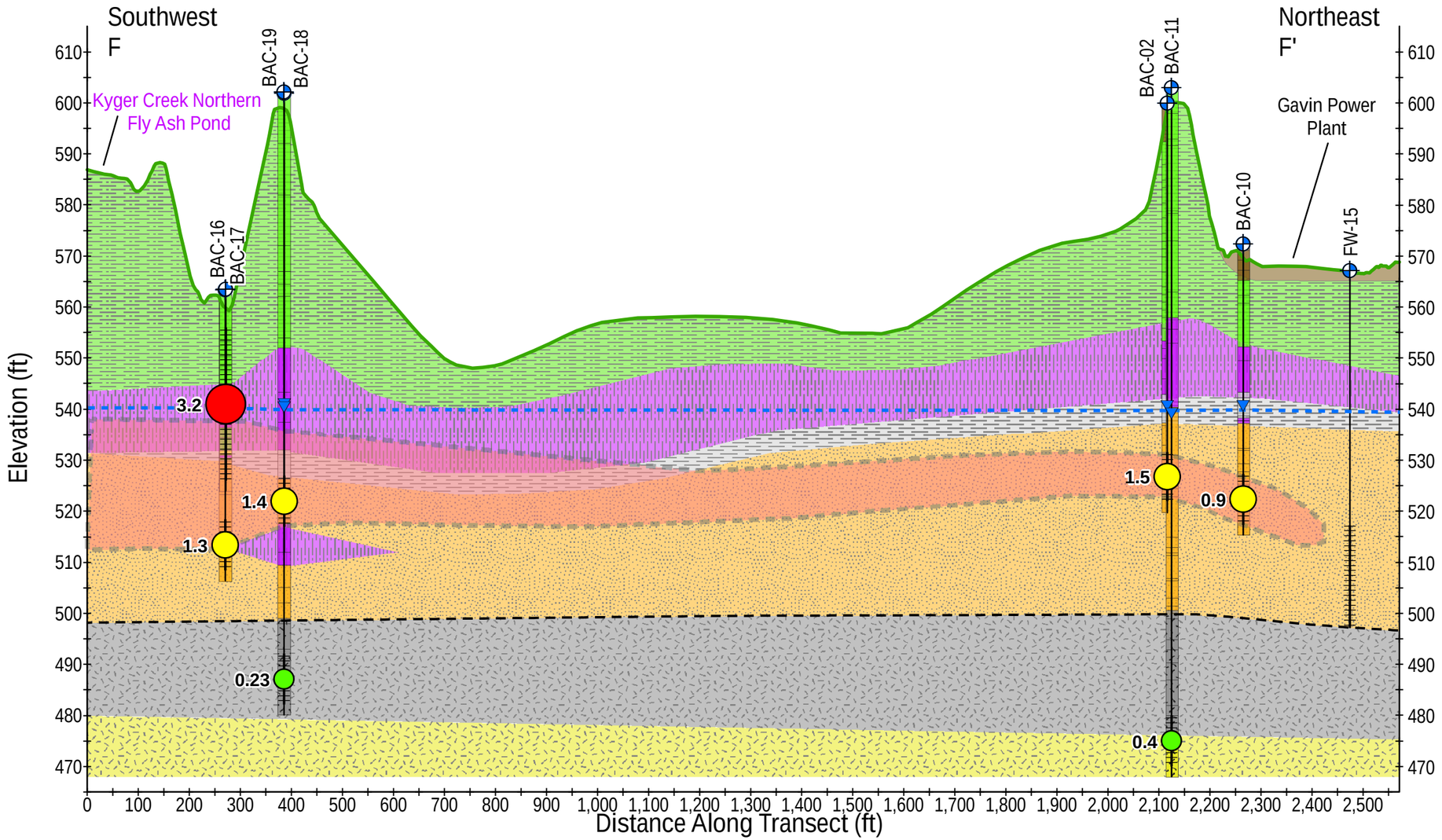
- <0.17
- 0.17 - 0.5
- 0.5 - 2
- 2 - 3
- >3
- Not Sampled
- Water Supply Well Location
- Approximated Boron Plume
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

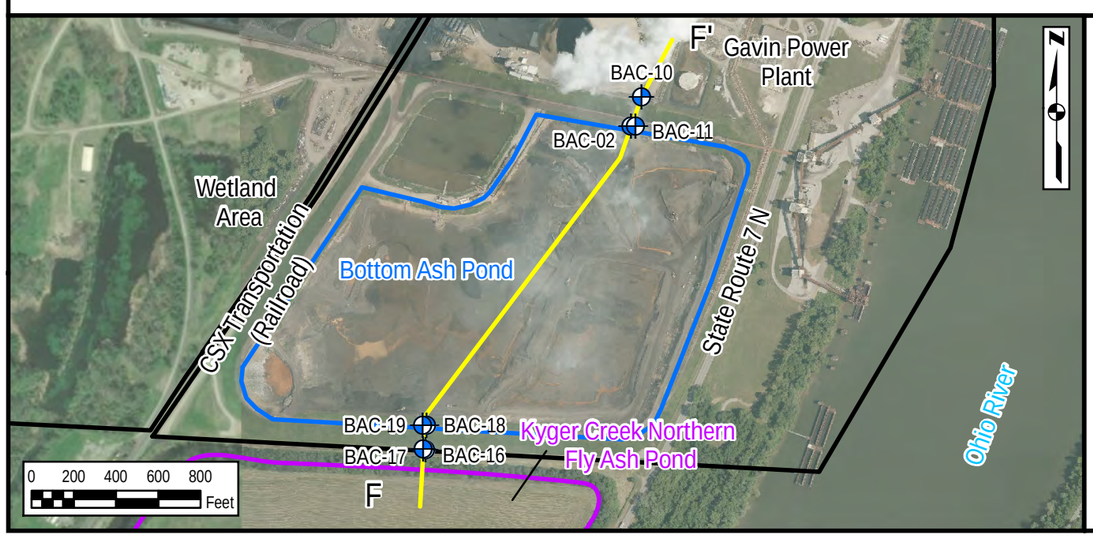
NOTES:

1. mg/L = milligrams per liter
2. Groundwater and Ohio River samples collected from 3/17/24 to 3/22/24.
3. Surface water data is from March 2024.
4. Daily groundwater flow direction calculated based on transducer data collected from 17 January 2024 through 2 May 2024.
5. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
     Reproduced under license in ArcGIS Pro 3.2.2

Figure 4-5: Boron Distribution in Groundwater (Map View)
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

- Monitoring Well
- Water Supply Well
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Boron Concentrations in Groundwater (mg/L)

- <0.177
- 0.177 - 0.5
- 0.5 - 2
- 2 - 3
- >3

- Approximated Boron Plume

Generalized Lithology

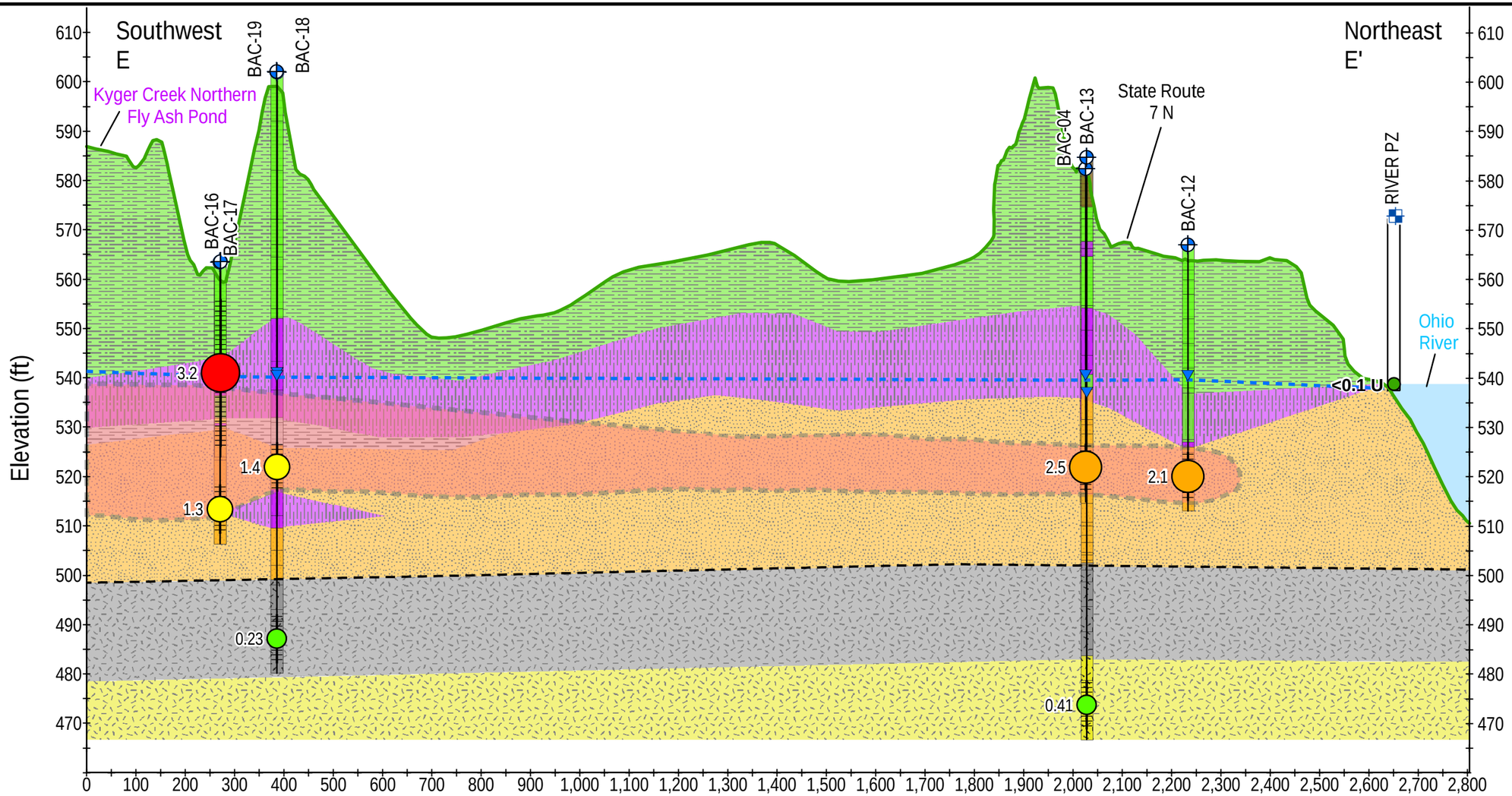
- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

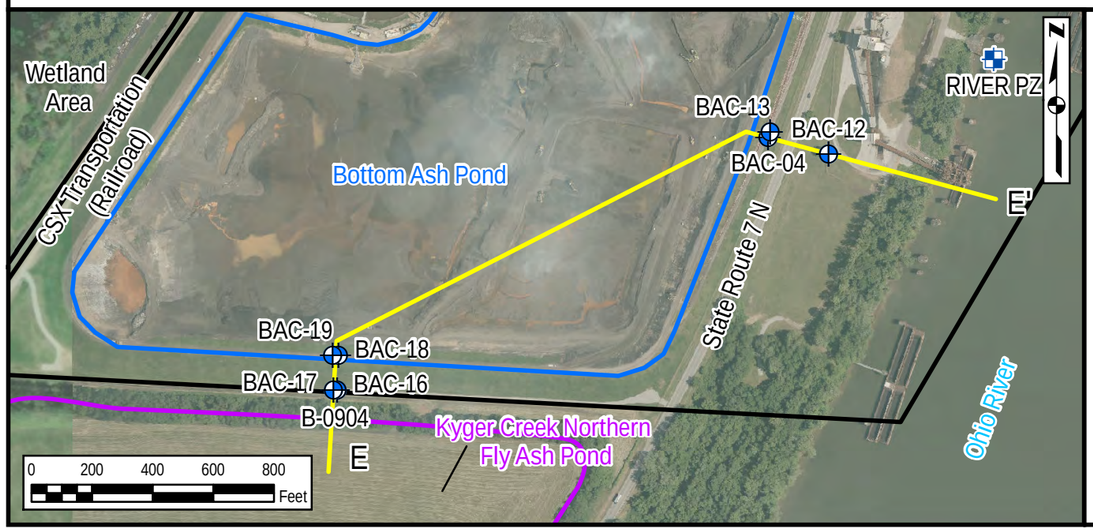
Figure 4-6a: Boron Distribution in Groundwater (Cross-Section View 1)
Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 reporting limit elevated due to sample dilution.

ERM

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Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (March 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Boron Concentrations in Groundwater (mg/L)

- <0.177
- 0.177 - 1
- 1 - 2
- 2 - 3
- >3

- Approximated Boron Plume

Generalized Lithology

- Road Material
- Clay and Silt
- Sandy Clay and Silt — Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand — Alluvial Aquifer
- Claystone/Siltstone
- Sandstone — Bedrock Units

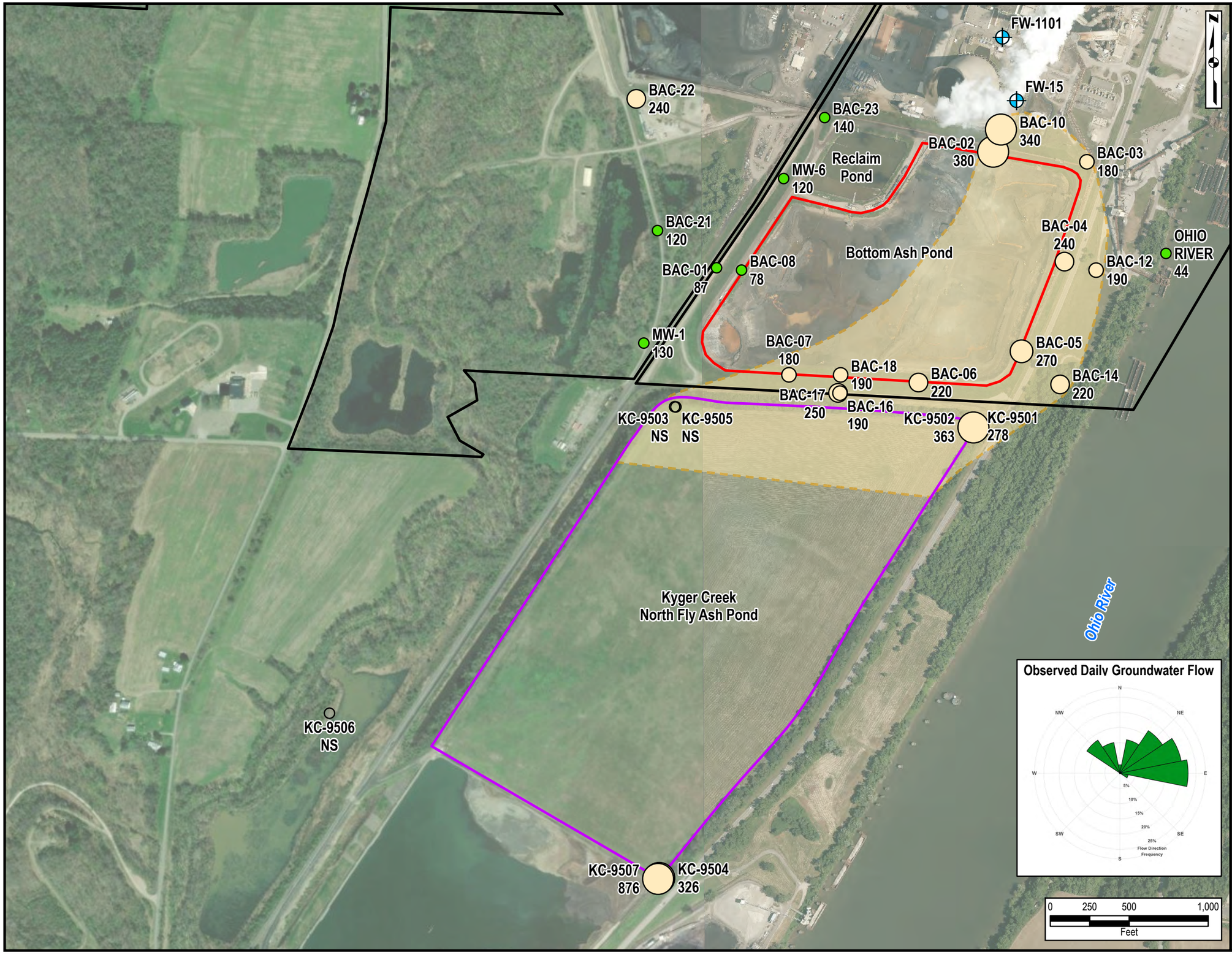
Figure 4-6b: Boron Distribution in Groundwater (Cross-Section View 2)

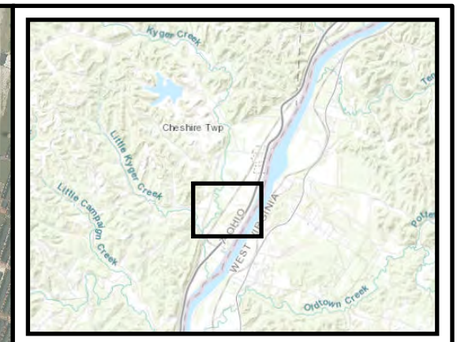
Gavin Power, LLC
Cheshire, Ohio

NOTE:
1. Potentiometric elevations from March 2024.
2. Groundwater samples collected from 3/17/24 to 3/22/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

Sulfate Concentration (mg/L)

- <140
- 140 - 200
- 200 - 260
- 260 - 320
- >320
- Not Sampled
- Water Supply Well Location
- Approximated Sulfate Plume
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

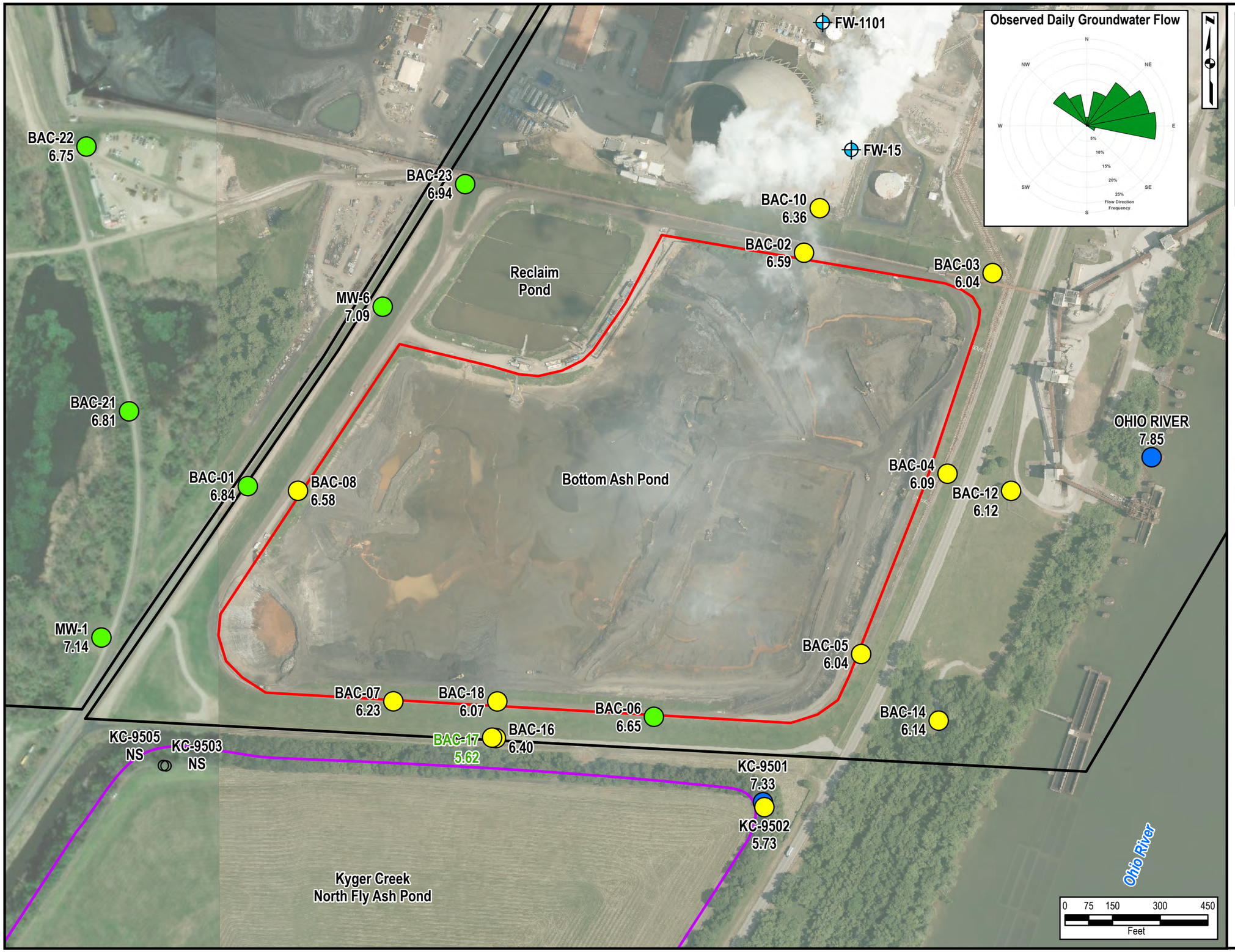
NOTES:

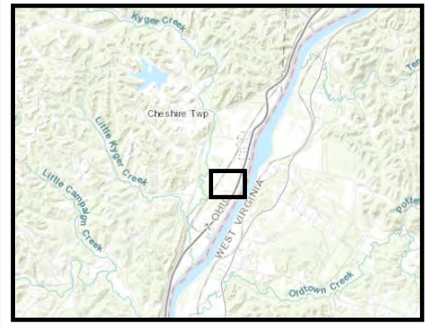
1. mg/L = milligrams per liter
2. NS = Not Sampled
3. Gavin samples were collected March 2024.
4. Kyger Creek groundwater samples results collected 10/19/2023.
5. Daily groundwater flow direction calculated based on transducer data collected from 17 January 2024 through 2 May 2024.
6. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
     Reproduced under license in ArcGIS Pro 3.2.2

Figure 4-7: Sulfate Distribution in Groundwater (Map View)
Gavin Generating Station
Cheshire, Ohio

ERM

M:\US\Projects\0568xx\568xx_0\Gavin\Figures\Figure 4-7_Sulfate Distribution in Groundwater (Map View).mxd - 6/28/2024





Legend

pH Concentrations in Groundwater (SU)

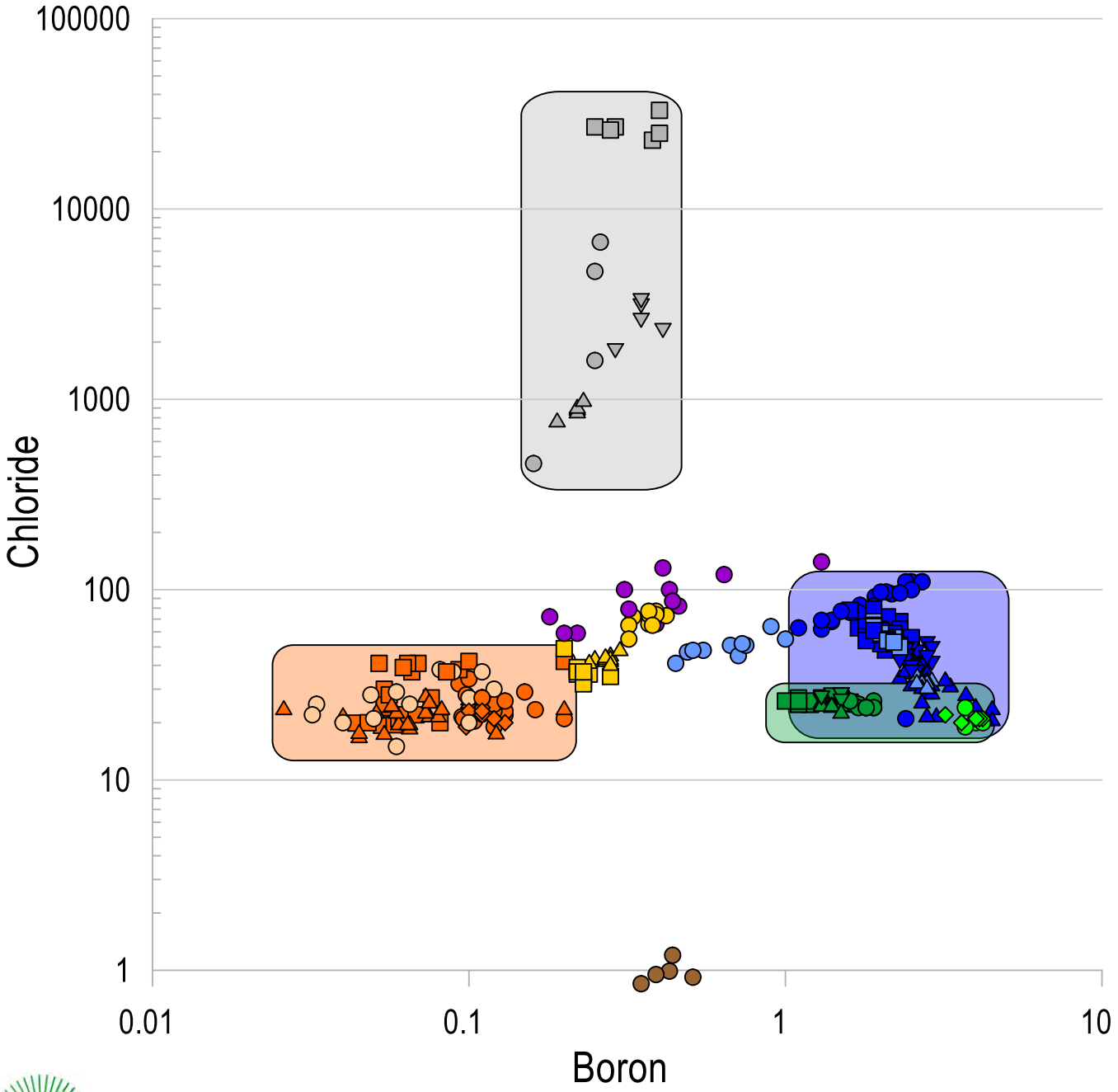
- <6.63
- 6.63 - 7.22
- >7.22
- Not Sampled
- Water Supply Well
- BAC Alluvial Aquifer Well
- BAC Separation Layer and Alluvial Aquifer Well
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

NOTES:

1. SU = standard units
2. NS = Not Sampled
3. Gavin groundwater and surface water samples were collected March 2024.
4. Kyger Creek groundwater samples were collected 10/19/2023.
5. Daily groundwater flow direction calculated based on transducer data collected from 17 January 2024 through 2 May 2024.
6. Aerial Imagery:
   - USDA National Agriculture Imagery Program (NAIP), November 2023
   - ESRI World Imagery
   Reproduced under license in ArcGIS Pro 3.2.2

Figure 4-8: pH Distribution in Groundwater (Map View)
Gavin Generating Station
Cheshire, Ohio

ERM

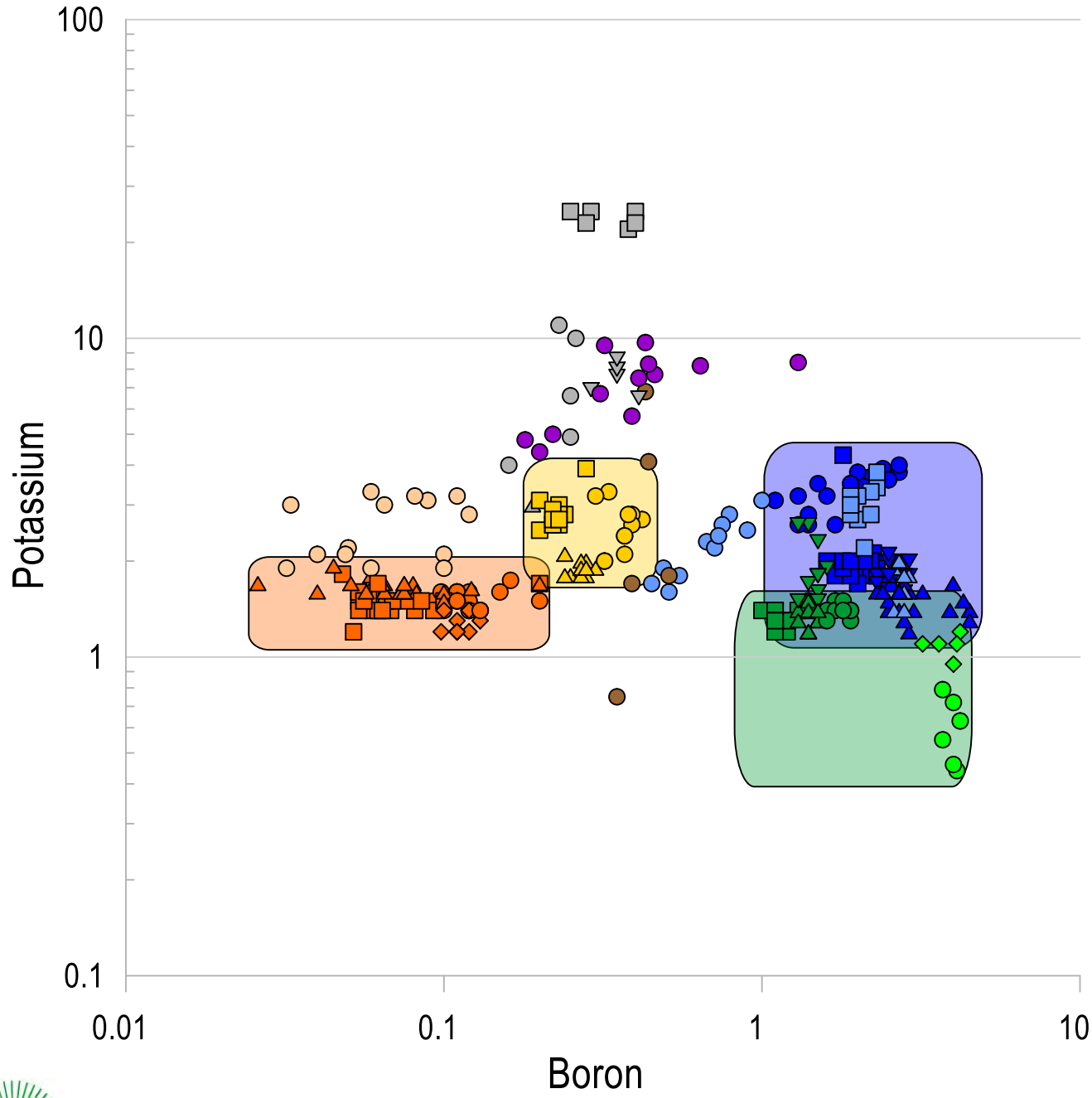


Legend

BAC-01, MW-1, MW-6	Historical Upgradient Wells
BAC-02, BAC-03, BAC-04, BAC-05	Historical Downgradient Wells
B-0904	Historical Kyger Creek Groundwater
BAC-06, BAC-07	2020 Southern Boundary Wells
BAC-09, BAC-11, BAC-13, BAC-19	2022 Bedrock Wells
BAC-21, BAC-22, BAC-23	2022 Northwestern Wells
BAC-08	2022 Upgradient Well
BAC-10, BAC-12, BAC-14	2022 Downgradient Wells
BAC-16, BAC-18	2022 Southern Boundary Wells
BAC-17	2022 Kyger Creek Groundwater
BAC-15	2022 Silt and Clay Well
Ohio River	
Bottom Ash Pond	

ERM

Figure 6-1. Boron-Chloride Concentration Plot
Gavin Generating Station
Cheshire, Ohio



Legend	
BAC-01, MW-1, MW-6	Historical Upgradient Wells
BAC-02, BAC-03, BAC-04, BAC-05	Historical Downgradient Wells
B-0904	Historical Kyger Creek Groundwater
BAC-06, BAC-07	2020 Southern Boundary Wells
BAC-09, BAC-11, BAC-13, BAC-19	2022 Bedrock Wells
BAC-21, BAC-22, BAC-23	2022 Northwestern Wells
BAC-08	2022 Upgradient Well
BAC-10, BAC-12, BAC-14	2022 Downgradient Wells
BAC-16, BAC-18	2022 Southern Boundary Wells
BAC-17	2022 Kyger Creek Groundwater
BAC-15	2022 Silt and Clay Well
Ohio River	
Bottom Ash Pond	

ERM

Figure 6-2. Boron-Potassium Concentration Plot
Gavin Generating Station
Cheshire, Ohio

APPENDIX A 2023 KYGER CREEK *CLOSED NORTH FLY ASH POND GROUNDWATER SEMIANNUAL DATA ANALYSIS*

OHIO VALLEY ELECTRIC CORPORATION
3932 U. S. Route 23
P. O. Box 468
Piketon, Ohio 45661
740-289-7200

WRITER'S DIRECT DIAL NO:
(740) 289-7259

December 7, 2023

Delivered Electronically

Mr. Marco Deshaies
Division of Surface Water
Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138

Dear Mr. Deshaies:

Re: Ohio Valley Electric Corporation
Kyger Creek Station- Closed North Fly Ash Pond
Groundwater Semi-annual Data Analysis

Attached are field data (Attachment I) and laboratory analytical data (Attachment II) for the forty ninth set of semiannual samples collected on October 19, 2023, from groundwater monitoring wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508 and KC-9509 at the Ohio Valley Electric Corporation's (OVEC's) Kyger Creek Station.

In accordance with the groundwater sampling and analysis plan dated July 5, 1996, for the North Fly Ash Pond Closure Project (hereinafter referred to as "the Plan") and the statistical method notification letter dated October 20, 1999, the analytical results of the semiannual samples were statistically compared to the background data for the four Groundwater Contamination Indicator Parameters (alkalinity, specific conductivity, sulfate, and total dissolved solids) to determine if any significant change in groundwater quality has occurred. The statistical evaluation was performed by using the tolerance interval method for intrawell comparison in accordance with the Plan and notification letter.

An upper tolerance limit was calculated for each of the four parameters at each well using the background data set with a coverage of 95% (i.e., contains 95% of all possible sample measurements) and a tolerance coefficient of 95% (i.e., 95% degree of confidence with which the interval reaches the specified coverage).

The upper tolerance limits were constructed in accordance with "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance" (U.S. EPA, 1989), using a one-sided tolerance factor of K=3.188 for n=8 found in Table 5 of Appendix B.

A summary of the sampling results as well as the calculated upper tolerance limits can

be seen for each well on the spreadsheets included under Attachment III.

In accordance with the Plan, verbal communication of parameters exceeding upper tolerance limits was provided to you via voicemail on 12/7/2023 detailing that the concentrations for the parameter alkalinity exceeded the upper tolerance limit at wells KC-9501, KC-9502, and KC-9507; the concentrations for the parameter sulfate exceeded the upper tolerance limit at wells KC-9501, KC-9502,KC-9507, and KC-9509; and the concentrations for the parameter total dissolved solids exceeded the upper tolerance limit at wells KC-9501, KC-9502, KC-9507, and KC-9509.

If you have any questions, please contact me at (740) 289-7259.

Sincerely,

Jeremy Galloway
Environmental Specialist

JDG:tlf

Attachments

Attachment I

MONITORING WELL SAMPLING

	KC-9501	KC-9502	KC-9504	KC-9507	KC-9508	KC-9509
DATE	10/19/2023	10/19/2023	10/19/2023	10/19/2023	10/19/2023	10/19/2023
PUMP TIME (MIN.)	4	5	6	5	4	6
FLOW (ml/min)	780	800	400	780	640	800
VOL. PUMPED(ml)	3120	4000	2400	3900	2560	4800
TIME	1234	1250	1322	1340	1401	1414
TEMPERATURE(C)	15.5	14.9	17	16.6	17.6	16.9
COND. (uS/cm)	907	729	836	1735	880	866
pH(S.U.)	7.33	5.73	6.60	6.91	7.04	6.87
TIME	1235	1251	1323	1341	1402	1415
TEMPERATURE(C)	14.8	14.7	16.5	16.3	17	16.7
COND. (uS/cm)	909	733	828	1727	867	865
pH(S.U.)	7.25	5.70	6.56	6.99	7.02	6.73
TIME	1236	1252	1323	1342	1403	1416
TEMPERATURE(C)	14.60	14.60	16.50	16.10	16.80	16.40
COND. (uS/cm)	916	734	829	1714	863	867
pH(S.U.)	7.24	5.66	6.49	7.01	7.02	6.65
TIME		1253	1324	1343		1417
TEMPERATURE(C)		14.60	16.40	16.00		16.30
COND. (uS/cm)		734	834	1714		868
pH(S.U.)		5.64	6.43	7.01		6.62
TIME			1325			1418
TEMPERATURE(C)			16.30			16.30
COND. (uS/cm)			835			867
pH(S.U.)			6.39			6.60
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
SAMPLE TIME	1237	1254	1326	1344	1404	1419
APPEARANCE	Clear	Clear	slight turbid	turbid	clear	slight turbid
ODOR	None	None	None	None	None	None
SAMPLER	HC/JM	HC/JM	HC/JM	HC/JM	HC/JM	HC/JM

WELL #	LEVEL READING
KC-9501	52.60
KC-9502	52.60
KC-9503	
KC-9504	49.10
KC-9505	
KC-9506	
KC-9507	49.10
KC-9508	24.20
KC-9509	24.60
KC-9510	
KC-9511	
KC-9512	
KC-9513	
KC-9514	

DATE	RIVER LEVEL
10/8/2023	539.2
10/9/2023	538.8
10/10/2023	539.0
10/11/2023	539.0
10/12/2023	538.8
10/13/2023	539.0
10/14/2023	539.0
10/15/2023	539.0
10/16/2023	539.0
10/17/2023	539.4
10/18/2023	538.9
10/19/2023	539.4

CALIBRATION	
PARAMETEI	TIME
pH	0800
CONDUCT.	0810

Attachment II

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: KC-9501 **Customer Description:**
Lab Number: 233259-001 **Preparation: Dissolved**
Date Collected: 10/19/2023 12:37 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	26.1	mg/L	10	0.20	0.05		CRJ	10/25/2023 01:21	EPA 300.1-1997, Rev. 1.0
Sulfate	278	mg/L	10	3.0	0.6		CRJ	10/25/2023 01:21	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	82.7	µg/L	1	0.20	0.05		GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Calcium	146	mg/L	1	0.05	0.01		GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Iron	0.780	mg/L	1	0.020	0.003		GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Magnesium	29.3	mg/L	1	0.100	0.006		GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Manganese	0.832	mg/L	1	0.00100	0.00008		GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4
Sodium	20.1	mg/L	1	0.20	0.01		GES	10/26/2023 16:42	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	227	mg/L	1	20	5		MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	690	mg/L	1	50	20		ELT	10/24/2023 09:31	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: KC-9502 **Customer Description:**
Lab Number: 233259-002 **Preparation: Dissolved**
Date Collected: 10/19/2023 12:54 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	26.2	mg/L	10	0.20	0.05		CRJ	10/25/2023 05:09	EPA 300.1 -1997, Rev. 1.0
Sulfate	363	mg/L	10	3.0	0.6		CRJ	10/25/2023 05:09	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	27.4	µg/L	1	0.20	0.05		GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Calcium	75.8	mg/L	1	0.05	0.01		GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Iron	0.088	mg/L	1	0.020	0.003		GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Magnesium	26.0	mg/L	1	0.100	0.006		GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Manganese	26.5	mg/L	1	0.00100	0.00008		GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4
Sodium	24.1	mg/L	1	0.20	0.01		GES	10/26/2023 16:47	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	26	mg/L	1	20	5		MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	610	mg/L	1	50	20		ELT	10/24/2023 09:31	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: KC-9504 **Customer Description:**
Lab Number: 233259-003 **Preparation: Dissolved**
Date Collected: 10/19/2023 13:26 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	89.9	mg/L	25	0.5	0.1		CRJ	10/25/2023 05:46	EPA 300.1 -1997, Rev. 1.0
Sulfate	326	mg/L	25	8	2		CRJ	10/25/2023 05:46	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	26.4	µg/L	1	0.20	0.05		GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Calcium	113	mg/L	1	0.05	0.01		GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Iron	0.858	mg/L	1	0.020	0.003		GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Magnesium	11.4	mg/L	1	0.100	0.006		GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Manganese	0.363	mg/L	1	0.00100	0.00008		GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4
Sodium	53.2	mg/L	1	0.20	0.01		GES	10/26/2023 16:52	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	16	mg/L	1	20	5	J1	MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	650	mg/L	1	50	20		ELT	10/24/2023 09:38	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: KC-9507 **Customer Description:**
Lab Number: 233259-004 **Preparation: Dissolved**
Date Collected: 10/19/2023 13:44 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	101	mg/L	25	0.5	0.1		CRJ	10/25/2023 06:24	EPA 300.1 -1997, Rev. 1.0
Sulfate	876	mg/L	25	8	2		CRJ	10/25/2023 06:24	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	31.0	µg/L	1	0.20	0.05		GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4
Calcium	271	mg/L	5	0.25	0.05		GES	10/26/2023 17:02	EPA 200.8-1994, Rev. 5.4
Iron	3.84	mg/L	1	0.020	0.003		GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4
Magnesium	33.2	mg/L	1	0.100	0.006		GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4
Manganese	3.26	mg/L	1	0.00100	0.00008		GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4
Sodium	73.7	mg/L	1	0.20	0.01		GES	10/26/2023 16:57	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	67	mg/L	1	20	5		MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	1560	mg/L	1	50	20		ELT	10/24/2023 09:38	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: KC-9508 **Customer Description:**
Lab Number: 233259-005 **Preparation: Dissolved**
Date Collected: 10/19/2023 14:04 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	32.5	mg/L	10	0.20	0.05		CRJ	10/25/2023 07:02	EPA 300.1 -1997, Rev. 1.0
Sulfate	266	mg/L	10	3.0	0.6		CRJ	10/25/2023 07:02	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	61.7	µg/L	1	0.20	0.05		GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Calcium	147	mg/L	1	0.05	0.01		GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Iron	2.83	mg/L	1	0.020	0.003		GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Magnesium	21.8	mg/L	1	0.100	0.006		GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Manganese	1.59	mg/L	1	0.00100	0.00008		GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4
Sodium	16.7	mg/L	1	0.20	0.01		GES	10/26/2023 17:07	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	203	mg/L	1	20	5		MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	660	mg/L	1	50	20		ELT	10/24/2023 09:45	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: KC-9509 **Customer Description:**
Lab Number: 233259-006 **Preparation: Dissolved**
Date Collected: 10/19/2023 14:19 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	41.4	mg/L	25	0.5	0.1		CRJ	10/25/2023 09:01	EPA 300.1-1997, Rev. 1.0
Sulfate	305	mg/L	25	8	2		CRJ	10/25/2023 09:01	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	49.4	µg/L	1	0.20	0.05		GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Calcium	122	mg/L	1	0.05	0.01		GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Iron	2.46	mg/L	1	0.020	0.003		GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Magnesium	21.1	mg/L	1	0.100	0.006		GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Manganese	16.7	mg/L	1	0.00100	0.00008		GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4
Sodium	16.6	mg/L	1	0.20	0.01		GES	10/26/2023 17:12	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	150	mg/L	1	20	5		MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	700	mg/L	1	50	20		ELT	10/24/2023 09:45	SM 2540C-2015

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: Trip Blank **Customer Description:**

Lab Number: 233259-007 **Preparation: Dissolved**

Date Collected: 10/19/2023 10:32 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	<0.01	mg/L	2	0.04	0.01	U1	CRJ	10/25/2023 08:18	EPA 300.1 -1997, Rev. 1.0
Sulfate	0.2	mg/L	2	0.6	0.1	J1	CRJ	10/25/2023 08:18	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Calcium	0.01	mg/L	1	0.05	0.01	J1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Iron	0.006	mg/L	1	0.020	0.003	J1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Lead	0.09	µg/L	1	0.20	0.05	J1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.006	mg/L	1	0.100	0.006	U1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Manganese	0.00020	mg/L	1	0.00100	0.00008	J1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4
Sodium	<0.01	mg/L	1	0.20	0.01	U1	GES	10/26/2023 17:17	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	<20	mg/L	1	50	20	U1	ELT	10/24/2023 09:51	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Customer Sample ID: Duplicate **Customer Description:**
Lab Number: 233259-008 **Preparation: Dissolved**
Date Collected: 10/19/2023 12:37 EDT **Date Received: 10/20/2023 11:00 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	26.2	mg/L	10	0.20	0.05		CRJ	10/25/2023 09:38	EPA 300.1 -1997, Rev. 1.0
Sulfate	277	mg/L	10	3.0	0.6		CRJ	10/25/2023 09:38	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	82.4	µg/L	1	0.20	0.05		GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Calcium	144	mg/L	1	0.05	0.01	M1	GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Iron	0.759	mg/L	1	0.020	0.003		GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Magnesium	28.9	mg/L	1	0.100	0.006		GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Manganese	0.862	mg/L	1	0.00100	0.00008	M1	GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4
Sodium	20.1	mg/L	1	0.20	0.01		GES	10/26/2023 17:23	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	247	mg/L	1	20	5		MGK	10/23/2023 15:48	SM 2320B-2011
TDS, Filterable Residue	690	mg/L	1	50	20		ELT	10/24/2023 09:51	SM 2540C-2015

AMERICAN ELECTRIC POWER

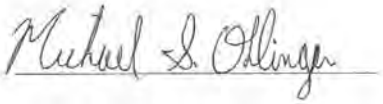
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 233259 **Customer: Kyger Creek Plant** **Date Reported: 11/02/2023**

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Data Qualifer Legend

U1 - Not detected at or above method detection limit (MDL).
J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
M1 - The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.

233259

Form COC-2
Rev. 3, 03/12/07

Chain-of-Custody Record and Analysis Request Form

AEP AMERICAN ELECTRIC POWER

Location: (District, Region, Plant, etc.) OVEC - Kyger Creek Station

Program/Project: (If applicable)

Submitted/Requested By: H. E. Cleland

Phone/Fax/E-mail: Audinet 241-5323; hcleland@ovec.com

Sample(s) Origin: (NPDES Permit, Outfall No., etc.) OIB00005*QD; Monitoring Wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508, and KC-9509

Additional Information: (Site Description, Sample Type, etc.) Grab, Filtered through a .45 micron in-line filter

Analyses Requested: (Attach information if necessary) Barium, Calcium, Iron, Lead, Magnesium, Manganese, Selenium, Sodium

Results Turnaround: (Select One ☑) (Please date non-routine)

Routine	Priority	Rush	Date By:
X			

Weather Conditions Affecting Sampling:

Bottle or Analysis ID's	Preservatives and Filtering (Codes/Colors)	Sample Volume (mL)	Sampler(s) Initials	Flow	Select One Per Line: COMPOSITE Date/Time	COMPOSITE mL Added	GRAB Date/Time
KC-9501	D, Red F, Pink	1000 mL	HC/JKM				10/19/23 1237
KC-9502	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1254
KC-9504	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1326
KC-9507	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1344
KC-9508	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1404
KC-9509	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1419
Trip Blank	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1032
Duplicate	D, Red F, Pink	1000 ml	HC/JKM				10/19/23 1237

Units of Flow ☑: ☐ mgd ☐ gpm ☐ Other

Preservatives and Filtering

(Codes)	(Colors)
(A) None	{White}
(B) Cool, ≤ 6° C	{Blue}
(C) NaOH; pH > 12	{Yellow}
(D) HNO_3; pH < 2	{Red}
(E) 1:1 H_2SO_4; pH < 2	{Green}
(F) Filtered	{Pink}
(G) 1:1 HCl; pH < 2	{Gray}
(H) Zinc Acetate	{Black}
(I) Other	

Samplers Initials Code

Initials	Print Sampler Name(s)
HC	Henry Cleland
JKM	Jessica Kay McKibben

Relinquished By: (Sampling supervisor or personnel) H. E. Cleland Date/Time: 10/20/23 1101

Transportation: ☑ ☐ Employee ☒ AEP Courier ☐ UPS ☐ Fed-Ex ☐ Other (Name):

Received by Transporter: Date/Time:

Relinquished by Transporter: Date/Time:

Received By: (Testing laboratory receiving personnel) Date/Time: 10/20/23 1100

Receipt Notes:

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, Ohio 43125
Phone: 8-210-4211 or 614-836-4211
Fax: 8-210-4168 or 614-836-4168

A PROPERLY FILLED OUT COPY OF THIS FORM MUST ACCOMPANY EACH SET OF SAMPLES SENT TO THE WATER TESTING LABORATORY.
ALSO, A TAG ON THE SAMPLE OR CONTAINER IS NECESSARY FOR THE SAMPLE(S) TO BE PROPERLY PROCESSED.
FEDERAL REGULATIONS REQUIRE THAT THIS INFORMATION BE RETAINED FOR AT LEAST THREE YEARS.
LABORATORY DATA FOR THESE SAMPLES SHOULD BE FILED WITH A COPY OF THIS CHAIN-OF-CUSTODY RECORD.

Form COC-2
Rev. 3, 03/12/07

Chain-of-Custody Record and Analysis Request Form

AEP AMERICAN ELECTRIC POWER

Location: (District, Region, Plant, etc.) OVEC - Kyger Creek Station

Program/Project: (If applicable)

Submitted/Requested By: H. E. Cleland

Phone/Fax/E-mail: Audinet 241-5323; hcleland@ovec.com

Sample(s) Origin: (NPDES Permit, Outfall No., etc.) OIB00005*QD; Monitoring Wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508, and KC-9509

Additional Information: (Site Description, Sample Type, etc.) Grab, Filtered through a .45 micron in-line filter

Analyses Requested: (Attach information if necessary) Alkalinity, Sulfate, TDS, Chloride

Results Turnaround: (Select One ☑) (Please date non-routine)

Routine	Priority	Rush	Date By:
X			

Weather Conditions Affecting Sampling:

Bottle or Analysis ID's	Preservatives and Filtering (Codes/Colors)	Sample Volume (mL)	Sampler(s) Initials	Flow	Select One Per Line: COMPOSITE Date/Time	COMPOSITE mL Added	GRAB Date/Time
KC-9501	B, Blue F, Pink	1000 mL	HC/JKa				10/19/23 1237
KC-9502	B, Blue F, Pink	1000 ml	HC/JKa				10/19/23 1254
KC-9504	B, Blue F, Pink	1000 ml	HC/JKa				10/19/23 1326
KC-9507	B, Blue F, Pink	1000 ml	HC/JKa				10/19/23 1344
KC-9508	B, Blue F, Pink	1000 ml	HC/JKa				10/19/23 1404
KC-9509	B, Blue F. Pink	1000 ml	HC/JKa				10/19/23 1419
Trip Blank	B, Blue F, Pink	1000 ml	HC/JKa				10/19/23 1032
Duplicate	B, Blue F. Pink	1000 ml					10/19/23 1237

Units of Flow ☑: ☐ mgd ☐ gpm ☐ Other

Preservatives and Filtering

(Codes)	{Colors}
(A) None	{White}
(B) Cool, ≤ 6° C	{Blue}
(C) NaOH; pH > 12	{Yellow}
(D) HNO_3; pH < 2	{Red}
(E) 1:1 H_2SO_4; pH < 2	{Green}
(F) Filtered	{Pink}
(G) 1:1 HCl; pH < 2	{Gray}
(H) Zinc Acetate	{Black}
(I) Other	

Samplers Initials Code

Initials	Print Sampler Name(s)
HC	Henry Cleland
JKa	Jean Ser Mek Ha

Relinquished By: (Sampling supervisor or personnel) HC Cleland Date/Time: 10/20/23 1101

Transportation: ☑ ☐ Employee ☒ AEP Courier ☐ UPS ☐ Fed-Ex ☐ Other (Name):

Received by Transporter: Date/Time:

Relinquished by Transporter: Date/Time:

Received By: (Testing laboratory receiving personnel) Date/Time: 10/20/23 1100

Receipt Notes:

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, Ohio 43125
Phone: 8-210-4211 or 614-836-4211
Fax: 8-210-4168 or 614-836-4168

A PROPERLY FILLED OUT COPY OF THIS FORM MUST ACCOMPANY EACH SET OF SAMPLES SENT TO THE WATER TESTING LABORATORY.
ALSO, A TAG ON THE SAMPLE OR CONTAINER IS NECESSARY FOR THE SAMPLE(S) TO BE PROPERLY PROCESSED.
FEDERAL REGULATIONS REQUIRE THAT THIS INFORMATION BE RETAINED FOR AT LEAST THREE YEARS.
LABORATORY DATA FOR THESE SAMPLES SHOULD BE FILED WITH A COPY OF THIS CHAIN-OF-CUSTODY RECORD.

WATER & WASTE SAMPLE RECEIPT FORM

Package Type	Delivery Type
(Cooler) Box Bag Envelope	PONY UPS FedEX USPS
	Other _____

Plant/Customer Kyger **Number of Plastic Containers:** _____

Opened By MGK WCG **Number of Glass Containers:** _____

Date/Time 10/20/23 1100 **Number of Mercury Containers:** _____

Were all temperatures within 0-6°C? (Y)/ N or N/A **Initial:** WCG MGK (on ice) / no ice

(IR Gun Ser# 2213689000, *Expir.* 03/24/2024) - If No, specify each deviation: _____

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: Routine If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Was COC filled out properly? (Y)/ N Comments _____

Were samples labeled properly? (Y)/ N Comments _____

Were correct containers used? (Y)/ N Comments _____

Was pH checked & Color Coding done? (Y)/ N or N/A **Initial & Date:** WCG MGK 10/20/23

pH paper (circle one): MQuant,PN1.09535.0001,LOT#_____ (OR) Lab Rat,PN4801.LOT# X000RWDG21 Exp 11/15/2024

- Was Add'l Preservative needed? Y (N) If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / (N) Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted _____

Lab ID# 233259 Initial & Date & Time: _____

Comments _____

Logged by WCG _____

Reviewed by MSO _____

_____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

MICROBAC®

Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M3K0262

Project Description

Kyger Creek

For:

Kristen Pelfrey

Ohio Valley Electric Co.

Kyger Creek Station 5758 St. Rt. 7 North

Cheshire, OH 45620

Tiffany Bailey

Customer Relationship Coordinator

Tiffany Bailey

Wednesday, November 29, 2023

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories Inc., - Marietta, OH. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC

Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M3K0262

Ohio Valley Electric Co.

Kristen Pelfrey
Kyger Creek Station 5758 St. Rt. 7 North
Cheshire, OH 45620

Project Name: Kyger Creek

Project / PO Number: N/A
Received: 11/03/2023
Reported: 11/29/2023

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
KC-9501	M3K0262-01	Wastewater	Grab		10/19/23 12:37	11/03/23 10:00
KC-9502	M3K0262-02	Wastewater	Grab		10/19/23 12:54	11/03/23 10:00
KC-9504	M3K0262-03	Wastewater	Grab		10/19/23 13:26	11/03/23 10:00
KC-9507	M3K0262-04	Wastewater	Grab		10/19/23 13:44	11/03/23 10:00
KC-9508	M3K0262-05	Wastewater	Grab		10/19/23 14:04	11/03/23 10:00
KC-9509	M3K0262-06	Wastewater	Grab		10/19/23 14:19	11/03/23 10:00

MICROBAC

Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M3K0262

Analytical Testing Parameters

Client Sample ID:
Sample Matrix:
Lab Sample ID: **Collection Date:**

	Result	MDL	RL	Units	DF	Note	Prepared	Analyzed	Analyst
	Result	UNC	MDA	Units		Note	Prepared	Analyzed	Analyst

Surrogate: % Rec

% Rec

Definitions

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.2°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Report Comments

Reviewed and Approved By:

Tiffany Bailey

Tiffany Bailey
Customer Relationship Coordinator
Reported: 11/29/2023 12:58

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

MICROBAC Return to: 158 Starlite Drive Marietta Ohio 45750

CHAIN OF CUSTODY RECORD

Number

Instructions on back

TO BE COMPLETED BY MICROBAC

Lab Report Address		**Invoice Address**		**Turnaround Time**	
Client Name:	Microbac	**Client Name:**	Same	[x] Routine (5 to 7 business days) [ ] RUSH* (notify lab)	**Temperature Upon Receipt (°C)** 4.2 **Therm ID**
Address:	158 Starlite Drive	**Address:**			**Holding Time**
City, State, Zip:	Marietta, OH 45750	**City, State, Zip:**		(needed by)	**Samples Received on Ice? Yes No N/A**
Contact:	Alicia Walker	**Contact:**		**Report Type**	**Custody Seals Intact? Yes No N/A**
Telephone No.:	740-373-4071	**Telephone No.:**		[ ]Results Only [ ]Level 1 [ ]Level 2 [ ]Level3 [ ]Level 4 [ ]EDD	

Send Report via: [ ] Mail [ ] Fax [x] e-mail (address) hcleland@ovec.com **Send Invoice via:** [ ] Mail [ ] Fax [X] e-mail (address)

Project: KC Monitoring Well Sampling **Location:** Cheshire, OH **PO No.:** **Compliance Monitoring?** [X] Yes [ ] No ( ) Agency/Program

Sampled by (PRINT): Henry Cleland/Kristen Pelfrey **Sampler Signature:** **Sampler Phone No.:** 740-648-8484

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Gross Alpha	Gross Beta	*Additional Notes*
	KC-9501	10/19/2023	1237	2	WW	G	1	1	1	
	KC-9502	10/19/2023	1254	2	WW	G	1	1	1	
	KC-9504	10/19/2023	1325	2	WW	G	1	1	1	
	KC-9507	10/19/2023	1344	2	WW	G	1	1	1	
	KC-9508	10/19/2023	1404	2	WW	G	1	1	1	
	KC-9509	10/19/2023	1419	2	WW	G	1	1	1	

M 3 K 0 2 6 2

Ohio Valley Electric Co.
Rec'd: 11/03/2023 10:00
By: Stephanie Murphy Temp: 4.2 (Signature)

Possible Hazard Identification [ ] Hazardous [X] Non-Hazardous [ ] Radioactive **Sample Disposition** [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	11/3/23 1000		
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
		Stephanie Murphy	11/3/2023 1000

rev.12/26/2017

Sample Acceptance Policy for Environmental Chemistry and Microbiology

MICROBAC®

Work Order # M3160262

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

11/03/2023 SM

pH Lot # N/A

pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

11/03/2023 SM

PRESERVATIVE EXCEPTIONS

✓ NONE

AS NOTED

11/03/2023 SM

Document Control # 1957
Last 04-10-2019

Issued to: Document Master File

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

November 29, 2023

Tiffany Bailey
Microbac OH
158 Starlite Drive
Marietta, OH 45750

RE: Project: M3K0262
Pace Project No.: 30637359

Dear Tiffany Bailey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 07, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carla Cmar
carla.cmar@pacelabs.com
(724)850-5600
Project Manager

Enclosures

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: M3K0262
Pace Project No.: 30637359

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: M3K0262
Pace Project No.: 30637359

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30637359001	**M3K0262-01**	Water	10/19/23 12:37	11/07/23 09:10
30637359002	**M3K0262-02**	Water	10/19/23 12:54	11/07/23 09:10
30637359003	**M3K0262-03**	Water	10/19/23 13:26	11/07/23 09:10
30637359004	**M3K0262-04**	Water	10/19/23 13:44	11/07/23 09:10
30637359005	**M3K0262-05**	Water	10/19/23 14:04	11/07/23 09:10
30637359006	**M3K0262-06**	Water	10/19/23 14:19	11/07/23 09:10

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: M3K0262
Pace Project No.: 30637359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30637359001	**M3K0262-01**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30637359002	**M3K0262-02**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30637359003	**M3K0262-03**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30637359004	**M3K0262-04**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30637359005	**M3K0262-05**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30637359006	**M3K0262-06**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: M3K0262
Pace Project No.: 30637359

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Microbac Laboratories, Inc.-OH
Date: November 29, 2023

General Information:
6 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: M3K0262
Pace Project No.: 30637359

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Microbac Laboratories, Inc.-OH
Date: November 29, 2023

General Information:
6 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: M3K0262
Pace Project No.: 30637359

Sample: M3K0262-01 **Lab ID: 30637359001** Collected: 10/19/23 12:37 Received: 11/07/23 09:10 Matrix: Water
PWS: Site ID: Sample Type:
Comments: • Only 500 ml sent for each sample, lab notified 11/9/23.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.849 ± 0.930 (1.50) C:NA T:78%**	pCi/L	11/28/23 13:27	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.402 ± 0.530 (1.13) C:82% T:78%**	pCi/L	11/20/23 15:11	15262-20-1	

Sample: M3K0262-02 **Lab ID: 30637359002** Collected: 10/19/23 12:54 Received: 11/07/23 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.257 ± 0.558 (1.29) C:NA T:86%**	pCi/L	11/28/23 13:40	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.345 ± 0.466 (0.995) C:73% T:76%**	pCi/L	11/20/23 15:11	15262-20-1	

Sample: M3K0262-03 **Lab ID: 30637359003** Collected: 10/19/23 13:26 Received: 11/07/23 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.000 ± 0.352 (0.716) C:NA T:89%**	pCi/L	11/28/23 13:40	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.272 ± 0.455 (0.991) C:80% T:75%**	pCi/L	11/20/23 15:11	15262-20-1	

Sample: M3K0262-04 **Lab ID: 30637359004** Collected: 10/19/23 13:44 Received: 11/07/23 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.308 ± 0.669 (1.23) C:NA T:77%**	pCi/L	11/28/23 13:40	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.195 ± 0.421 (0.932) C:78% T:81%**	pCi/L	11/20/23 15:11	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: M3K0262
Pace Project No.: 30637359

Sample: M3K0262-05 **Lab ID: 30637359005** Collected: 10/19/23 14:04 Received: 11/07/23 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.605 ± 0.660 (1.04) C:NA T:77%**	pCi/L	11/28/23 13:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.387 ± 0.427 (0.889) C:78% T:83%**	pCi/L	11/20/23 15:11	15262-20-1	

Sample: M3K0262-06 **Lab ID: 30637359006** Collected: 10/19/23 14:19 Received: 11/07/23 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0753 ± 0.391 (0.905) C:NA T:85%**	pCi/L	11/28/23 13:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.469 ± 0.418 (0.838) C:77% T:84%**	pCi/L	11/20/23 15:12	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: M3K0262
Pace Project No.: 30637359

QC Batch: 628304 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30637359001, 30637359002, 30637359003, 30637359004, 30637359005, 30637359006

METHOD BLANK: 3062813 Matrix: Water
Associated Lab Samples: 30637359001, 30637359002, 30637359003, 30637359004, 30637359005, 30637359006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.192 ± 0.220 (0.130) C:NA T:91%	pCi/L	11/28/23 13:15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: M3K0262
Pace Project No.: 30637359

QC Batch: 628305 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30637359001, 30637359002, 30637359003, 30637359004, 30637359005, 30637359006

METHOD BLANK: 3062814 Matrix: Water
Associated Lab Samples: 30637359001, 30637359002, 30637359003, 30637359004, 30637359005, 30637359006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.354 ± 0.279 (0.540) C:86% T:87%	pCi/L	11/20/23 15:11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: M3K0262
Pace Project No.: 30637359

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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Microbac Laboratories Inc., - Marietta, OH

MICROBAC®

SUBCONTRACTED CHAIN OF CUSTODY

M3K0262

SENDING LABORATORY:

Microbac Laboratories Inc., - Marietta, OH
158 Starlite Drive
Marietta, OH 45750
Phone: 800.373.4071
Lab Manager: Tiffany Bailey
Email: Tiffany.Bailey@microbac.com

RECEIVING LABORATORY:

Pace Analytical - Greensburg, PA
1638 Roseytown RD STE 2, 3, 4
Greensburg, PA 15601
Phone: (724) 850-5615

Proiect Info:

Project Type: ENV-WasteWater
Project Location: Ohio
Report TAT: **14**
Due: **11/24/2023 17:00**

Sample ID: M3K0262-01 **Sampled: 10/19/2023 12:37** Sampler:
Matrix: Aqueous Description: KC-9501

Analysis	Method	Analysis Due	Expires
Radium-226 E903	**EPA 903.0**	**11/24/2023 16:00**	**04/19/2024 12:37**
Radium-226	pCi/L	*Carrier Recovery(Surr)*	
Radium-228 E904	**EPA 904.0**	**11/24/2023 16:00**	**04/19/2024 12:37**
Radium-228	pCi/L	*Barium Carrier Recovery(Surr)*	
Carrier Recovery(Surr)		*Yttrium Carrier Recovery(Surr)*	

Sample ID: M3K0262-02 **Sampled: 10/19/2023 12:54** Sampler:
Matrix: Aqueous Description: KC-9502

Analysis	Method	Analysis Due	Expires
Radium-226 E903	**EPA 903.0**	**11/24/2023 16:00**	**04/19/2024 12:54**
Radium-226	pCi/L	*Carrier Recovery(Surr)*	
Radium-228 E904	**EPA 904.0**	**11/24/2023 16:00**	**04/19/2024 12:54**
Radium-228	pCi/L	*Barium Carrier Recovery(Surr)*	
Carrier Recovery(Surr)		*Yttrium Carrier Recovery(Surr)*	

Sample ID: M3K0262-03 **Sampled: 10/19/2023 13:26** Sampler:
Matrix: Aqueous Description: KC-9504

Analysis	Method	Analysis Due	Expires
Radium-226 E903	**EPA 903.0**	**11/24/2023 16:00**	**04/19/2024 13:26**
Radium-226	pCi/L	*Carrier Recovery(Surr)*	
Radium-228 E904	**EPA 904.0**	**11/24/2023 16:00**	**04/19/2024 13:26**
Radium-228	pCi/L	*Barium Carrier Recovery(Surr)*	
Carrier Recovery(Surr)		*Yttrium Carrier Recovery(Surr)*	

WO# : 30637359
30637359

Microbac Laboratories Inc., - Marietta, OH

MICROBAC®

SUBCONTRACTED CHAIN OF CUSTODY

M3K0262

Sample ID: M3K0262-04 **Sampled: 10/19/2023 13:44** Sampler:
Matrix: Aqueous Description: kc-9507

Analysis	Method	Analysis Due	Expires
Radium-226 E903	**EPA 903.0**	**11/24/2023 16:00**	**04/19/2024 13:44**
Radium-226	pCi/L	*Carrier Recovery(Surr)*	
Radium-228 E904	**EPA 904.0**	**11/24/2023 16:00**	**04/19/2024 13:44**
Radium-228	pCi/L	*Barium Carrier Recovery(Surr)*	
Carrier Recovery(Surr)		*Yttrium Carrier Recovery(Surr)*	

Sample ID: M3K0262-05 **Sampled: 10/19/2023 14:04** Sampler:
Matrix: Aqueous Description: KC-9508

Analysis	Method	Analysis Due	Expires
Radium-226 E903	**EPA 903.0**	**11/24/2023 16:00**	**04/19/2024 14:04**
Radium-226	pCi/L	*Carrier Recovery(Surr)*	
Radium-228 E904	**EPA 904.0**	**11/24/2023 16:00**	**04/19/2024 14:04**
Radium-228	pCi/L	*Barium Carrier Recovery(Surr)*	
Carrier Recovery(Surr)		*Yttrium Carrier Recovery(Surr)*	

Sample ID: M3K0262-06 **Sampled: 10/19/2023 14:19** Sampler:
Matrix: Aqueous Description: KC-9509

Analysis	Method	Analysis Due	Expires
Radium-226 E903	**EPA 903.0**	**11/24/2023 16:00**	**04/19/2024 14:19**
Radium-226	pCi/L	*Carrier Recovery(Surr)*	
Radium-228 E904	**EPA 904.0**	**11/24/2023 16:00**	**04/19/2024 14:19**
Radium-228	pCi/L	*Barium Carrier Recovery(Surr)*	
Carrier Recovery(Surr)		*Yttrium Carrier Recovery(Surr)*	

WO# : 30637359
PM: CMC **Due Date: 11/30/23**
CLIENT: MICROBAC-OH

Released By	Date	Received By	Date
Stephanie Murphy	11/06/2023 1255	RWPerson	11/7/23 910
Released By	Date	Received By	Date

DC#_Title: ENV-FRM-GBUR-0088 v06_Sampl... Condition Upon Receipt-Pittsburgh

Effective Date: 09/20/2023

WO#: 30637359

PM: CMC Due Date: 11/30/23

CLIENT: MICROBAC-OH

Client Name: Microbac

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 7128 2695 4113

Initial / Date

Examined By: LB 11-7-23

Labeled By: LB 11-8-23

Temped By: ____

Custody Seal on Cooler/Box Present: ☒ Yes ☐No Seals Intact: ☒ Yes ☐No

Thermometer Used: ____ Type of Ice: Wet Blue None

Cooler Temperature: Observed Temp ____ °C Correction Factor: ____ °C Final Temp: ____ °C

Temp should be above freezing to 6°C

pH paper Lot# 10D0831 | D.P.D. Residual Chlorine Lot #

Comments:	Yes	No	NA	
Chain of Custody Present	X			1.
Chain of Custody Filled Out:	X			2.
-Were client corrections present on COC		X		
Chain of Custody Relinquished	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC:	X			5.
-Includes date/time/ID				
Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume: LB 11-7-23	X	X		9. 500ml sent for each test.
Correct Containers Used:	X			10.
-Pace Containers Used		X		
Containers Intact:	X			11.
Orthophosphate field filtered:			X	12.
Hex Cr Aqueous samples field filtered:			X	13.
Organic Samples checked for dechlorination			X	14:
Filtered volume received for dissolved tests:			X	15:
All containers checked for preservation:	X			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	X			Initial when completed: LB; Date/Time of Preservation: ____; Lot# of added Preservative: ____
8260C/D: Headspace in VOA Vials (> 6mm)			X	17.
624.1: Headspace in VOA Vials (0mm)			X	18.
Trip Blank Present:			X	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed: RS; Date: 11/7/23; Survey Meter SN: 25014380

Comments:

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Attachment III

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9501
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	169	63	118	43	2.3	4.1	0.36	<2	20.7	0.78	545	<5	22.5	196	509	15.6	7.18	51.7	539
	2	01/06/98	179	65	108	41	5.5	6.9	0.3	<2	18.8	0.57	539	<5	21.5	200	585	15.4	7.1	51.4	540
	3	05/22/98	181	68	114	40	1.8	4	0.68	<2	21	0.64	576	<5	22.4	194	815	16.1	7.12	50.9	539
	4	07/21/98	168	63	121	40	2	3	0.61	<2	21.2	0.72	564	<5	23.6	203	760	16.5	7.11	51	539
	5	10/21/98	161	61	115	41	3.7	4	0.6	<2	20.4	0.61	548	<5	21.1	211	761	15.9	6.83	51.7	539
	6	01/13/99	171	64	114	40	1.5	5.1	0.59	<2	21.2	0.56	547	<5	21.8	208	760	15.3	6.71	51.7	540
	7	04/21/99	176	61	109	39	6	5.9	0.54	<2	20.5	0.52	549	<5	20.9	201	811	15.8	6.58	50.7	541
	8	07/27/99	167	64	117	31	5	3.6	0.55	<2	21.3	0.56	562	<5	21.5	207	813	17.9	6.64	51.4	540
	95% Tol.	Upper	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	593	N/A	N/A	221	1095	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL	1	10/13/99	160	61	117	41	5	6.6	0.56	<2	21.8	0.49	538	<5	21.8	222	818	18.4	6.8	52	539
	2	05/04/00	179	67	122	46	2.6	3.2	0.59	<2	21.6	0.66	578	<5	23.2	196	880	16.5	6.2	51.5	538
	3	10/19/00	138	65	116	39	1.3	3.2	0.59	<2	21.5	0.52	568	<5	22	237	818	15.92	6.27	52.25	539
	4	04/25/01	152	–	–	–	–	–	–	–	–	–	600	–	–	214	864	16.37	6.34	51.83	539
	5	10/04/01	149	61	119	–	6	6.2	0.65	<2	22.3	0.53	571	<5	21.6	219	822	16.48	7.26	52.68	538
	6	06/05/02	162	–	–	36	–	–	–	–	–	–	620	–	–	234	814	16.35	7.24	51.50	538
	7	10/31/02	152	71	117	43	4.5	5.3	0.45	<2	20.9	0.63	565	<5	24.8	237	798	15.38	7.30	52.39	538
	8	04/08/03	133	–	–	–	–	–	–	–	–	–	570	–	–	258	826	15.29	7.34	49.50	541
	9	10/09/03	137	69	115	38	0.8	3.4	0.39	<2	20.1	0.61	552	<5	24	235	784	15.24	7.51	52.50	538
	10	05/05/04	153	–	–	–	–	–	–	–	–	–	563	–	–	214	791	15.16	7.43	50.55	540
	11	10/21/04	136	66	118	30	5	5.9	0.2	<2	18.1	0.65	529	<5	23.4	204	791	15.40	7.37	52.45	540
	12	04/26/05	140	–	–	–	–	–	–	–	–	–	517	–	–	207	803	15.20	7.27	49.00	542
	13	10/19/05	132	51	96.6	34	7.9	7.3	0.03	<2	16	0.37	732	<5	25.6	208	759	15.50	7.31	52.00	539
	14	04/18/06	128	–	–	–	–	–	–	–	–	–	489	–	–	198	764	15.40	7.26	51.84	539
	15	10/19/06	126	55	101	38	4.3	4.1	0.09	<10	15.8	0.57	492	<20	19.9	207	734	15.60	7.30	50.40	541
	16	04/27/07	127	–	–	–	–	–	–	–	–	–	541	–	–	192	840	14.60	7.41	50.14	539
	17	11/05/07	143	64	108	–	4.6	2.8	0.03	<5	15.8	0.69	566	<0.5	27.4	193	832	14.60	7.00	51.66	539
	18	04/22/08	160	–	–	–	–	–	–	–	–	–	591	–	–	186	513	14.62	5.87	52.80	539
	19	11/04/08	132	76	116	30.9	1.5	1.09	0.04	<0.05	19.4	0.89	519	<0.5	24.6	192	506	15.10	6.94	52.29	539
	20	04/23/09	132	–	–	30.3	–	–	–	–	–	–	500	–	–	192	762	13.78	7.21	51.22	539
	21	10/21/09	151	55	90.2	31.7	7.2	6.1	0.02	<10	15.2	0.36	499	<0.5	21.1	189	740	16.20	7.33	52.00	539
	22	04/20/10	151	–	–	–	–	–	–	–	–	–	500	–	–	189	759	14.90	7.50	51.85	539
	23	10/15/10	158	63	102	31.5	2.9	3.8	0.17	<10	17.8	0.61	495	<0.5	22.6	195	702	14.80	7.33	52.30	539
	24	06/07/11	164	–	–	–	–	–	–	–	–	–	513	–	–	185	748	14.80	6.72	50.50	539
	25	10/19/11	188	56	94.8	24.6	5.3	7.5	0.38	<10	18.3	0.44	484	<0.5	20.6	168	709	14.00	7.31	51.50	539
	26	04/25/12	204	–	–	20	–	–	–	–	–	–	503	–	–	147	684	14.10	7.35	51.62	539
	27	10/09/12	247	60.7	110	22.1	4.7	2.9	0.39	0.04	21	0.48	492	<0.1	21.5	146	739	13.60	7.08	52.30	539
	28	04/24/13	220	–	–	18.2	–	–	–	–	–	–	508	–	–	128	754	14.60	7.44	52.10	538
	29	10/24/13	218	63.3	114	22.7	1.9	1.2	0.34	0.06	19.9	0.53	508	<0.2	19.9	150	732	14.20	7.06	52.10	539
	30	04/17/14	228	–	–	–	–	–	–	–	–	–	531	–	–	155	781	14.30	7.45	51.10	540
	31	10/28/14	234	67	112	20.6	2.9	4.1	0.47	0.01	21.5	0.53	513	<0.1	20	160	835	14.70	7.03	52.20	538
	32	05/21/15	232	–	–	22.4	–	–	–	–	–	–	522	–	–	172	852	14.40	7.27	51.00	538
	33	10/29/15	235	68.5	126	20.7	4.9	7	0.53	0.02	24.8	0.61	558	<0.03	21	173	845	14.50	7.14	51.40	539
	34	04/21/16	252	–	–	22.9	–	–	–	–	–	–	528	–	–	173	789	15.00	7.27	51.70	539
	35	10/13/16	260	68.6	122	20.9	14.4	4.9	0.43	0.01	23.8	0.57	518	<0.03	20.2	160	887	15.00	7.16	52.90	539
	36	04/27/17	254	-	-	23.5	-	-	-	-	-	-	534	-	-	173	854	14.90	6.86	50.70	540
	37	10/17/17	259	76.4	124	22.2	2.6	8.3	0.56	0.01	24.1	0.64	569	<0.03	19.3	202	909	15.50	7.16	52.10	539
	38	06/06/18	256	-	-	23.7	-	-	-	-	-	-	591	-	-	206	894	14.90	7.18	50.90	540
	39	10/18/18	270	70.7	121	23.4	3	0	0.54	<0.02	23.3	0.59	578	<0.03	17.9	193	977	14.80	7.16	51.00	540
	40	04/22/19	247	-	–	23.8	-	-	-	-	-	-	603	-	-	199	959	14.50	7.11	48.40	541
	41	10/29/19	277	73.3	118	24	1.47	2.54	0.68	<0.05	26	0.49	578	<0.03	19.4	189	856	15.00	6.96	52.30	541
	42	06/12/20	261	-	-	26.2	-	-	-	-	-	-	683	-	-	242	927	15.60	7.23	51.00	536
	43	10/23/20	246	83.4	140	24.3	0.75	0.89	2.4	<0.05	28	0.7	763	<0.03	18.2	232	939	14.30	7.27	52.30	539
	44	04/28/21	244	-	-	26.5	-	-	-	-	-	-	651	-	-	242	997	14.60	7.43	51.70	539
	45	10/19/22	266	80.7	142	26	0.2	1.12	0.79	<0.03	28.4	0.75	660	<0.5	20	242	1007	15.7	7.13	52.6	539
	46	04/22/22	259	-	-	25.9	-	-	-	-	-	-	660	-	-	266	1016	14.7	7.23	50.2	541
	47	10/25/22	250	82.8	129	25.2	0.74	0	0.73	<0.05	27.1	0.73	670	<0.09	18.7	260	946	14.8	7.17	52.9	537
	48	05/24/23	232	-	-	25.2	-	-	-	-	-	-	680	-	-	263	614	14.6	7.29	52.3	537
	49	10/19/23	227	82.7	146	26.1	1.5	1.13	0.78	<0.05	29.3	0.83	690	<0.04	20.1	278	916	14.6	7.24	52.6	539

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9502
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field umhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	19	19	59.1	38	1	2.7	3.79	<2	20.9	16.5	464	<5	24.1	233	409	15.68	5.69	51.65	538.6
	2	01/06/98	17	21	56.1	40	4.8	12.8	5.37	3	18.2	11.6	449	<5	24.8	232	455	15.6	5.69	51.37	539.5
	3	05/22/98	19	24	55.6	40	<1	2.7	6.67	<2	19	12.6	494	<5	24.9	238	623	15.93	5.7	50.81	538.8
	4	07/21/98	17	19	59.4	40	<1	2.1	6.85	3	20	13.4	463	<5	25	236	604	16.4	5.48	50.9	539
	5	10/21/98	18	18	58.6	40	<1	2.1	5.54	<2	19	13.3	474	<5	23	232	606	15.91	5.49	51.62	539
	6	01/13/99	15	23	54.3	42	<1	1.5	6.86	2	18.7	11.4	470	<5	23.8	239	594	15.62	5.23	51.66	539.5
	7	04/21/99	15	16	53.5	34	<1	1.7	2.11	3	18	13.1	478	<5	22.1	236	633	16.25	5.24	50.65	541
	8	07/27/99	16	19	58.6	31	1.7	2.3	3.38	4	19.2	14.6	510	<5	24.1	220	634	17.89	5.36	51.36	540
	95% Tol.	Upper	22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	536	N/A	N/A	252	847	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL	1	10/13/99	18	16	59.7	45	0	5.8	1.64	<2	19.5	16.2	461	<5	23.3	239	640	16.96	5.49	51.9	538.5
	2	05/04/00	18	19	58.7	58	0.4	1.7	3.85	2	19.9	14.8	509	<5	25.3	251	687	16.46	5.19	51.46	538
	3	10/19/00	20	19	58.4	31	1.1	1.8	4.68	<2	19.7	13.9	509	<5	24.2	241	656	16.02	5.40	52.18	538.8
	4	04/25/01	18	–	–	–	–	–	–	–	–	–	546	–	–	240	593	15.86	5.89	51.67	539
	5	10/04/01	22	18	61.3	–	0	1.8	3.4	2	20	15	483	<5	22.9	237	658	16.29	5.90	52.61	538
	6	06/05/02	22	–	–	40	–	–	–	–	–	–	612	–	–	247	640	15.73	5.81	51.46	538
	7	10/31/02	21	20	61.5	39	0.8	2.1	4.44	<2	20.4	14.4	492	<5	24.5	248	641	15.39	5.91	52.31	538.4
	8	04/08/03	15	–	–	–	–	–	–	–	–	–	513	–	–	275	682	15.32	5.63	49.45	540.7
	9	10/09/03	20	23	62.1	42	0.8	1.1	4.23	<2	21.1	14.8	486	<5	23.2	250	651	15.41	6.22	52.48	538
	10	05/05/04	19	–	–	–	–	–	–	–	–	–	538	–	–	266	685	15.16	6.04	50.50	540
	11	10/21/04	23	19	69.6	33	0.6	0	12.2	<2	21.3	12.1	516	<5	24.9	279	726	15.40	5.86	52.00	540
	12	04/26/05	12	–	–	–	–	–	–	–	–	–	527	–	–	278	703	15.10	5.54	49.40	542
	13	1019/05	16	15	59.7	32	1.2	2.9	7.28	5	19.7	13	522	<5	27.8	260	693	15.80	5.67	51.94	539
	14	04/18/06	18	–	–	–	–	–	–	–	–	–	483	–	–	274	693	15.20	5.61	51.60	539
	15	10/19/06	15	16	56.3	32.9	1.7	3.2	7.18	<10	17.7	11.6	481	<20	19.2	278	694	15.40	5.57	50.30	541
	16	04/27/07	19	–	–	–	–	–	–	–	–	–	520	–	–	276	738	14.40	5.77	50.12	539
	17	11/05/07	18	7	64.5	–	1.1	0	6.26	<5	19.8	13	538	<0.5	25.3	259	716	14.60	5.81	51.57	539
	18	04/22/08	28	–	–	–	–	–	–	–	–	–	527	–	–	244	641	14.86	7.47	52.76	539
	19	11/04/08	26	<10	62.8	23.4	0.165	0.77	4.36	0.14	19.9	13.9	484	<0.5	24	226	438	15.12	5.91	52.18	539
	20	04/23/09	28	–	–	24.8	–	–	–	–	–	–	469	–	–	240	687	13.77	6.55	51.16	539
	21	10/21/09	27	<20	52.9	26.6	1.1	1.6	4.88	<10	17.3	11.7	484	<0.5	22.5	248	681	15.20	5.75	51.80	538.7
	22	04/20/10	31.5	–	–	–	–	–	–	–	–	–	487	–	–	247	708	14.80	5.96	51.68	539
	23	10/15/10	29.3	<20	60.1	32.2	0	2	5.74	<10	20.2	13.4	470	<0.5	23.9	300	627	14.70	5.91	52.20	539
	24	06/07/11	31.9	–	–	–	–	–	–	–	–	–	471	–	–	249	659	14.60	6.83	50.37	538.8
	25	10/19/11	32.8	<20	55.6	28.3	1.5	6	4.48	<10	18.2	11.8	478	<0.5	22.8	257	652	13.90	5.79	51.40	538.9
	26	04/25/12	31	–	–	23.9	–	–	–	–	–	–	478	–	–	240	616	14.00	5.55	51.58	538.7
	27	10/09/12	26	19	62.7	26.7	0.7	1.5	3.54	0.035	20.1	14.3	462	<0.1	24.7	228	646	13.50	5.03	52.12	538.5
	28	04/24/13	42	–	–	22.8	–	–	–	–	–	–	458	–	–	246	658	14.50	5.99	52.11	538.1
	29	10/24/13	33.8	18.9	62.1	26.6	0	0.8	4.89	0.144	19	14.2	474	<0.2	22.2	238	613	13.10	5.80	52.00	538.5
	30	04/17/14	33	–	–	–	–	–	–	–	–	–	480	–	–	246	680	14.20	5.84	51.00	540
	31	10/28/14	38.8	19.5	59	25.2	0.7	2.8	4.5	0.006	19.1	14.5	462	<0.1	23	242	690	14.70	6.50	52.20	538
	32	05/21/15	48.9	–	–	20.6	–	–	–	–	–	–	450	–	–	254	684	14.40	6.04	51.00	538.1
	33	10/29/15	41.1	19.6	66.4	25.8	1	1.1	2.44	0.016	20.8	18.6	446	<0.03	24.5	249	683	14.50	5.79	51.80	539
	34	04/21/16	45.7	–	–	21.7	–	–	–	–	–	–	473	–	–	261	644	14.80	5.75	51.70	539
	35	10/13/16	39.7	21.5	67.9	26.3	7.3	1.6	0.09	0.029	21.7	21.4	473	<0.03	23.4	264	761	14.90	5.51	52.80	538.9
	36	04/27/17	62.8	-	-	19.7	-	-	-	-	-	-	446	-	-	239	715	14.70	5.68	50.60	540.2
	37	10/17/17	59.2	20.1	64.6	23.2	0	10.1	3.28	0.01	20.7	15.1	470	<.03	22.1	259	710	15.30	5.89	52.00	539.1
	38	06/06/18	61	-	-	22.6	-	-	-	-	-	-	482	-	-	102	719	14.80	5.85	50.80	540.3
	39	10/18/18	48.3	22.4	68.4	27.1	0.6	1.7	0.53	0.03	21.2	20.6	515	0.04	22	275	811	14.10	5.73	50.90	539.8
	40	04/22/19	41.9	-	-	27.3	-	-	-	-	-	-	542	-	-	288	787	14.30	5.59	48.40	541.3
	41	10/29/19	29.7	24	63.1	27.2	0.049	1.13	0.4	<0.05	22.3	21.7	544	0.03	24.1	303	724	14.60	5.52	52.20	540.8
	42	06/12/20	28.4	-	-	27.9	-	-	-	-	-	-	559	-	-	305	730	15.40	5.45	51.00	536.2
	43	10/23/20	24.9	26.7	74.8	26.1	-0.49	2.46	0.16	<0.05	24.4	25.2	573	0.07	22.7	315	763	14.20	5.52	52.20	538.9
	44	04/28/21	28.8	-	-	27.7	-	-	-	-	-	-	566	-	-	310	997	14.40	5.60	51.70	539.2
	45	10/19/21	31	27.4	73.6	27.5	0.791	0.83	0.03	<0.3	24.4	24.5	580	<0.5	24	316	796	15.70	5.64	52.60	539
	46	04/22/22	42	-	-	23.5	-	-	-	-	-	-	520	-	-	299	1148	16.70	5.62	50.30	540.9
	47	10/25/22	27	28	74.4	27	-0.37	0.62	0.04	<0.05	24.4	26	590	<0.09	23.5	355	790	14.90	5.63	52.80	537.1
	48	05/24/23	25	-	-	25.2	-	-	-	-	-	-	590	-	-	356	512	14.50	5.70	52.30	537.3
	49	10/19/23	26	27.4	75.8	26.2	1.29	1	0.09	0.08	26	26.5	610	0.04	24.1	363	734	14.60	5.64	52.60	539.4

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9504
SAMPLING RESULTS

BACKGROUND	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
	1	10/14/97	103	58	135	41	1.3	4.6	0.66	<2	17.9	0.85	683	<5	29.9	327	594	16.7	6.98	47.5	539
	2	01/06/98	98	52	135	40	2.8	4.3	0.41	3	15.3	0.7	667	<5	30.6	324	653	16.5	6.86	47.5	540
	3	05/22/98	101	55	139	38	<1	2.4	1.03	<2	16.9	0.83	727	<5	30.5	349	916	16.8	6.86	46.8	539
	4	07/21/98	94	54	145	40	<1	2.4	1.05	<2	16.7	0.8	704	<5	30.8	345	871	17.3	6.89	46.9	539
	5	10/21/98	95	53	150	37	<1	2.2	0.85	3	17.7	0.89	737	<5	30.4	369	915	16.6	6.78	47.9	539
	6	01/13/99	108	58	147	39	<1	2	1.06	2	17.8	0.81	744	<5	31.3	370	942	16.1	6.57	48	540
	7	04/21/99	89	45	138	32	28	29	0.33	<2	17.4	0.69	716	<5	28.6	371	1198	17.1	5.19	46.4	541
	8	07/27/99	118	49	179	35	4.3	5.8	0.85	<2	20.5	0.93	852	<5	32.1	421	1071	18.1	6.29	47.2	540
	95% Tol.	Upper	130	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	908	N/A	N/A	459	1528	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMIANNUAL	1	10/13/99	117	45	184	32	12	15.6	0.91	<2	22.3	1.06	856	<5	32.2	440	1118	17.1	6.37	47.9	539
	2	05/04/00	124	44	186	58	0.8	4.8	1.17	2	22.2	1.05	919	<5	29.2	429	1182	16.4	5.92	48	538
	3	10/19/00	118	40	190	36	5.6	11.6	1.44	<2	24	0.92	928	<5	29.7	467	1161	16.44	6.06	48.75	539
	4	04/25/01	122	–	–	–	–	–	–	–	–	–	1070	–	–	537	968	17.42	6.04	48.25	539
	5	10/04/01	116	35	222	–	2.8	5.1	1.75	<2	27.9	0.91	1010	<5	27.9	527	1105	16.99	5.64	49.01	538
	6	06/05/02	104	–	–	36	–	–	–	–	–	–	1050	–	–	561	1205	16.85	6.83	48.00	538
	7	10/31/02	99	38	203	42	4.3	4	1.69	<2	29.3	1.16	1010	<5	24	559	1203	16.48	6.87	48.70	538
	8	04/08/03	97	–	–	–	–	–	–	–	–	–	1040	–	–	555	1301	16.47	6.92	46.50	541
	9	10/09/03	93	36	198	43	1.9	1	1.81	<2	31.2	1.22	979	<5	23.2	524	1186	16.28	7.40	49.20	538
	10	05/05/04	107	–	–	–	–	–	–	–	–	–	1040	–	–	532	1216	15.50	6.97	46.90	540
	11	10/21/04	82	32	185	38	2.6	1.7	1.93	<2	31.2	0.94	941	<5	23.3	519	1141	16.80	6.89	48.72	540
	12	04/26/05	78	–	–	–	–	–	–	–	–	–	977	–	–	519	1221	16.70	6.97	45.45	542
	13	10/19/05	75	26	175	41	1.8	4.6	2.05	<2	34	1.04	1000	12	25.9	525	1216	17.10	6.97	48.50	539
	14	04/18/06	79	–	–	–	–	–	–	–	–	–	1050	–	–	565	1285	16.80	6.98	48.24	539
	15	10/19/06	70	27	213	47	10.8	4	1.84	<10	33.9	1.06	986	<20	17.7	558	1233	17.20	6.86	47.20	541
	16	04/27/07	69	–	–	–	–	–	–	–	–	–	1050	–	–	585	1350	16.20	7.11	46.65	539
	17	11/05/07	69	29	187	–	1.5	3.7	1.83	<5	32.1	1.27	1020	<0.5	23	503	1258	16.40	7.00	48.29	539
	18	04/22/08	144	–	–	–	–	–	–	–	–	–	1480	–	–	790	1413	17.47	6.83	57.68	539
	19	11/04/08	124	37	286	29.4	2.23	2.97	4.46	<0.05	46	3.37	1430	<0.5	23.1	820	1149	17.44	6.76	48.31	539
	20	04/23/09	127	–	–	34.5	–	–	–	–	–	–	1470	–	–	778	1607	16.15	7.63	47.32	539
	21	10/21/09	129	29	273	33.8	1.5	0	3.38	<10	38.3	2.65	1390	<0.5	21.2	785	1598	17.00	6.83	48.75	539
	22	04/20/10	138	–	–	–	–	–	–	–	–	–	1420	–	–	744	946	16.90	5.85	47.51	539
	23	10/15/10	127	34	277	38	1.9	0.9	4.28	<10	39.6	3.32	1330	<0.5	21.8	775	1432	16.80	6.80	48.23	539
	24	06/07/11	127	–	–	–	–	–	–	–	–	–	1280	–	–	668	1428	16.80	7.03	46.75	539
	25	10/19/11	123	24	207	36.2	2.1	3.5	3.8	<10	28.9	2.96	1180	<0.5	19.1	666	1366	15.80	6.73	48.05	539
	26	04/25/12	117	–	–	37.3	–	–	–	–	–	–	1090	–	–	541	1184	16.50	6.77	48.48	539
	27	10/09/12	111	26.5	208	37.3	3.3	3.3	4.18	0.41	29.6	3.08	957	<0.1	19.4	459	1181	15.60	6.78	49.08	539
	28	04/24/13	111	–	–	39	–	–	–	–	–	–	965	–	–	542	1211	16.50	7.13	48.84	538
	29	10/24/13	97.9	25.9	195	40.5	3	10.6	3.7	0.11	25	2.69	903	<0.2	15.9	452	1119	15.40	6.74	49.10	539
	30	014/17/14	99.7	–	–	–	–	–	–	–	–	–	949	–	–	484	1170	16.20	7.16	48.00	540
	31	10/28/14	89.9	26.6	184	42.4	2	2.3	3.51	0.01	24.3	2.52	898	<0.1	15.8	460	1226	16.60	6.49	49.20	538
	32	05/21/15	94.6	–	–	44.5	–	–	–	–	–	–	896	–	–	481	1500	16.10	6.84	48.10	538
	33	10/29/15	85.1	26.7	192	48.9	4.7	5.1	3.76	0.03	26.7	2.67	784	<0.03	16.6	464	1130	16.30	7.00	48.80	539
	34	04/21/16	92.1	–	–	45.2	–	–	–	–	–	–	795	–	–	428	1013	16.80	6.88	48.70	539
	35	10/13/16	86.6	26.7	166	45.8	16.5	4.6	3.2	0.01	23.7	2.28	757	<0.03	14.7	423	1137	16.50	6.91	49.60	539
	36	04/27/17	12.5	-	-	54.1	-	-	-	-	-	-	295	-	-	103	446	16.50	6.21	47.50	540
	37	10/17/17	21.8	30.2	63.1	52.6	1.5	0.5	0.82	0.04	6.92	0.32	321	<.03	17.9	128	485	17.10	6.25	49.20	539
	38	06/06/18	36.1	-	-	53.8	-	-	-	-	-	-	330	-	-	102	504	16.70	6.56	47.20	540
	39	10/18/18	14.7	28.9	55.9	63.9	0.9	0	0.82	<0.02	5.9	0.42	312	<0.03	17.7	114	557	14.10	6.12	47.80	540
	40	04/22/19	14.4	-	-	70.2	-	-	-	-	-	-	391	-	-	129	571	17.10	6.27	45.40	541
	41	10/29/19	10	29.4	75.4	85.2	0.8	1.82	0.3	<0.05	7.7	0.15	464	0.04	33	185	643	16.30	6.39	48.90	541
	42	06/12/20	20.7	-	-	79.3	-	-	-	-	-	-	490	-	-	202	550	18.20	6.74	47.50	536
	43	10/23/20	10	26	90.9	80.9	-0.13	2.55	0.18	0.07	8.83	0.27	575	0.03	36.5	226	738	16.00	6.39	49.10	539
	44	04/28/21	10	-	-	86.3	-	-	-	-	-	-	568	-	-	250	837	16.20	6.49	48.50	539
	45	10/19/21	14	23.3	88.2	85.4	0	0.27	1.31	<0.3	9.43	0.46	540	<0.5	52.1	249	882	17.00	6.31	49.20	539
	46	04/22/22	13	-	-	83.4	-	-	-	-	-	-	540	-	-	259	1200	16.30	6.82	47.10	541
	47	10/25/22	13	21.3	81.9	86.8	0.06	0.09	0.47	<0.05	8.41	0.17	540	<0.09	54.7	256	776	16.90	6.71	49.50	537
	48	05/24/23	22	-	-	78.7	-	-	-	-	-	-	550	-	-	243	490	16.1	6.25	49.2	537
	49	10/19/23	16	26.4	113	89.9	0.72	0.99	0.86	<0.05	11.4	0.36	650	<0.04	53.2	326	834	16.4	7.01	49.1	539

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9507
SAMPLING RESULTS

			Alkalinity	Barium	Calcium	Chloride	Gross Alpha	Gross Beta	Iron	Lead	Magnesium	Manganese	Residue, Filterable, TDS	Selenium	Sodium	Sulfate	Conductivity	Temperature	pH	Well	River
	Round	Date	(total) mg/l	(diss) ug/l	(diss) mg/l	mg/l	pCi/l	pCi/l	(diss) mg/l	(diss) ug/l	(diss) mg/l	(diss) mg/l	mg/l	(diss) ug/l	(diss) mg/l	mg/l	Field umhos/cm	Field °C	Field S.U.	Elev. ft.	Elev. ft.
BACKGROUND DATA	1	10/14/97	40	28	150	35	4.6	5.5	18.5	<2	55.5	6.73	1000	<5	29.9	629	842	17.3	5.61	47.32	538.6
	2	01/06/98	42	24	138	37	3.4	6.3	14.1	3	45.8	4.42	993	<5	30.1	586	868	17.2	5.59	47.38	539.5
	3	05/22/98	44	29	141	30	<1	3.3	16.8	2	49	5.15	1080	<5	29.2	583	499	17.4	5.61	46.63	538.8
	4	07/21/98	46	24	162	28	10.9	16.2	17.5	<2	51.8	5.55	1060	<5	29.9	618	1236	17.8	5.64	46.77	539
	5	10/21/98	50	23	153	30	<1	3.1	17	<2	51.5	5.14	1050	<5	26.3	610	1209	17.2	5.57	47.8	539
	6	01/13/99	46	24	152	26	1.7	6.4	17.3	3	52.9	4.8	1070	<5	27.8	632	1214	16.7	5.16	47.98	539.5
	7	04/21/99	41	24	157	30	5	7.8	19.2	2	52.8	5.21	1130	<5	27.3	672	931	16.9	6.18	46.36	541
	8	07/27/99	38	22	156	29	9.6	6.6	22.5	<2	53.8	5.91	1110	<5	27.2	637	1306	19.4	5.3	47.15	540
	95% Tol	Upper	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1214	N/A	N/A	713	1895	N/A	N/A	N/A	N/A
	95% Tol	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL	1	10/13/99	39	20	147	33	2.5	1.8	18.6	<2	49.5	4.93	954	<5	27.6	579	1226	17.2	5.36	47.86	538.5
	2	05/04/00	37	19	131	46	1.5	0.5	12.9	<2	43.4	3.72	981	<5	26.1	518	1182	16.9	5.07	48.35	538
	3	10/19/00	33	18	130	26	3.7	1.3	15.6	<2	45.3	4.34	919	<5	24.7	531	1138	16.82	5.28	48.69	538.8
	4	04/25/01	32	--	--	--	--	--	--	--	--	--	967	--	--	536	1309	17.26	5.68	48.17	539
	5	10/04/01	27	20	128	--	0.7	1.7	13.6	<2	41.8	3.57	860	<5	25.6	485	1267	17.75	6.91	48.99	538
	6	06/05/02	25	--	--	34	--	--	--	--	--	--	1110	--	--	563	1124	16.90	5.62	48.00	538
	7	10/31/02	24	24	122	41	0.7	1.9	18.6	<2	41.1	4.32	853	<5	24.6	530	1051	16.70	5.75	48.60	538.4
	8	04/08/03	22	--	--	--	--	--	--	--	--	--	843	--	--	505	1051	16.65	5.67	46.40	540.7
	9	10/09/03	22	21	118	45	0.8	2.6	18.6	<2	38.9	4.06	820	<5	22.9	479	1048	16.49	5.95	48.10	538
	10	05/05/04	22	--	--	--	--	--	--	--	--	--	941	--	--	515	1112	16.56	5.79	46.80	540
	11	10/21/04	21	19	123	34	0.8	2.5	26.4	<2	39.2	5.28	810	<5	24.3	514	1074	16.90	5.67	48.35	540
	12	04/26/05	22	--	--	--	--	--	--	--	--	--	782	--	--	463	1053	16.70	5.62	45.40	542
	13	10/19/05	20	13	96	39	0.7	1.2	17	<2	31.4	3.12	707	<5	25.3	400	961	17.10	5.71	48.35	539
	14	04/18/06	20	--	--	--	--	--	--	--	--	--	755	--	--	448	976	16.90	5.66	48.15	539
	15	10/19/06	20	15	103	36.9	0.7	0.9	27.5	<10	32.7	4.71	724	<20	21.2	445	1015	17.20	5.52	47.28	541
	16	04/27/07	22	--	--	--	--	--	--	--	--	--	808	--	--	463	1072	16.30	5.73	46.64	539
	17	11/05/07	25	17	100	--	2	3	31.4	<5	31.2	5.59	810	<0.5	23.2	396	996	16.50	5.62	48.15	539
	18	04/22/08	31	--	--	--	--	--	--	--	--	--	1120	--	--	649	1121	17.68	6.29	57.67	539
	19	11/04/08	26	22	232	36.6	-0.21	0.84	8.31	<0.05	31.5	1.89	1040	<0.5	16.2	592	894	17.49	6.22	52.49	539
	20	04/23/09	28	--	--	41.5	--	--	--	--	--	--	997	--	--	560	1200	16.30	7.01	47.22	539
	21	10/21/09	28	<20	144	40.5	2.6	0	8.44	<10	18.8	1.65	827	0.5	14.1	492	1060	17.20	5.86	48.80	538.7
	22	04/20/10	24	--	--	--	--	--	--	--	--	--	698	--	--	408	1022	17.00	6.93	47.40	539
	23	10/15/10	21.2	21	122	51.6	0.6	0	5.19	<10	14.2	0.937	593	<0.5	13.6	382	770	16.60	6.08	48.10	539
	24	06/07/11	26.7	--	--	--	--	--	--	--	--	--	627	--	--	319	858	16.80	7.07	46.85	538.8
	25	10/19/11	20.2	<20	77.8	40.9	3.1	4.7	1.26	<10	8.66	0.395	433	<0.5	10.6	212	543	15.80	5.81	48.02	538.9
	26	04/25/12	17	--	--	43.7	--	--	--	--	--	--	489	--	--	207	604	16.50	6.10	48.42	538.7
	27	10/09/12	14	21.3	85.4	49	1.4	2.6	0.64	0.03	8.18	0.211	433	<0.1	11.4	171	577	15.60	5.66	48.97	538.5
	28	04/24/13	15	--	--	48.8	--	--	--	--	--	--	402	--	--	168	557	16.40	6.33	48.78	538.1
	29	10/24/13	14.2	24.8	73.7	50.1	0	3.5	1.26	0.09	7.47	0.392	349	<0.2	11.3	142	517	15.40	6.74	49.10	538.5
	30	04/17/14	14.6	--	--	--	--	--	--	--	--	--	393	--	--	135	537	16.10	6.19	48.10	540
	31	10/28/14	25	25.2	60.7	50.8	0	4.7	0.13	0.02	6.46	0.277	343	<0.1	11.5	128	520	16.60	6.56	49.10	538
	32	05/21/15	26.5	--	--	56	--	--	--	--	--	--	353	--	--	136	546	15.90	6.26	48.00	538.1
	33	10/29/15	13.2	26.4	60.8	56.3	0.5	13.1	1.02	0.02	6.17	0.264	348	<0.03	12.8	130	484	16.30	6.13	48.70	539
	34	04/21/16	14.3	--	--	53.9	--	--	--	--	--	--	320	--	--	121	443	16.50	6.01	48.60	539
	35	10/13/16	14.8	29.3	61.6	54.6	0	0	1.22	0.03	6.73	0.382	339	0.04	16.2	133	510	16.40	6.02	49.60	538.9
	36	04/27/17	93.1	-	-	46.5	-	-	-	-	-	-	724	-	-	360	1054	16.50	6.95	46.90	540.2
	37	10/17/17	93.9	25.3	146	46	1.4	3.7	2.61	0.01	21.1	1.79	651	<0.03	13.6	346	970	16.70	6.93	48.70	539.1
	38	06/06/18	102	-	-	49.6	-	-	-	-	-	-	694	-	-	343	1089	16.60	6.93	47.10	540.3
	39	10/18/18	93.8	27.1	141	55.3	4.6	1.2	2.4	<0.02	19.2	1.65	662	<0.03	12.4	319	1121	15.90	6.99	47.80	539.8
	40	04/22/19	87.1	-	-	64.4	-	-	-	-	-	-	825	-	-	383	1230	16.00	6.59	45.50	541.3
	41	10/29/19	89.2	38.4	173	65.6	1.24	1.48	3.36	<0.05	25.1	2.64	911	<>0.03	28	462	1231	16.60	6.99	48.90	540.8
	42	06/12/20	75.5	-	-	71.6	-	-	-	-	-	-	1050	-	-	537	1280	18.10	6.74	47.50	536.2
	43	10/23/20	100	31.3	207	63.5	-0.43	1.16	2.98	<0.05	26.8	2.44	945	<0.03	23.3	479	1350	16.50	6.99	49.10	538.9
	44	04/28/21	87.9	-	-	74.7	-	-	-	-	-	-	1080	-	-	566	1474	15.80	6.99	48.50	539.2
	45	10/19/21	92	32.1	222	73.8	0.45	0.7	3.11	<0.3	29.7	3.08	1120	<0.5	35.3	592	1537	17.80	7.02	49.20	539
	46	04/22/22	91	-	-	90.1	-	-	-	-	-	-	1380	-	-	814	1662	16.60	7.06	47.20	540.9
	47	10/25/22	83	32.5	249	87.6	0	1.16	3.05	<0.05	31.6	3.14	1340	<0.09	55.6	777	1615	17.00	6.96	49.60	537.1
	48	05/24/23	58	-	-	102	-	-	-	-	-	-	1430	-	-	827	1068	16.40	6.92	49.20	537.3
	49	10/19/23	67	31	271	101	1.23	0.93	3.84	<0.05	33.2	3.26	1560	<0.04	73.7	876	1714	16.00	7.01	49.10	539

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9508
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	237	99	132	21	5.6	8.6	1.07	<2	20	1.24	558	<5	14.7	190	512	15	6.94	23.5	539
	2	01/06/98	244	90	124	21	5.5	9.1	1.17	2	17.1	0.92	568	<5	15.3	196	588	14.9	6.85	23.4	540
	3	05/22/98	236	99	133	22	2.5	4.7	2.15	<2	19.6	0.88	607	<5	15.7	203	840	15.1	6.91	22.7	539
	4	07/21/98	230	98	146	21	3.1	3.8	2.35	<2	20.7	0.97	598	<5	15.8	208	805	15.4	6.81	22.8	539
	5	10/21/98	210	101	144	23	3.3	3.9	2.32	<2	20	0.89	621	<5	14.9	245	819	15.1	6.83	23.5	539
	6	01/13/99	233	98	136	21	3.5	5.2	2.28	2	19.7	0.86	600	<5	15.3	221	824	14.9	6.4	23.6	540
	7	04/21/99	224	101	138	20	5	5.7	1.99	<2	19.2	0.78	608	<5	15.5	230	975	16.1	6.33	22.4	541
	8	07/27/99	228	102	151	23	1.2	3.4	2.08	<2	20.7	0.79	659	<5	16.2	235	893	16.5	6.44	23.2	540
	95% Tol.	Upper	263	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	702	N/A	N/A	279	1275	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL	1	10/13/99	228	104	155	23	2.6	3.2	2.22	<2	20.8	0.78	631	<5	16.7	247	904	15.3	6.56	23.7	539
	2	05/04/00	221	104	158	32	0	2.3	2.29	<2	21.2	0.79	660	<5	16.8	247	969	15.3	5.93	23.9	538
	3	10/19/00	238	108	156	23	5.9	4	2.08	<2	21.8	0.94	645	<5	16.5	253	980	15.33	5.96	24.03	539
	4	04/25/01	229	–	–	–	–	–	–	–	–	–	691	–	–	264	729	15.14	5.97	23.58	539
	5	10/04/01	244	111	171	–	4	4.4	2.58	<2	22.6	1.1	681	<5	16.9	273	974	15.34	6.96	24.27	538
	6	06/05/02	233	–	–	24	–	–	–	–	–	–	754	–	–	283	962	15.25	6.98	23.46	538
	7	10/31/02	233	116	172	26	3.4	6.7	2.95	<2	24.4	0.95	736	<5	18.1	315	1002	14.79	7.01	24.31	538
	8	04/08/03	224	–	–	–	–	–	–	–	–	–	807	–	–	357	1087	14.81	6.89	24.80	541
	9	10/09/03	227	99	193	24	1.3	4.2	3.23	<2	27.2	1.04	827	<5	19.8	370	996	15.10	7.24	24.30	538
	10	05/05/04	228	–	–	–	–	–	–	–	–	–	896	–	–	380	1157	14.78	7.14	22.40	540
	11	10/21/04	227	78	216	13	3.3	5	4.08	<2	27.2	1.09	841	<5	20.9	372	1148	15.00	6.93	24.00	540
	12	04/26/05	229	–	–	–	–	–	–	–	–	–	803	–	–	351	1103	15.00	6.91	21.00	542
	13	10/19/05	231	60	171	22	1.9	3.3	4.02	<2	24.3	0.98	778	<5	20.5	320	1064	15.10	6.96	23.77	539
	14	04/18/06	228	–	–	–	–	–	–	–	–	–	761	–	–	332	1056	15.30	6.89	23.52	539
	15	10/19/06	226	68	194	23.4	0	0.5	3.94	<10	25.6	0.95	759	<20	18.1	325	1050	15.30	6.88	22.04	541
	16	04/27/07	231	–	–	–	–	–	–	–	–	–	795	–	–	314	1134	14.30	6.99	22.25	539
	17	11/05/07	164	65	178	–	2	0.5	3.82	<5	24.8	1.09	882	<0.5	20.9	326	1112	14.40	6.93	23.68	539
	18	04/22/08	207	–	–	–	–	–	–	–	–	–	794	–	–	320	852	14.80	7.16	25.83	539
	19	11/04/08	199	74	200	23.3	2.99	1.2	4.24	<0.05	28.5	1.43	820	<0.5	20.5	337	751	15.30	7.11	24.49	539
	20	04/23/09	231	–	–	30.2	–	–	–	–	–	–	806	–	–	334	1078	14.10	7.49	22.68	539
	21	10/21/09	229	68	165	27.4	0.7	3.2	4.2	<10	24.4	0.94	774	<0.5	24.8	326	1083	15.20	6.96	24.00	539
	22	04/20/10	230	–	–	–	–	–	–	–	–	–	815	–	–	340	1005	14.90	7.02	23.20	539
	23	10/15/10	235	71	169	29.2	0	2.1	4.59	<10	26.3	1	742	<0.5	20.9	395	970	15.00	6.93	23.60	539
	24	06/07/11	241	–	–	–	–	–	–	–	–	–	738	–	–	288	1019	14.90	7.36	22.37	539
	25	10/19/11	234	71	165	27.4	3.1	5	4.2	<10	25.4	0.98	796	<0.5	21.6	336	1037	14.20	6.75	23.01	539
	26	04/25/12	242	–	–	26.5	–	–	–	–	–	–	834	–	–	330	1020	15.00	6.89	23.70	539
	27	10/09/12	229	75.5	194	27.3	3.5	3.5	5.33	0.04	29.9	1.06	838	<0.1	25	336	1112	14.20	6.72	23.91	539
	28	04/24/13	237	–	–	27.7	–	–	–	–	–	–	825	–	–	399	1161	15.40	7.09	23.90	538
	29	10/24/13	223	70.9	189	29.8	1	2.3	5.41	0.08	27.1	1	830	<0.2	21.7	346	1109	14.80	6.59	23.70	539
	30	04/17/14	225	–	–	–	–	–	–	–	–	–	844	–	–	346	1131	15.10	7.04	23.20	540
	31	10/28/14	223	64.7	178	28.7	2.3	4.1	5.34	0.01	25.7	1.04	836	<0.1	21.3	364	1195	16.00	6.65	23.90	538
	32	05/21/15	216	–	–	–	–	–	–	–	–	–	847	–	–	394	1231	15.30	6.76	22.10	538
	33	10/29/15	213	67	208	32.7	1.9	2.5	6.5	0.02	30.5	1.3	800	<0.03	25.4	384	1184	15.80	6.71	23.50	539
	34	04/21/16	215	–	–	30.7	–	–	–	–	–	–	868	–	–	391	1106	16.50	6.85	23.80	539
	35	10/13/16	234	67	192	31.8	2.5	2	5.95	0.01	27.6	1.31	866	<0.03	21.9	420	1296	16.20	6.84	24.30	539
	36	04/27/17	210	-	-	31.9	-	-	-	-	-	-	834	-	-	381	1188	16.45	6.75	22.30	540
	37	10/17/17	237	57.1	176	30.4	3	0.4	5.79	0.01	26.2	1.19	788	<0.03	20.4	370	1135	17.30	6.83	24.00	539
	38	06/06/18	225	-	-	30.7	-	-	-	-	-	-	777	-	-	342	1122	16.00	6.85	22.70	540
	39	10/18/18	237	55.9	162	29.7	3.4	1.4	5.32	0.06	22.7	1.19	391	<0.03	17.8	317	1208	15.70	6.84	22.90	540
	40	04/22/19	215	-	-	31	-	-	-	-	-	-	810	-	-	352	1163	16.90	6.96	20.30	541
	41	10/29/19	208	65.2	164	33	-0.66	2.83	6.51	<0.05	25.5	1.46	838	0.03	19.9	362	1061	17.40	6.82	23.90	541
	42	06/12/20	228	-	-	31.1	-	-	-	-	-	-	793	-	-	338	1071	18.10	7.00	22.70	536
	43	10/23/20	221	61.4	168	29.5	0.84	2.56	6.49	<0.05	24.2	1.73	783	<0.03	17.7	311	1198	17.60	6.98	23.80	539
	44	04/28/21	208	-	-	30.7	-	-	-	-	-	-	735	-	-	297	1050	16.90	6.89	23.30	539
	45	10/19/21	217	56	149	30.3	0.39	1.67	5.74	<0.3	21.9	1.68	680	<0.5	17.6	283	1068	17.60	6.90	24.10	539
	46	04/22/22	224	-	-	31.8	-	-	-	-	-	-	670	-	-	295	1216	17.00	7.12	22.40	541
	47	10/25/22	213	63.1	134	33.6	-0.13	0.44	5.55	<0.05	21.3	1.81	690	<0.09	16	284	966	16.40	6.83	24.40	537
	48	05/24/23	208	-	-	33.2	-	-	-	-	-	-	680	-	-	272	606	16.90	6.98	24.30	537
	49	10/19/23	203	61.7	147	32.5	1.04	0.89	2.83	<0.05	21.8	1.59	660	<0.04	16.7	266	863	16.80	7.02	49.10	539

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9509
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	195	51	133	18	<1	2.7	2.65	<2	22.4	0.87	603	<5	17.2	241	485	14.9	6.62	23.8	539
	2	01/06/98	201	45	122	24	1.5	3.1	1.58	2	19.3	0.48	605	<5	17.4	235	597	14.9	6.59	23.7	540
	3	05/22/98	210	47	128	21	<1	2.2	2.41	<2	20.4	0.58	642	<5	16.4	225	832	15.1	6.65	23	539
	4	07/21/98	201	47	143	21	<1	2.8	2.6	<2	22.3	0.63	621	<5	17.2	245	814	15.4	6.36	23.1	539
	5	10/21/98	230	45	141	23	1.6	3	2.19	<2	21.4	0.59	618	<5	15.7	220	820	15	6.48	23.8	539
	6	01/13/99	206	48	135	21	<1	2.5	2.39	<2	21.2	0.56	624	<5	16.6	261	827	14.9	5.87	24	540
	7	04/21/99	212	45	133	24	3.2	2.4	1.56	4	19.7	0.44	589	<5	15.6	235	857	15.3	6.14	22.8	541
	8	07/27/99	207	45	144	16	4.3	4.1	1.76	<2	21.3	0.47	646	<5	16.1	244	869	16.1	6.14	23.6	540
	95% Tol.	Upper	241	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	680	N/A	N/A	279	1213	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMIANNUAL	1	10/13/99	204	48	147	21	0.5	2	3.3	<2	21.9	0.62	622	<5	17.5	255	885	15.2	6.27	23.9	539
	2	05/04/00	197	59	152	30	0	0.3	4.75	2	22.3	0.81	694	<5	18.2	278	959	15.3	5.65	23.6	538
	3	10/19/00	201	55	168	15	2.2	1.8	2.34	<2	25.2	0.62	736	<5	18.9	326	1017	15.21	5.76	24.45	539
	4	04/25/01	200	–	–	–	–	–	–	–	–	–	831	–	–	383	787	15.14	5.50	23.83	539
	5	10/04/01	206	63	175	–	2.3	3.3	2.48	<2	25	0.68	734	<5	19.1	324	1027	15.32	6.75	24.62	538
	6	06/05/02	190	–	–	23	–	–	–	–	–	–	793	–	–	348	992	15.21	6.69	23.75	538
	7	10/31/02	162	74	164	24	0	2.1	4.35	<2	27.7	1.08	803	<5	23.3	395	1040	14.75	6.56	24.70	538
	8	04/08/03	151	–	–	–	–	–	–	–	–	–	894	–	–	457	1136	14.85	6.40	22.10	541
	9	10/09/03	149	59	178	25	1.3	4.6	1.32	<2	30.1	1.07	864	<5	22	443	1020	15.05	6.78	24.60	538
	10	05/05/04	151	–	–	–	–	–	–	–	–	–	876	–	–	426	1101	14.89	6.58	22.68	540
	11	10/21/04	149	65	184	18	1.6	4.3	4.14	<2	28.3	2.48	849	<5	22.1	436	1127	14.90	6.21	23.23	540
	12	04/26/05	162	–	–	–	–	–	–	–	–	–	863	–	–	420	1129	15.00	6.31	21.90	542
	13	10/19/05	152	49	165	22	1.5	4.3	2.45	3	28.2	5.36	846	<5	24.1	430	1093	15.10	6.48	24.15	539
	14	04/18/06	165	–	–	–	–	–	–	–	–	–	841	–	–	410	1050	15.40	6.52	24.05	539
	15	10/19/06	155	53	172	25.1	0.7	3.9	1.83	<10	25.1	8.99	761	<20	17.9	394	1023	15.20	6.47	22.36	541
	16	04/27/07	158	–	–	–	–	–	–	–	–	–	830	–	–	381	1131	14.40	6.71	22.60	539
	17	11/05/07	180	51	170	–	3	5.6	2.52	<5	26.6	8.58	896	<0.5	22.5	398	1173	14.40	6.61	24.00	539
	18	04/22/08	164	–	–	–	–	–	–	–	–	–	745	–	–	328	794	14.95	6.63	26.16	539
	19	11/04/08	167	59	145	21.8	1.67	1.61	3.61	<0.05	23.3	9	664	<0.5	18.4	263	622	15.26	6.84	23.94	539
	20	04/23/09	167	–	–	25.5	–	–	–	–	–	–	693	–	–	304	921	14.09	7.51	22.98	539
	21	10/21/09	162	54	127	25.1	1.2	3.7	5.24	<10	22.6	10.2	742	<0.5	19.8	351	994	15.20	6.44	24.50	539
	22	04/20/10	170										781			349	1069	15.00	6.59	23.49	539
	23	10/15/10	177	58	162	34.1	4.9	2.9	2.82	<10	28.7	10.1	825	<0.5	22.8	451	1032	15.00	6.66	24.18	539
	24	06/07/11	184	–	–	–	–	–	–	–	–	–	834	–	–	361	1058	14.80	7.11	22.85	539
	25	10/19/11	177	44	156	27.8	4.4	6.2	2.29	<10	27	10	868	<0.5	23	432	1069	14.20	6.38	23.60	539
	26	04/25/12	207	–	–	27	–	–	–	–	–	–	861	–	–	391	1013	14.80	6.47	23.25	539
	27	10/09/12	147	63.1	63.6	25.3	3	3.1	3.16	0.1	20.2	14.8	923	<0.1	25.3	430	1160	14.20	6.22	24.42	539
	28	04/24/13	176	–	–	26.5	–	–	–	–	–	–	900	–	–	471	1188	15.40	6.71	24.35	538
	29	10/24/13	137	72.6	158	26.5	2.3	0	6.76	0.51	27.8	22.5	832	<0.2	22.8	401	1069	15.00	6.22	24.90	539
	30	04/17/14	131	–	–	–	–	–	–	–	–	–	922	–	–	454	1173	15.40	6.59	23.70	540
	31	10/28/14	118	63.6	155	29.4	2.2	0	2.21	0.01	28.2	29.1	915	<0.1	24.7	473	1260	16.10	6.44	24.30	538
	32	05/21/15	143	–	–	31.7	–	–	–	–	–	–	918	–	–	478	1262	15.40	6.63	23.40	538
	33	10/29/15	112	49.6	166	32	6.1	0	2.55	0.02	31.1	33.8	886	<0.03	26.5	497	1204	15.70	6.13	23.80	539
	34	04/21/16	109	–	–	31.9	–	–	–	–	–	–	877	–	–	499	950	16.60	6.15	24.20	539
	35	10/13/16	113	62	134	29.2	3.1	2.7	7.04	0.01	26	36.2	779	<0.03	23.5	460	1126	16.50	6.11	24.69	539
	36	04/27/17	110	-	-	32.2	-	-	-	-	-	-	854	-	-	463	1155	16.44	6.19	22.80	540
	37	10/17/17	134	41.8	157	31.3	2.8	0	1.72	0.01	29	30.6	828	<0.03	23.7	464	1043	17.30	6.83	24.00	539
	38	06/06/18	168	-	-	32.7	-	-	-	-	-	-	824	-	-	414	1119	16.00	6.50	23.10	540
	39	10/18/18	150	49.5	147	33.4	1.5	5.1	2.38	0.21	25.7	26.2	828	<0.03	20.9	405	1212	16.10	6.43	23.30	540
	40	04/22/19	162	-	-	33	-	-	-	-	-	-	812	-	-	375	1103	17.20	6.68	20.70	541
	41	10/29/19	126	49.4	132	40.1	0.93	2.53	1.95	<0.05	26.1	30.1	804	<0.03	21.9	402	1045	17.10	6.70	24.90	541
	42	06/12/20	126	-	-	38.3	-	-	-	-	-	-	768	-	-	373	1068	17.20	6.93	23.20	536
	43	10/23/20	136	54.9	132	37.3	-0.19	1.53	3.53	<0.05	23.6	26.7	783	<0.03	18.8	330	1172	16.70	6.70	24.20	539
	44	04/28/21	158	-	-	35.6	-	-	-	-	-	-	720	-	-	324	1034	16.40	6.80	23.70	539
	45	10/19/21	148	62.2	117	40.8	0	0.86	6.45	<0.3	21.2	23.7	660	<0.5	18.9	296	1063	16.90	6.73	24.60	539
	46	04/22/22	144	-	-	44	-	-	-	-	-	-	670	-	-	325	980	16.60	6.82	22.90	541
	47	10/25/22	144	67.5	119	45.8	0.6	1.02	3.45	<0.05	22	19	680	<0.09	17.6	324	952	17.40	6.51	24.80	537
	48	05/24/23	150	-	-	39.8	-	-	-	-	-	-	690	-	-	310	600	16.50	6.62	24.30	537
	49	10/19/23	150	49.4	122	41.4	0.91	0.84	2.46	<0.05	21.1	16.7	700	<0.04	16.6	305	868	16.30	6.62	24.60	539

APPENDIX B 1998 AND 2017 OEPA INTEROFFICE MEMORANDUM

OhioEPA
State of Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138-9031
(614) 385-8501
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George V. Voinovich
Governor

To: Dan Messerly through Bruce Goff, DSW-SEDO

From: David Hunt through Mike Preston, DDAGW-SEDO

Subject: Ohio Valley Electric Corporation - Ground Water Quality Results for May 1998
(DDAGW #: 07/22/98-04-3-05-0 3757)

Date: August 28, 1998

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Introduction

The Ohio Valley Electric Corporation (OVEC) site is located in Gallia County, Ohio on State Route 7 approximately five miles north of Gallipolis, Ohio. There are two fly ash ponds at the OVEC site: the north and the south ponds. The PTI for closure plan is only for the closure of the north pond, while the south pond will continue to be used for fly ash disposal. The PTI was approved without OVEC having to address DDAGW's comments on the proposed ground water monitoring plan. The geology of interest beneath the OVEC site consists of unconsolidated sand and gravel formations of the Ohio River Valley Aquifer. There are two industrial, nonpotable well fields up river and down river of the north and south ponds. The industrial well fields and the Ohio River are the major influence of the ground water flow patterns at the OVEC site.

There are ten ground water monitoring wells at the closure site (KC-9501 through KC-9510) However, only wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508 and KC-9509 have been selected by OVEC for ground water monitoring purposes. Dedicated bladder pumps have been installed in these six wells for sampling purposes. The ground water monitoring package submitted on July 10, 1998 included ground water data for these six wells. The package also included water level data for fourteen wells present at the site. The six wells are proposed to be sampled quarterly for two years. No up gradient well was sampled, which is necessary to determine if an intrawell statistical approach is appropriate. DDAGW has commented on this before, but OVEC maintains that they will implement the ground water monitoring program in the approved PTI, which does not include a background well being monitored.

In a previous IOC to DSW, DDAGW outlined that based upon a comparison of shallow wells verses deep wells it appears that the water quality at the OVEC site is being impacted. Please refer to the January 1998 IOC for further information on the November sampling results.

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The following are DDAGW's comments on the ground water monitoring data results in the July 1998 submittal for the OVEC site.

Observations

1. Since no background well was sampled, DDAGW has made several comparisons with the ground water quality results to evaluate whether the north fly ash pond has impacted ground water. These comparisons include shallow wells to deep wells, the wells on site to two ambient stations within the Ohio River Valley Aquifer, and the two well clusters monitoring the north fly ash pond to the cluster on the southern side of the south fly ash pond. The following are several observations about the water quality.

   a. The shallow wells tend to have lower pH and alkalinity than the deeper wells at two of the three locations. The shallow wells KC-9502 and KC-9507 show pH ranging between 5.61 to 5.75, while the deeper well at the respective clusters, KC-9501 and KC-9504, showed pH near 7.0. Alkalinity in the deeper well 9501 was 181 ug/l, while the shallower well 9502 was at 19 ug/l.

   b. Shallow wells 9502 and 9507 have higher concentrations of manganese, and iron verses the deep wells 9501 and 9504. Well 9501 has a manganese concentration of 0.64 mg/l while the shallow well at the same cluster has a manganese concentration of 12.6 mg/l. Iron is 1.03 mg/l in the deep well (9504) but is 16.8 mg/l in shallow well (9507).

   c. In addition to the iron and manganese, 9507 (shallow well) has slightly higher concentrations of magnesium (Mg), TDS and sulfate (SO4) when compared to the deep well, 9504.

   d. The water quality for the cluster 9508 and 9509 was very similar for all parameters.

   e. There has been fairly good consistency in water quality between the three ground water sampling events that have been performed to date, with the following exceptions: well 9502 is showing an increasing trend of iron (3.79 in 10/97 to 6.67 in 5/98); conductivity in well 9507 dropped from 850 in 10/97 and 868 in 1/98 down to 499 in 5/98; 9508 is showing a slight increase in iron between the three events while manganese is slightly decreasing.

   f. Shallow wells 9502 and 9507 are close to being directly down gradient of the north fly ash pond while 9508 is located side gradient, or southward, of the south fly ash pond. Since there is no real difference between the deep and shallow wells at the 9508/09 location it stands to reason that the differences in water quality between shallow and deep at the other two locations may be related to a release from the north fly ash pond. Alkalinity, barium, calcium and pH are higher in the shallow well 9508 than found in 9502 and 9507. Iron and manganese are much

higher in 9502 and 9507 verses 9508. TDS, sulfate, and magnesium are higher in 9507 than found at 9508.

g. DDAGW maintains two ground water ambient stations within the Ohio River Valley Aquifer near the OVEC site. The Middleport Well #4 and the Gallia Rural Water #4 stations are located near the OVEC site. Water quality from July 1998 at these two ambient locations was compared to the water quality being found at the OVEC site. Magnesium, barium, sodium, calcium and chloride are all similar in concentration in the ambient wells as found at the OVEC site. However, iron and manganese levels are much higher (1 to 2 orders of magnitude higher) in all of the wells (shallow and deep) at the OVEC site when compared to the ambient water quality. Interestingly, the OVEC deep wells show very similar alkalinity to the ambient wells.

Comments

1. No water level map was submitted with the three water quality reports. A potentiometric map should be submitted with the water quality data report.

2. In the June 25, 1997 memo on the ground water quality SAP, DDAGW recommended the inclusion of the background well KC-9506 in the initial two year sampling. As noted, this is particularly important in determining if an intrawell statistical approach is the best method for evaluating whether a release has occurred. Given the water quality from the first tbree quarters of monitoring, it appears that there are differences in water quality between the shallow and deep wells in two of the three clusters. Other differences in water quality were also evaluated above. These differences in water quality may be reflective of a release to ground water from the north pond. If a release has occurred at the OVEC site, then intrawell statistics cannot be used to evaluate a release. In order for OVEC to effectively demonstrate that no release has occurred and that intrawell comparison is appropriate, DDAGW continues to recommend that KC-9506 be included in the sampling effort.

3. Based on the water quality data and the submitted water level depth data, DDAGW continues to recommend tbat another monitoring well cluster be installed between the clusters 9501/9502 and 9504/9507 on the east side of the north fly ash pond. OVEC declined to install this well cluster in 1997 given that OEPA approved the PTI without this well as a component of the proposed ground water monitoring program. If OVEC will not install this monitoring well as part of detection monitoring program, then the cluster would likely be installed during assessment activities. Based on the review of the water quality data it is likely that assessment activities will be necessary.

Conclusion

DDAGW has completed its review of the July 1998 Ground Water Quality Report for the North Pond closure at the OVEC site in Gallia County. DDAGW made several ohservations

concerning the water quality data generated to date. Based on the water quality data it appears that there is a difference in water quality between the shallow and deep portions of the Ohio River Valley Aquifer on the down gradient side of the site. This may be an indication of a release from the north or south ponds. Should you have any further questions regarding this review or the site in general, please contact me.

cc: Scott Sutliffe, DDAGW-CO

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DDAGW #: 07/22/98-04-3-05-0 3757

Gallia Co, OIB00005*DD Ohio Valley Electric Corp Kyger Creek

Ohio Environmental Protection Agency

Interoffice Memo

To: Marco Deshaies DSW, SEDO.

From: Steve Lowry through Steve Williams DDAGW, SEDO.

Date: February 7, 2017

RE: Ohio Valley Electric Corporation (OVEC), Kyger Creek Station, North Fly Ash Pond Closure Project, Internal Technical Review, Ground Water Program, Gallia County, OIB00005*PD

Subject: Review of the December 2015, May 2016 and December 2016 North Fly Ash Pond Closure Project Semi-annual groundwater sampling results.

INTRODUCTION

The DDAGW has reviewed the December 14, 2015, May 25, 2016 and the December 2, 2016 dated submittals containing the semiannual groundwater sampling and statistical analysis results from the North Fly Ash Pond Closure Project. These reports include data from the corresponding October 2015, April 2016 and October 2016 sampling events.

Groundwater monitoring of the North Fly Ash Pond is required as part of a January 15, 1997 PTI. Groundwater monitoring at the site began in October of 1997. The North Pond is closed and located immediately north of the adjacent and open South Fly Ash Pond. The North Fly Ash Pond was first used in the 1950's.

The statistical evaluations of groundwater quality contained in the above noted submittals indicate that the upper tolerance limits for the following parameters were exceeded at the following wells:

Alkalinity at wells KC-9501 and KC-9502, exceeded during all three sampling events.

Sulfate at wells KC-9508 and KC-9509, exceeded during all three sampling events, and at well KC-9502 during both 2016 events and KC-9504 during the October 2015 event.

TDS at wells KC-9508 and KC-9509, exceeded during all three sampling events.

Conductivity at well KC-9508 exceeded during the October 2016 sampling event.

Statistical exceedances have been declared by the facility for at least one parameter per sampling event since the beginning of the statistical evaluations, in October of 1999. As with past submittals, OVEC contends that "these statistical exceedances are due to natural variation and not associated with the North Fly Ash Closure Project".

The PTI does not include any provisions for further investigations related to the statistical increases, or for an assessment of the groundwater quality.

BACKGROUND

The facility has been conducting semi-annual groundwater monitoring at the North Fly Ash Pond since 1997. The PTI "Groundwater Sampling and Analysis Plan" is a rather brief document. The plan outlines sampling protocols and parameters and requires a statistical analysis of the four indicator parameters and a requirement to notify Ohio EPA of any statistically significant increases within 15 days of receipt of the analysis. As noted above, the plan does not contain any requirements for additional investigations or for the implementation of a groundwater assessment.

Per the PTI, during the spring sampling event, the statistical parameters of Alkalinity, Specific Conductance, Sulfate and TDS are collected and analyzed. During each fall sampling event, the above four parameters and an additional 12 water quality parameters are collected. The above three noted submittals contain the field parameters for the six sampled wells, total water depth measurements, river stage measurements, the laboratory data sheets for the sampled parameters, and a table that shows the sampling results for each parameter and the intra-well 95% confidence interval value for each of the statistical parameters.

Groundwater flow maps were not included in the submitted documents. The groundwater flow direction at the site is difficult to accurately determine due to the limited number of water level measurements included in the submittals. The lack of a submitted water level from an upgradient well also hinders evaluation of groundwater flow directions. Additionally, clarification may be necessary as water level data appears to be reported as a depth to water, from the top of the monitoring well inner casing, as opposed to mean sea level.

The North Fly Ash Pond is monitored by six wells which represent three well clusters, each monitoring two separate units. These wells are screened in sand and gravel deposits associated with the Ohio River. The wells range in depth from approximately 34 feet to 94 feet below grade. The well screens of each well cluster are separated by a distance of approximately two to five feet. The well clusters (shallow listed first) are grouped as follows: KC-9502/KC-9501, KC-9507/KC-9504, and KC-9509/KC-9508. Groundwater monitoring was not initiated at the North Fly Ash Pond until approximately 40 years after waste placement was initiated.

Wells KC-9509/KC-9508 are located primarily downgradient of the South Fly Ash Pond. These wells show the most significant impact to groundwater. The shallow well KC-9509 is showing statistically significant increases in conductivity, TDS and sulfate. Conductivity has increased from 485 umohs/cm in 1997 to 1,126 umoh/cm in 2016. TDS has increased from 603 mg/l to 779 mg/l and sulfate has increased from 241 mg/l to 460 mg/l over the same time period. The deeper well KC-9508 is showing

statistically significant increases in TDS and sulfate along with a visually increasing trend in conductivity since 2010. TDS in well KC-9508 has increased from 558 mg/l in 1997 to 866 mg/l in 2016, sulfate has increased from 190 mg/l in 2010 to 420 mg/l in 2016 and conductivity has increased from 512 umohs/cm in 1997 to 1,296 umoh/cm over the same time period.

Wells KC-9501/9502, located at the northernmost portion of the North Fly Ash Pond, has shown a statistically significant increase in alkalinity in both wells. Alkalinity in well KC-9501 has increased from 169 mg/l to 260 mg/l, and well KC-9502 from 19 mg/l to 45.7 mg/l over the 1997 to 2016 time period.

Wells KC 9507/9504 located downgradient of the North Fly Ash Pond reveals mostly decreasing trends in all statistically evaluated parameters, with the exception of deep well KC-9504, which has a statistically increasing trend for sulfate. The sulfate concentration in well KC-9504 started out at a concentration of 327 mg/l in 1997 and is currently at 423 mg/l. The sulfate concentration in this well was as high as 820 mg/l in 2008. The trend for sulfate in this well has been decreasing since 2008. TDS in this well is currently at a concentration of 757 mg/l with a past high of 1480 mg/l in 2008.

For comparison purposes, un-impacted groundwater from Ohio River sand and gravel deposits, from the Proctorville Wellfield (Lawrence County), reveal the following average concentrations: Alkalinity 58.2 mg/l, Conductivity 320.1 umhos/cm, TDS 195.7 mg/l and Sulfate 46.1 mg/l.

The sampling of additional existing groundwater monitoring wells, such as background well KC-9506 and possibly the KC-9505/9503 cluster may provide additional information regarding groundwater quality, flow directions and the extent of impacted ground water in the area of the North Fly Ash Pond. The installation of additional appropriately placed downgradient wells would also allow for a more meaningful evaluation of groundwater quality and flow directions in the area of the North Fly Ash Pond.

As shown in the December 14, 2015, the May 25, 2016 and the December 2, 2016 dated submittals titled "North Fly Ash Pond Closure Project, Groundwater Semiannual Data Analysis" the drinking water health standard was exceeded in all six monitoring wells for the parameter manganese. DDAGW will conduct a detailed review of potential receptors in the area. However, a preliminary review shows no private wells or public well fields immediately down gradient of the Kyger Creek Station, North Fly Ash Pond Closure Project.

RECOMMENDATIONS

1. The DDAGW has reviewed the December 14, 2015, the May 25, 2016 and the December 2, 2016 dated submittals titled "North Fly Ash Pond Closure Project,

Groundwater Semiannual Data Analysis". In these documents OVEC has presented the results of a statistical analysis of groundwater and concluded that the nine statistical exceedances are due to "natural variation and not associated with the North Fly Ash Pond Closure Project". The DDAGW does not concur with OVEC's statement that "these statistical exceedances are due to natural variation and are not associated with the North Fly Ash Closure Project". OVEC has not undertaken any known field activities to demonstrate that the statistically elevated concentrations of sulfate, TDS, Conductivity or Alkalinity are not the result of the operation of the North Fly Ash Pond. The DDAGW recommends that an assessment of groundwater quality be conducted at the North Fly Ash Pond.

To better evaluate the declared statistical exceedances, the DDAGW recommends that OVEC make improvements to the groundwater monitoring system for the North Fly Ash Pond and then conduct as assessment of groundwater quality as outlined in Attachment "G" of Guidance Document GD0303.010 titled "Ground Water Monitoring Program Plan Requirements for Wastewater Facilities".

2. The DDAGW recommends the following improvements be made to the groundwater monitoring network at the North Fly Ash Pond:

    a. That water level measurements and groundwater sampling results from background well KC-9506 be included in all future submittals. This sampling data point would represent background water quality for the North Fly Ash Pond and allow for a more meaningful evaluation of groundwater quality.

    b. That water level measurements from well KC-9510, KC-9503 and KC-9505 also be included in all future submittals.

    c. That OVEC evaluate the usefulness of including wells KC9503 and KC-9505 into the groundwater monitoring network.

    d. That the 10 groundwater monitoring wells installed in the area of the North Fly Ash Pond (KC-9501 to KC-9510) be resurveyed to ensure that the collected water level measurements accurately reflect site conditions.

    e. That future submittals include ground water flow maps derived from the above noted monitoring wells and that the water level measurements are recorded in reference to mean sea level.

    f. That upon determining current groundwater flow directions in the area of the North Fly Ash Pond, OVEC evaluate the adequacy of the current groundwater monitoring network. At this time the installation of an additional shallow groundwater monitoring well between existing wells KC9502 and KC-9507 appears to be appropriate.

Conclusion

The DDAGW has reviewed the December 14, 2015, May 25, 2016 and the December 2, 2016 dated submittals titled North Fly Ash Pond Closure Project submittals. The DDAGW has recommended that OVEC make improvements to the groundwater monitoring network at the North Fly Ash Pond and that an assessment of groundwater quality be conducted.

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APPENDIX D GAVIN BOTTOM ASH POND SECOND SEMIANNUAL SAMPLING EVENT OF 2024 ALTERNATE SOURCE DEMONSTRATION REPORT

Second Semiannual Sampling Event of 2024 Alternate Source Demonstration Report

Gavin Bottom Ash Pond

PREPARED FOR
Gavin Power, LLC

DATE
31 January 2025

REFERENCE
0720782

SIGNATURE PAGE

Second Semiannual Sampling Event of 2024 Alternate Source Demonstration Report

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
AEP	American Electric Power Service Corporation
ASD	Alternate Source Demonstration
BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
ERM	Environmental Resources Management, Inc.
ft	feet
Gavin	Gavin Power, LLC
K	Hydraulic Conductivity
H2	Second Semiannual
mg/L	milligrams per liter
NFAP	North Fly Ash Pond
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
ORSANCO	Ohio River Valley Water Sanitation Commission
OVEC	Ohio Valley Electric Corporation
Plant	General James M. Gavin Power Plant
PTI	Permit–to-Install
SFAP	South Fly Ash Pond
SSI	Statistically significant increase
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
uS/cm	microsiemens per centimeter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

1. INTRODUCTION

1.1 REGULATORY AND LEGAL FRAMEWORK

In accordance with Title 40 Code of Federal Regulations (CFR), Part 257, Subpart D – Standards for the Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments (CCR Rule) – Gavin Power, LLC (Gavin) has been implementing the groundwater monitoring requirements of 40 CFR § 257.90 et seq. for the Bottom Ash Pond (BAP) CCR Surface Impoundment at the General James M. Gavin Power Plant (Plant). Gavin calculated background levels and conducted statistical analyses for Appendix III constituents in accordance with 40 CFR § 257.93(h). Currently, Gavin is performing detection monitoring at the BAP in accordance with 40 CFR § 257.94. Statistically significant increases (SSIs) over background concentrations were detected in downgradient monitoring wells for some Appendix III constituents for the second semiannual (H2) groundwater sampling event of 2024 and are explained in this Alternate Source Demonstration (ASD) Report. The second semiannual groundwater sampling event of 2024 was performed at the BAP from October 3, 2024 to November 1, 2024. Review of data for quality assurance and statistical comparison was completed on December 16, 2024. Pursuant to 40 CFR § 257.94(e)(1), Gavin must establish an assessment monitoring program at the BAP if an Alternate Source Demonstration (ASD) is not completed and certified by a Professional Engineer within 90 days. This ASD Report, which was prepared and certified by January 31, 2025, will be included with the 2024 annual groundwater monitoring and corrective action report required under CFR § 257.90(e), which is due January 31, 2025.

An SSI for one or more Appendix III constituents is a *potential* indication of a release of constituents from a CCR unit to groundwater. In the event of an SSI, the CCR Rule provides that "… the owner or operator may demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality…" (40 CFR § 257.94(e)(2)). If it is demonstrated that the SSI is the result of a source other than the CCR unit, then the CCR unit may remain in the Detection Monitoring Program instead of transitioning to an Assessment Monitoring Program. To implement this demonstration, an ASD must be made in writing and the accuracy of the information must be verified through certification by a qualified Professional Engineer (40 CFR § 257.94(e)(2)).

The United States Environmental Protection Agency (USEPA) guidance document, "Solid Waste Disposal Facility Criteria Technical Manual, EPA530-R-93-017, Subpart E" (USEPA 1993), specifies the following six lines of evidence that must be addressed to determine whether an SSI resulted from a source other than the regulated disposal unit:

- an alternative source exists;
- a hydraulic connection exists between the alternative source and the well with a statistically significant increase;
- constituent(s) (or precursor constituents) are present at the alternative source or along the flow path from the alternative source prior to possible release from the unit;

- the relative concentration and distribution of constituents in the zone of contamination are more strongly linked to the alternative source than to the unit when the fate and transport characteristics of the constituents are considered;
- the concentration observed in groundwater could not have resulted from the unit given the waste constituents and concentrations in the unit leachate and wastes, and the site hydrogeologic conditions; and
- the data supporting conclusions regarding the alternative source are historically consistent with the hydrogeologic conditions and findings of the monitoring program.

This ASD Report addresses each of these lines of evidence for the SSIs detected in groundwater collected from downgradient compliance wells at the BAP. The groundwater monitoring program and ASD have been prepared utilizing accepted practices incorporating regional information that has been confirmed with site specific information. In 2022, the USEPA provided feedback on the groundwater monitoring program at the BAP (USEPA 2022), and Gavin formally responded to the concerns (Gavin 2022). In consideration of this feedback, Gavin installed additional monitoring wells and conducted supplemental characterization at the BAP to refine the conceptual site model. Findings and updates were originally provided in the 2022 and 2023 Annual Groundwater Monitoring and Corrective Action Reports (ERM 2023, 2024) and are also discussed below.

Some of the topics discussed in this report are also addressed in USEPA's November 22, 2022 Final Decision: Denial of Alternative Closure Deadline for General James M. Gavin Plant, Cheshire, Ohio (Final Decision). In other documents, Gavin has explained how the approaches described and documented in this report are consistent with USEPA regulations and guidance as well as with best engineering practices and judgment. Gavin has contested USEPA's findings in the Final Decision from a factual, technical, and legal perspective. Environmental Resources Management, Inc. (ERM) notes that USEPA's findings and determinations in the Final Decision are the subject of pending litigation.

1.2 BACKGROUND

The Plant is a coal-fired generating station located in Cheshire, Gallia County, Ohio (Figure 1-1), and is bounded to the east by the Ohio River. The BAP is one of three CCR units at the Plant that are subject to regulation under the CCR Rule and is located adjacent to and immediately south of the main Plant area (Figure 1-2). Adjacent to the BAP is the smaller Reclaim Pond (Figure 1-3) which, along with the BAP, make up the Bottom Ash Complex (BAC) that started operating in 1974. The Reclaim Pond was not designed to retain an accumulation of CCR; did not and does not receive any significant amount of CCR; and did not and does not treat, store, or dispose of CCR. Therefore, it is not subject to the CCR Rule.

The certified groundwater monitoring well network (ERM 2021a) consists of three upgradient monitoring wells (BAC-01, MW-1, and MW-6) along the western perimeter of the BAP, two upgradient monitoring wells (BAC-06 and BAC-07) along the southern perimeter, and four downgradient monitoring wells (BAC-02, BAC-03, BAC-04, and BAC-05) positioned along the northern and eastern perimeter of the BAP (Figure 1-3). These wells are herein referred to as "network" wells for the purposes of this report.

Consistent with the CCR Rule and the Groundwater Monitoring Plan developed for Gavin (ERM 2017), an interwell prediction limit approach was used to identify potential impacts to groundwater. Upper prediction limits, and a lower prediction limit specifically for pH, were established based on the upgradient groundwater data. The 2017 Annual Groundwater Monitoring and Corrective Action Report was prepared to document the status of the groundwater monitoring program for the BAP (ERM 2018a) and included results from eight background sampling events performed from August 2016 to July 2017. The 2017 report and each subsequent Annual Groundwater Monitoring and Corrective Action Report have included comparisons of the sampling results obtained from downgradient wells during each semiannual detection monitoring event with the upper and lower prediction limits calculated based on the initial eight background samples taken from upgradient wells. ASD reports (ERM 2018b; ERM 2019; ERM 2020; ERM 2021b; ERM 2022; ERM 2023; ERM 2024) were prepared to address SSIs that were identified during the initial and subsequent reporting periods.

Sixteen additional monitoring wells were installed in key areas around the BAP in 2022 (Figure 1-3). Collectively, these wells were installed to provide supplemental characterization of the conditions at the BAP and to support ASDs. Potentiometric elevations and analytical results from these wells have been incorporated in this report.

1.3 GEOLOGY

The geology in the vicinity of the BAP is visualized in Figure 1-4 and features 50 to 100 feet (ft) of unconsolidated deposits overlying deeper bedrock units. At the surface, a fine-grained unit consisting of clays and silts extends 10-40 ft below ground surface depending on surface topography. This unit overlays a layer with fine-grained sands intermixed within the clay and silt matrix. Together, these two layers make up the separation layer. In some portions of the BAP, a thin (less than 5 ft) layer of sand and clay is present directly beneath the separation layer. Below this layer, there is an approximately 20 to 40 ft thick layer of medium-to-coarse grained glacial sand and gravel. In some cores collected around the BAP in 2022, smaller lenses (less than 5 ft) of the finer silt and clay materials observed in the upper layers are interbedded within the sand and gravel layer (ERM 2023). The alluvial aquifer lies directly above the uppermost of the bedrock layers in the area – a claystone/siltstone layer (interpreted to be the Round Knob) atop the underlying sandstone stratum (interpreted to be the Cow Run).

1.4 SITE HYDROLOGY AND HYDROGEOLOGY

The uppermost aquifer beneath the BAP area is the approximately 20 to 40 ft thick layer of coarser-grained sands and gravels described in section 3.2, though some fine sand is also present. Also referred to as the alluvial aquifer, the uppermost aquifer is confined by the clay and silt separation layer above and by the siltstone/claystone bedrock unit below (Figure 1-4). The Ohio River acts as a hydraulic boundary to the east that is dynamic in nature due to fluctuations in river stage. Two water supply wells operated by the Plant (FW-15 and FW-1101) exist approximately 400 to 700 feet north of the BAP (Figure 1-3). These wells have 20-to-30-foot screens positioned within the alluvial aquifer and have a significant combined influence on groundwater flow at the BAP. The use of the wells is variable in both duration and frequency and is dependent on Plant

needs; however, when in use, the pumping rates are consistent at 550 and 650 gallons per minute for FW-1101 and FW-15, respectively. Two additional water supply wells (FW-17 and FW-1102) exist approximately 0.4 to 0.5 miles further north and are not expected to have a significant influence on groundwater at the BAP due to their distance from the BAP and infrequency of their use.

Five undisturbed Shelby tube samples of the clay and silt separation layer (mentioned above, located between the uppermost aquifer and the bedrock unit below) were collected from a barge within the BAP in 2020 for laboratory grain size distribution and permeameter testing (ERM 2021b). The samples ranged from 0.9% to 32.3% sand and 67.7% to 99.1% silt and clay. The permeameter testing of these samples yielded hydraulic conductivity (K) values ranging from 1.44 x 10^{-8} centimeters per second (cm/sec) to 1.18 x 10^{-7} cm/sec. Thus, even the samples with a higher amount of sand yielded very low K values. These data are direct evidence that the separation layer beneath the BAP acts as an aquitard to downward migration of water stored in the BAP.

1.5 2024 H2 GROUNDWATER SAMPLING EVENT

The data from the second semiannual groundwater sampling event from 2024 were compared to the upper and lower prediction limits for the respective parameters, and SSIs for Appendix III analytes were identified. Table 1-1 summarizes occurrences of SSIs from the October/November 2024 sampling event.

TABLE 1-1: SSIS IN GROUNDWATER BENEATH THE BAP

Analyte	Monitoring Well			
	BAC-02	BAC-03	BAC-04	BAC-05
Boron	X	X	X	X
Calcium	X	ϕ	ϕ	ϕ
Chloride	X	X	X	X
Fluoride	X	ϕ	ϕ	ϕ
pH	ϕ	X	X	X
Sulfate	X	X	X	X
TDS	X	X	ϕ	X

Notes: ϕ = No SSI; X = SSI; BAP = Bottom Ash Pond; SSI = statistically significant increase; TDS = total dissolved solids. Results are for the downgradient wells sampled in October/November 2024.

This ASD Report identifies the regional, naturally-occurring brine discharging from the bedrock as the source of calcium, chloride, fluoride, and total dissolved solids (TDS), and the Kyger Creek North Fly Ash Pond (NFAP) is identified as the source of boron, sulfate, and low pH. Supporting information and additional discussion of each of the lines of evidence are presented in subsequent sections of this ASD Report.

2. DESCRIPTION OF ALTERNATE SOURCES

Identified alternate sources for the Appendix III constituents that are observed at the BAP include Regional Brine and the Kyger Creek Generating Station Closed NFAP.

- Regional Brine – Naturally occurring brine originating from bedrock (i.e., Cow Run Sandstone) as observed in shallow groundwater in and around Gavin. Identified as the alternate source of calcium, chloride, fluoride, and TDS.
- Kyger Creek Generating Station Closed NFAP – CCR-impacted groundwater migrating from the Closed NFAP. Identified as the alternate source for boron, low pH, and sulfate.

Additional influence on groundwater quality at the BAP is observed from mixing of the alternate sources and upgradient alluvial aquifer groundwater from west of the BAP and/or surface water from the Ohio River.

A summary of each of these alternate sources and influences on groundwater quality is provided below.

2.1 REGIONAL BRINE

Naturally occurring brine, which is known in the Ohio River Valley to have elevated levels of chloride, fluoride, and other trace elements, exists in the subsurface (Stout et al. 1932; ORSANCO 1984; ODNR 1995). The discharge of brines is seen at a regional scale, with shallow wells near the Ohio River observing brine impacts as a result of the vertical head gradient driving overall flow upwards from bedrock to alluvium (USGS 1997). The Cow Run Sandstone is the shallowest sandstone of any importance in Ohio where brine of marine origin has been observed (Phalen 1919; Stout et al. 1932). Brine was discovered at the land surface approximately 10 miles southwest of the Plant in Gallipolis, Ohio and was utilized for the commercial production of salt beginning in 1807 (Stout et al. 1932). Naturally occurring brine was also identified at the land surface in Jackson, Ohio approximately 30 miles west of the Plant (ODNR 1995). The regional presence of shallow brine indicates the potential for naturally occurring brine to contribute Appendix III constituents to groundwater at the Plant. Evidence of brine impacts near the Plant includes specific conductivity measurements at several monitoring wells upgradient of the Residual Waste Landfill that are consistently greater than 30,000 microsiemens per centimeter (µS/cm) and reach as high as 55,485 µS/cm. A brine signature was also observed in supplemental BAP monitoring well BAC-11 during sampling in October/November 2024. This signature included a specific conductivity field measurement of 59,022 µS/cm, TDS of 35,000 mg/L, and chloride levels of 25,000 mg/L. For reference, the approximate specific conductivity of seawater is 50,000 µS/cm (USGS 2019).

The background groundwater data set is discussed further in Section 4.

2.2 KYGER CREEK NORTH FLY ASH POND

The Kyger Creek Generating Station, owned and operated by Ohio Valley Electric Corporation, is located along the Ohio River in Gallia County, south of and adjacent to the Plant (Figure 2-1). The Kyger Creek Fly Ash Pond complex consists of the 110-acre NFAP (which is closed) and 60-acre

South Fly Ash Pond (SFAP) (which is active). The ponds were constructed in 1955 using locally available native materials (i.e. soil). Between 2 and 10 feet of silty clay soils were removed to create base elevations of 550 feet above mean sea level for the SFAP and 558 feet above mean sea level for the NFAP. No liner was installed at either of the ponds prior to emplacement of CCR materials. The NFAP cap includes 5 feet of boiler slag, 2 feet of compacted clay and one foot of topsoil. (AEP 2016; AEP 1994; CHA, 2010; OEPA 1996). According to the approved Ohio Environmental Protection Agency (OEPA) Permit–to-Install (PTI), construction activities to close the NFAP were initiated in March 1998 and concluded in October 2000 (OVEC 2017). Semiannual groundwater sampling for PTI compliance at the NFAP has been performed since October 1997 and currently includes sampling of six monitoring wells (OEPA 1996). Per the PTI, samples are collected semiannually for:

- Groundwater Contamination Indicator Parameters – alkalinity, specific conductivity, sulfate, and TDS; and
- Groundwater Quality Parameters – barium, calcium, chloride, iron, lead, magnesium, manganese, selenium, sodium, gross alpha and gross beta, and pH.

Groundwater monitoring for federal CCR compliance is performed at the SFAP only.

The closed Kyger Creek NFAP is located less than 300 feet south of the Gavin BAP, and the units share an approximately 2,000-foot-long border (Figure 2-1). Gavin's network wells BAC-06 and BAC-07 were installed in 2020 at the top of the south berm of the BAP along this boundary and screened within the alluvial aquifer. Six supplemental monitoring wells were installed along the south berm between the BAP and the Kyger Creek NFAP in 2022 to better understand the hydraulic relationship between the BAP and the NFAP and groundwater quality along the boundary. These supplemental wells include alluvial aquifer wells BAC-16 and BAC-18, separation layer wells BAC-15 and BAC-20, bedrock well BAC-19, and separation layer and alluvial aquifer well BAC-17.

The Kyger Creek NFAP has a higher potential to impact groundwater than the BAP because the Kyger Creek NFAP contains fly ash (approximately 1.7 million cubic yards), which when compared to bottom ash, has a greater potential to leach CCR constituents due to higher concentrations of CCR constituents and increased surface area due to smaller particle size (Cox et al. 1978; OEPA 1996; Jones et al. 2012), as described further in Section 7. The NFAP also contains approximately 900,000 cubic yards of boiler slag and boiler slag fines used to construct the NFAP berm and as cover material (OEPA 1996).

2.3 UPGRADIENT ALLUVIAL AQUIFER GROUNDWATER

Groundwater from upgradient of the BAP is observed at upgradient monitoring locations west of the BAP, including network wells MW-1, MW-6 and BAC-01, and supplemental wells BAC-08, BAC-21, BAC-22, and BAC-23. The upgradient status of these locations is confirmed by potentiometric surface maps which consistently show higher potentiometric elevations west of the BAP than in wells north, south, or east of the BAP. Potentiometric surface maps are presented and discussed further in Section 3. Groundwater from west of the BAP flows through the alluvial aquifer beneath the BAP where it ultimately mixes with groundwater migrating northward from the Kyger Creek NFAP, groundwater discharging upward from bedrock, and surface water from the Ohio River.

2.4 OHIO RIVER

The Ohio River extends approximately 981 river miles from Pittsburgh, Pennsylvania to Cairo, Illinois and drains approximately 205,000 square miles (ORSANCO 2018). The Ohio River is located approximately 700 feet east of the BAP, and the alluvial aquifer beneath the BAP is hydraulically connected to the river.

While the Ohio River is not considered a source of impacts to groundwater under the BAP, the mixing of Ohio River surface water with groundwater does influence groundwater quality at the BAP through interaction of groundwater and river water (see Section 3). Surface water from the Ohio River enters the alluvial aquifer and interacts with groundwater beneath the BAP, driven by induced infiltration caused by pumping of the onsite water supply wells and during periods of rapidly rising and high river stage conditions (i.e., flooding). When the Ohio River floods, water from the river mixes with groundwater within the alluvial aquifer (ERM 2018b) beneath the BAP. The quality of the Ohio River water that mixes with groundwater is discussed in Section 4.

3. HYDRAULIC CONNECTIONS TO THE ALTERNATE SOURCES

Explanations of the hydraulic connections between potential alternate sources and the downgradient wells of the BAP were previously provided in the first ASD Report for the BAP (ERM 2018b). An updated summary of each of these connections is provided below.

3.1 HYDRAULIC CONNECTION TO REGIONAL BRINE

Regional groundwater within the fractured sedimentary bedrock in the Ohio River Valley generally flows from areas of higher topographic elevation towards areas of lower elevation, ultimately discharging to the Ohio River (ORSANCO 1984). Precipitation infiltrates the land surface to recharge the underlying aquifers below, and flow of groundwater within these aquifers is primarily driven by the gravitational force on groundwater (differences in hydraulic head) within the bedrock.

At the BAP, groundwater discharges upward from shallow fractured bedrock into the overlying alluvial aquifer under certain hydraulic conditions. This upward discharge of groundwater from the bedrock aquifer to the overlying alluvial aquifer is attributable to the following three primary drivers:

- Hydraulic pressure (head) in the bedrock aquifer compared to the alluvial aquifer driven by recharge at the adjacent higher elevation ridges;
- Areas of high hydraulic conductivity related to the interconnected fracture network within the bedrock; and
- Active pumping conditions related to operation of the two water supply wells directly north of the BAP (FW-15 and FW-1101).

3.1.1 EVALUATION OF VERTICAL GRADIENTS

As water is removed from the alluvial aquifer via pumping, it reduces the pressure that water within the aquifer exerts on the surrounding system. As described in the 2022 H2 Alternate Source Demonstration Report (ERM 2023), upward vertical gradients between the bedrock aquifer and the alluvial aquifer were observed.

In order to evaluate the nature of vertical gradients beneath the BAP, transducers were deployed in several alluvial & bedrock well couplets around the BAP, and continuous long-term, high-resolution potentiometric elevation data were collected from January through December 2024. Transducer data were evaluated to determine the direction of vertical gradients and the conditions that lead to upward vertical gradients. Hydrographs of alluvium-bedrock well pairs at the northern (BAC-02/BAC-11), eastern (BAC-04/BAC-13), southern (BAC-18/BAC-19), and western (BAC-01/ BAC-09) boundaries of the BAP are shown in Figures 3-1, 3-2, 3-3, and 3-4, respectively. Periods of upward hydraulic gradient can be seen in the hydrograph figures where the bedrock groundwater potentiometric elevation (black line) is above the alluvial aquifer potentiometric elevation (green line).

Alluvial wells located to the north of the BAP are most sensitive to pumping activities (Figure 3-1). When pumping was active at the water supply wells (as evidenced by frequent oscillation of

groundwater elevations at BAC-02), and the river stage was low, there were brief periods of upward vertical gradients observed in late February and late March. During periods of active pumping and declining river stage, upward vertical gradients persisted for multiple days in late April 2024. From May through November, the Ohio River had a more stable level and short periods of upward vertical gradients were observed consistently when pumping was active at the water supply wells. The effects of pumping are less noticeable in the well couplets to the east (Figure 3-2), south (Figure 3-3), and west (Figure 3-4) of the BAP due to their greater distance from the water supply wells. Upward vertical gradients were observed at the southern well couplet (Figure 3-3) during February and an extended period from late April through mid-June. At the western well couplet (Figure 3-4), an extended period of upward vertical gradients persisted from late April through September.

3.1.2 HYDRAULIC CONDUCTIVITY

Groundwater flow within bedrock occurs primarily via flow through the network of interconnected and saturated fractures, which provides a much higher effective porosity (fracture/secondary porosity) than does the bedrock aquifer matrix (primary porosity). This is due to the effective pore size of the fractures (the ratio of volume of open fractures to the bulk volume of the bedrock matrix) as compared to the miniscule pore sizes between sedimentary grains making up the bedrock matrix. Consequently, the fracture network provides a flow system with significantly higher hydraulic conductivity than the overall bedrock matrix porosity.

This network of fractures is highly heterogeneous, varying greatly in connectivity and conductivity from location to location. The fracture network is also anisotropic, which means the hydraulic conductivity varies in magnitude depending on the direction of measurement. As such, the occurrence of fracture interconnectivity and saturation varies greatly at a regional scale. In the Ohio River Valley, stress relief fracturing in bedrock provides a structural framework for bedrock overlain by coarse glacial outwash alluvial deposits to be hydraulically interconnected. The degree of stress fracturing is generally greatest in bedrock directly underlying the alluvial valley bottom, driving enhanced transmissivity of the fracture network in these areas (USGS 1981). Such is the case of the BAP area, where the Ohio River acts as a major regional groundwater discharge boundary, driving shallow brines towards the surface due to differences in hydraulic head. In addition, the depth of brine is shallower along the Ohio River than in the surrounding ridges due to flow from areas of recharge to areas of discharge (USGS 1997).

Heterogeneity and anisotropy of the fracture network is clearly observed in the bedrock wells installed around the BAP. Hydraulic conductivity was measured to be 4.17×10^{-2} cm/sec at bedrock well BAC-11 where observations of significant fractures were made during drilling and geophysical logging. This high K value in BAC-11 is similar to K values measured in the alluvial aquifer. Conversely, substantially lower K values were measured at bedrock wells BAC-09 (2.26×10^{-6} cm/sec) and BAC-19 (3.18×10^{-7} cm/sec), where fewer fractures were observed. This difference in hydraulic conductivity values between wells screened within the same bedrock unit exemplifies the effect of fracture network connectivity on hydraulic conductivity and helps to explain why some portions of the alluvial aquifer can be impacted by regional discharge (i.e., near BAC-02) while other areas may not be substantially influenced (i.e., near BAC-01 and BAC-18).

The periods of upward hydraulic gradients (see Section 3.1.1) and the transmissive nature of the fractured bedrock aquifer provide evidence that there is a hydraulic connection between the brine-impacted bedrock aquifer (see Section 2.1 and Section 4.1) and the overlying alluvial aquifer.

3.2 HYDRAULIC CONNECTION TO KYGER CREEK NORTH FLY ASH POND

Groundwater flow directions around the BAP are heavily influenced by pumping of Gavin water supply wells FW-15 and FW-1101. Based on 2024 transducer data from monitoring wells around the BAP, the alluvial aquifer continued to have an immediate response to pumping, similar to observations in 2022 & 2023, regardless of whether one or both wells were active.

During the H2 2024 groundwater gauging event in August 2024, pumping at the water supply wells was active and the river stage was low, resulting in an interpreted direction of groundwater flow to the north, towards the water supply wells (Figure 3-5).

Transducer data from 2024 was evaluated to analyze the effects of pumping on horizontal hydraulic gradients and flow directions in the alluvial aquifer beneath the BAP. Horizontal gradients were calculated for each day from January 17, 2024, through December 17, 2024, using an R tool that calculates the best fit of a 2D plane to the potentiometric elevations based on the geometry of a given well-network. The approach was adapted from the EPA On-line Hydraulic Gradient Magnitude and Direction tool (USEPA 2021). The tool output is an overall flow vector frequency and direction for the transducer network. The frequency and direction of groundwater flow in 2024 is diagrammed in Figure 3-6. During this time period, the predominant direction of groundwater flow was to the east-northeast. On a minority of days (less than 10% of the data set), groundwater flow was to the north-northwest. These findings are consistent with those observed historically (ERM 2023) and confirm the following key points:

- Due to the prevailing northeasterly groundwater flow direction, the Kyger Creek NFAP is not situated upgradient of the monitoring wells located along the western and northwestern areas of the Gavin BAP (BAC-01, BAC-08, BAC-21, BAC-22, BAC-23, MW-1, MW-6);
- Monitoring wells on the south side of the BAP are located downgradient of the Kyger Creek NFAP and upgradient of the BAP (BAC-06, BAC-07, BAC-16, BAC-17, BAC-18);
- During all groundwater flow conditions (pumping and non-pumping), the Kyger Creek NFAP is hydraulically upgradient of the monitoring wells along the southern and southeastern areas of the BAP; and
- During pumping conditions, the Kyger Creek NFAP is hydraulically upgradient of the monitoring wells along the southern, eastern, and northeastern areas of the BAP (BAC-02, BAC-03, BAC-04, BAC-05, BAC-10, BAC-12, BAC-14).

It is evident that the Kyger Creek NFAP is hydraulically connected to the downgradient BAP monitoring wells based on the prevalent northeasterly direction of groundwater flow and the presence of the same alluvial aquifer beneath both the Kyger Creek NFAP and the BAP. Pumping activity of water supply wells FW-15 and FW-1101 creates a clear and nearly immediate influence on groundwater flow directions around the BAP, shifting groundwater flow northward, especially across the eastern half of the BAP. This shift in localized groundwater flow directions orients the

Kyger Creek NFAP as upgradient to a larger area of the BAP and results in an increased hydraulic connection between the Kyger Creek NFAP and the aquifer beneath the BAP.

4. CONSTITUENTS ARE PRESENT AT THE ALTERNATE SOURCES OR ALONG THE FLOW PATHWAYS

Groundwater quality at the BAP is influenced by multiple sources, as described in Sections 2 and 3. The Kyger Creek NFAP is identified as the source of boron, low pH, and sulfate. Regional brine is identified as the source of calcium, chloride, fluoride and TDS in BAP downgradient groundwater. The mixing of upgradient alluvial groundwater and water from the Ohio River also affects groundwater chemistry downgradient of the BAP. A summary of the constituents present at these sources is provided below.

4.1 REGIONAL BRINE

Regional brine is present in the area of the Plant and locally in bedrock under the BAP. Supplemental monitoring wells BAC-09, BAC-11, BAC-13, and BAC-19, which are installed in the Cow Run Sandstone at the BAP, all have chemical signatures indicating the presence of brine. As described in Section 3.1, the bedrock wells are upgradient of compliance wells BAC-02, BAC-03, BAC-04, and BAC-05 during certain portions of the year when upward vertical gradients exist. The ranges for calcium, chloride, fluoride and TDS in bedrock groundwater and downgradient alluvial groundwater (BAC-02, BAC-03, BAC-04 and BAC-05) at the BAP are presented in Table 4-1.

TABLE 4-1: COMPARISON OF BEDROCK GROUNDWATER TO DOWNGRADIENT BAP GROUNDWATER

Analyte	Units	Bedrock Groundwater at BAP	Downgradient Alluvial Groundwater at BAP
Calcium	mg/L	100-2,900	87-140
Chloride	mg/L	1,000-25,000	35-69
Fluoride	mg/L	0.51-0.92	0.061-0.17
TDS	mg/L	1,300-35,000	500-810

Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter; TDS = total dissolved solids.
Results from samples collected in October/November 2024.
Bedrock Groundwater at BAP includes data from BAC-09, BAC-11, BAC-13, and BAC-19.
Downgradient Alluvial Groundwater at BAP includes data from BAC-02, BAC-03, BAC-04, and BAC-05.

Cross section view figures for calcium (Figure 4-1a and 4-1b), chloride (Figure 4-2a and 4-2b), TDS (Figure 4-3a and 4-3b), and fluoride (Figures 4-4a and 4-4b) depict the distribution of concentrations for these four constituents within bedrock and the alluvial aquifer around the area of the BAP. Concentrations of calcium, chloride, fluoride, and TDS are generally higher, and in some cases one to two orders of magnitude higher in bedrock than in the overlying alluvial aquifer, consistent with a regional brine signature. Therefore, the higher concentrations of calcium, chloride, fluoride, and TDS in the bedrock groundwater indicate these constituents are present at the alternate source and the observed upward hydraulic gradients indicate the SSIs are attributable to the discharge of groundwater from bedrock to the overlying alluvial aquifer.

4.2 KYGER CREEK NORTH FLY ASH POND

4.2.1 BORON

Figure 4-5 depicts the distribution of boron concentrations across the BAP monitoring well network and the general horizontal flow path of boron from the northern boundary of the Kyger Creek NFAP. The plume orientation is consistent with the 2024 average observed daily groundwater flow vector as depicted on Figure 3-6 and included within Figure 4-5 for reference, which is predominantly towards the northeast. The vector diagram summarizes transducer data collected from January 17, 2024 through December 17, 2024. Boron concentrations and the approximated extent of boron impacts along the primary flow directions (northeast) from the Kyger Creek NFAP are also presented in cross section views (Figures 4-6a and 4-6b).

Key observations from the distribution of boron across the BAP network (Figure 4-5) and the cross sections (Figures 4-6a and 4-6b) are summarized in the following points:

- BAC-17 was installed in 2022 as a replicant monitoring point for B-0904 (which historically had a higher boron concentration than any BAP well; located on Kyger Creek Generating Station property and no longer accessible for sampling). BAC-17 is located downgradient of the Kyger Creek NFAP and upgradient of the BAP and is screened in both the separation layer and into the underlying alluvial aquifer, mirroring the well screen of B-0904. The concentration of boron in BAC-17 was 4.1 mg/L in October 2024, a higher concentration than was observed in any downgradient well at the BAP in H2 2024.
- The highest boron concentrations in BAP downgradient wells were measured at wells BAC-04 and BAC-05, which are located nearest to and downgradient from the Kyger Creek NFAP.
- Concentrations of boron decrease with distance downgradient from the Kyger Creek NFAP, along the northeastern flow path (i.e., from BAC-05 to BAC-03).
- Monitoring wells BAC-06 and BAC-07 demonstrated lower concentrations than measured in groundwater from monitoring well BAC-17 (and historically monitoring well B-0904), likely due to the slightly deeper position of the well screens within the alluvial aquifer.

Correspondence obtained from the OEPA regarding Kyger Creek NFAP concluded that groundwater below the NFAP appears to be impacted by a release from the Kyger Creek NFAP and that an assessment of groundwater should be conducted (Appendix A and Appendix B). Although groundwater around the Kyger Creek NFAP is not sampled for boron, the Kyger Creek SFAP data suggest that boron is present in groundwater below both Kyger Creek fly ash ponds. Table 4-2 summarizes boron analytical results from two groundwater sampling events conducted in March/April and September/October 2023 at monitoring wells downgradient of the Kyger Creek SFAP (AGES 2024). The highest concentrations were observed on the northeastern and southeastern boundaries of the Kyger Creek SFAP. The northeastern boundary was interpreted to be downgradient from the Kyger Creek NFAP in 2020 (AGES 2021).

TABLE 4-2: KYGER CREEK SFAP BORON 2023 RESULTS

Analyte	Units	Maximum	Average
Boron	mg/L	16	7.82

Notes: mg/L = milligrams per liter; SFAP = South Fly Ash Pond.

The average concentration of boron (7.82 mg/L) in the Kyger Creek SFAP for 2023 is substantially higher than the maximum concentration of boron measured in groundwater beneath the BAP (2.5 mg/L) in fall 2024 from network wells. The Kyger Creek SFAP and the now-closed NFAP both contain fly ash generated at the Kyger Creek Generating Station. As such, it is reasonable to expect that the chemical characteristics of the fly ash are similar in both units. Given the elevated boron concentrations in groundwater downgradient of the Kyger Creek SFAP and considering that both units are unlined, elevated concentrations of boron in groundwater downgradient of the Kyger Creek NFAP would be expected. Thus, this evidence supports the conclusion that boron is present in groundwater at the alternate source, the Kyger Creek Generating Station.

4.2.2 SULFATE

Figure 4-7 depicts the distribution of sulfate in groundwater across the BAP monitoring well network and includes results from the four monitoring wells screened in the alluvial aquifer located around the Kyger Creek NFAP. The figure also depicts the location of three additional Kyger Creek NFAP monitoring wells that were not sampled for sulfate. Figure 4-7 also depicts the general horizontal flow path of sulfate from the northern boundary of the Kyger Creek NFAP under pumping conditions, along with the approximated extent of sulfate impacts from the Kyger Creek NFAP around the BAP. This plume is consistent with the 2024 average observed daily groundwater flow vector as depicted on Figure 3-6 and included within Figure 4-7 for reference, which is predominantly towards the northeast.

According to the December 2024 Kyger Creek Generating Station Closed North Fly Ash Pond Groundwater Semiannual Data Analysis (OVEC 2024; Appendix A), sulfate is present in wells surrounding the NFAP at concentrations exceeding those observed in groundwater around the BAP. In October 2024, sulfate was present in monitoring well KC-9507 (located to the southeast of NFAP) at 963 mg/L, in monitoring well KC-9502 (located to the northeast of the NFAP adjacent to the Gavin property boundary) at 356 mg/L, and in monitoring well KC-9504 (located to the southeast of NFAP) at 365 mg/L. Toxicity Characteristic Leaching Procedure (TCLP) data included with the Permit to Install for the Ohio Valley Electric-Kyger Creek Plant North Fly Ash Pond Closure Project indicate that fly ash produced at Kyger Creek Generating Station and placed in the NFAP leaches water with sulfate concentrations of 559 mg/L (OEPA 1996).

4.2.3 PH

The pH of groundwater emanating from the Kyger Creek NFAP was previously measured in well B-0904 and was historically slightly acidic (ERM 2018b). Acidic pH results of 5.41 and 5.76 were measured at B-0904 replicant well BAC-17 and Kyger Creek NFAP well KC-9502 (located at the northeast corner of Kyger Creek Generating Station property) in October, respectively (OVEC

2024; Appendix A). The low pH at KC-9502 has been observed since 1997 (Appendix A) and was identified by OEPA in 1998 (OEPA 1998; Appendix B). Table 4-3 summarizes the pH data in groundwater in sources around the BAP.

TABLE 4-3: GROUNDWATER AND SURFACE WATER PH VALUES

Location	pH (SU)
Kyger Creek NFAP: Upgradient BAP Groundwater (KC-9502; 22 October 2024)	5.76
BAP: Upgradient Groundwater – West (BAC-01, MW-1, and MW-6; October 2024)	6.75-7.27
BAP: Upgradient Groundwater – South (BAC-06, BAC-07, and BAC-17; October 2024)	5.41-6.61
BAP: Downgradient Groundwater (BAC-02 through BAC-05; October/November 2024)	5.83-6.69
BAP: Bedrock Groundwater (BAC-09, BAC-11, BAC-13, and BAC-19; October 2024)	7.14-7.67
Ohio River (October 2024)	7.77

Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SU = Standard pH Units.

The fall 2024 results remain consistent with previous ASD Reports for the BAP (ERM 2018b; ERM 2019; ERM 2020; ERM 2021b; ERM 2022; ERM 2023; ERM 2024). As shown in Figure 4-8, the distribution of pH and the northeastward flow direction demonstrate that low pH groundwater flows on-site from the Kyger Creek NFAP, where it mixes with upgradient alluvial groundwater, bedrock discharge, and water from the Ohio River, resulting in the intermediate pH observed in groundwater downgradient of the BAP. Monitoring wells BAC-06 and BAC-07 are not impacted to the same degree as BAC-17 by acidic groundwater migrating from the Kyger Creek NFAP, as evidenced by their higher pH. This is attributable to the well screens of BAC-06 and BAC-07 being substantially deeper than the well screens at B-0904 and BAC-17, lending to more influence by the regional discharge of groundwater from bedrock to the alluvial aquifer, as described further in Section 6.

5. LINKAGES OF CONSTITUENT CONCENTRATIONS AND DISTRIBUTIONS BETWEEN ALTERNATE SOURCES AND DOWNGRADIENT WELLS

5.1 REGIONAL BRINE

As discussed in Section 4.1, the concentrations of calcium, chloride, fluoride and TDS are significantly higher in bedrock groundwater compared to alluvial groundwater, in particular at bedrock monitoring well BAC-11. Table 5-1 demonstrates that the concentrations of calcium, chloride, fluoride, and TDS range from 6 to 151 times higher in bedrock compared to alluvial groundwater. Brine impacted bedrock groundwater is the alternate source of calcium, chloride, fluoride, and TDS. As described in Section 3.1, groundwater discharges from bedrock upward into the overlying alluvial aquifer (uppermost aquifer) under certain hydraulic conditions. The presence of higher concentrations of calcium, chloride, fluoride, and TDS establishes bedrock groundwater as the source, and the presence of upward hydraulic gradients and interconnected bedrock fractures is the linkage (i.e., the means to migrate) between the alternate source and downgradient wells.

TABLE 5-1: RATIO OF BEDROCK GROUNDWATER TO DOWNGRADIENT BAP GROUNDWATER FOR REGIONAL BRINE

Analyte	Units	Maximum Brine-Impacted Groundwater in Bedrock Beneath BAP (As measured at BAC-11/ BAC-13)	Average Downgradient Well at BAP	Bedrock to Alluvial Aquifer Ratio
Calcium	mg/L	2,900	100.8	9:1
Chloride	mg/L	25,000	51.3	151:1
Fluoride	mg/L	0.92	0.10	6:1
TDS	mg/L	35,000	590	19:1

Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter; TDS = total dissolved solids.
Results from samples collected in October/November 2024.

5.2 KYGER CREEK NORTH FLY ASH POND

As described in Section 3.3, the average direction of groundwater flow in the alluvial aquifer is generally to the northeast from the Kyger Creek NFAP underneath the BAP towards the water supply wells. Figures 4-5, 4-7, and 4-8 show the linkage between the alternate source and the downgradient monitoring wells for boron, sulfate, and low pH, respectively.

5.2.1 BORON AND SULFATE

The maximum boron concentration measured in onsite groundwater monitoring wells at the BAP was 4.1 mg/L at BAC-17 (Figure 4-5). The average boron concentration observed at the Kyger Creek SFAP in 2023 was 7.82 mg/L, with a maximum boron concentration reported to be 16 mg/L. Groundwater at the Kyger Creek NFAP is not analyzed for boron, but it is expected to have similar concentrations due to the same materials placed both at the Kyger Creek SFAP and the

NFAP. The maximum sulfate concentration measured in upgradient onsite groundwater monitoring wells along the southern boundary of the BAP was 240 mg/L at BAC-17 in fall 2024, while the maximum sulfate concentrations observed at the Kyger Creek NFAP in fall 2023 were 365 mg/L in well KC-9504 and 963 mg/L in well KC-9507 located in the southeast corner of the Kyger Creek NFAP (Figure 4-7). The ratio of the maximum Kyger Creek fly ash pond concentrations to the maximum downgradient BAP well is provided in Table 5-2. These ratios, and the predominance of pumping-influenced flow directions to the northeast, demonstrate the linkage between boron and sulfate observed in downgradient BAP wells and the Kyger Creek NFAP, the alternate source.

TABLE 5-2: RATIO OF KYGER CREEK GROUNDWATER TO DOWNGRADIENT BAP GROUNDWATER FOR BORON/SULFATE

Analyte	Units	Maximum Concentration		Ratio: Kyger Creek Fly Ash Ponds to Downgradient BAP
		Kyger Creek NFAP/SFAP (2023)	Downgradient BAP Well (BAC-05/BAC-02)	
Boron	mg/L	16	2.5	6.4:1
Sulfate	mg/L	963	320	3.0:1

Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SFAP = South Fly Ash Pond; mg/L = milligrams per liter.
Results from Gavin samples collected in October 2024, Kyger Creek NFAP samples collected in October 2024, and Kyger Creek SFAP samples collected in 2023.

5.2.2 PH

Table 5-3 summarizes the range of pH values measured at the Kyger Creek NFAP, the BAP and the Ohio River. The observed pH SSIs at the BAP were below the lower prediction limit of 6.63, which was derived based on background data from MW-1, BAC-01 and MW-6. BAP background groundwater, BAP bedrock groundwater, and water from the Ohio River all have relatively neutral to slightly alkaline pH. Groundwater migrating from Kyger Creek NFAP has an acidic pH, as confirmed by the October 2024 pH measurement of 5.76 at monitoring well KC-9502, which is located approximately 150 feet south of the BAP. As discussed in Section 4.2.3, the low pH at KC-9502 has been observed since 1997 and was identified by OEPA in 1998 (Appendix B). As discussed in Section 3, groundwater migrating northward from the Kyger Creek NFAP mixes with upgradient groundwater migrating from the west and can mix with Ohio River water during high river stage conditions. This mixing of neutral to slightly alkaline waters from background sources and acidic waters migrating northward from the Kyger Creek NFAP causes groundwater at the downgradient BAP wells to become slightly acidic. These observations demonstrate the linkage between low pH groundwater observed in downgradient BAP wells and low pH groundwater from the Kyger Creek NFAP, the alternate source.

TABLE 5-3: COMPARISON OF BEDROCK, KYGER CREEK NFAP, AND DOWNGRADIENT BAP GROUNDWATER FOR PH

Analyte	Units	Lowest Measured		Upgradient Wells West of BAP	Bedrock Wells	Ohio River	Downgradient BAP Wells (Mixing Area)
		Onsite BAP Well (BAC-17)	Kyger Creek NFAP (KC-9502)				
pH	SU	5.41	5.76	6.75 – 7.27	7.14 – 7.67	7.77	6.04 – 6.59

Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SU = Standard pH Units.
Results from Gavin samples collected in October/November 2024, Kyger Creek NFAP samples collected in October 2023, and Ohio River sample collected October/November 2024.

6. DATA INDICATES THAT THE BAP IS NOT THE SOURCE

6.1 EVALUATION OF POTENTIAL GROUNDWATER MOUNDING AT THE BAP

From August 2022 through November 2023, programmable electronic data loggers equipped with a pressure-sensitive water level transducer were installed at four pairs of alluvial aquifer monitoring wells (eight monitoring wells) at the southern, western, northern, and eastern boundaries of the BAP to evaluate the potential for groundwater mounding. These monitoring well pairs were chosen based on their proximity to one another, and to the BAP. Each well pair included a well directly adjacent to the BAP, and the other located approximately 150-250 ft away from the BAP, which allowed for the evaluation of hydraulic heads and resulting hydraulic gradients between each couplet. A signature of mounding would be identified by consistently higher potentiometric elevations at the well located closer to the BAP compared to its counterpart located further from the BAP. The four well couplet pairs included the following:

- BAC-01 (further from BAP) and BAC-08 (closer to BAP), installed at the western boundary of the BAP;
- BAC-10 (further from BAP) and BAC-02 (closer to BAP), installed at the northern boundary of the BAP;
- BAC-12 (further from BAP) and BAC-04 (closer to BAP), installed at the eastern boundary of the BAP; and
- BAC-16 (further from BAP) and BAC-18 (closer to BAP), installed at the southern boundary of the BAP.

Mounding was not observed at the BAP (ERM 2024). The potentiometric elevation at the northern boundary of the BAP is largely controlled by the operation of the pumping wells located north of the BAP. Well BAC-10 is located closer to the pumping wells and typically has a lower potentiometric surface during times of pumping. This signature is consistent with greater drawdown at BAC-10 because it is closer to the water supply wells than BAC-02 and is not a result of mounding at the northern boundary at the BAP. At the eastern, southern, and western boundaries of the BAP, potentiometric elevations in the wells located further from the BAP were consistently very similar to or higher than the potentiometric elevations in the wells located closer to the BAP. These observations are not consistent with mounding at the BAP. The lack of evidence for groundwater mounding at the BAP supports the conclusion that the BAP is not the source of the SSIs.

6.2 OBSERVED BORON CONCENTRATIONS

Surface water samples at the BAP and Reclaim Pond were collected during each groundwater sampling event between 2016 and 2022. Prior to dewatering of the BAP, boron was consistently detected in surface water at 0.50 mg/L or lower, except for one event in 2019 when boron was measured at 1.30 mg/L. Table 6-1 compares the boron concentrations measured in surface water and monitoring wells. Based on this data, the boron concentration in the BAP surface water was too low to be the source of boron to the downgradient BAP wells. In contrast, groundwater flowing towards the BAP from under the Kyger Creek NFAP has consistently had a boron concentration

higher than what is detected in downgradient groundwater. The average concentration at B-0904 from March 2018 to March 2020 was 3.95 mg/L, and BAC-17 had an average boron concentration of 3.87 mg/L from October 2022 to October 2024, making the Kyger Creek NFAP the most likely source.

Boron in the environment typically exists as boric acid or the borate ion. Both species are water-soluble and are not sensitive to redox conditions. Although adsorption/desorption reactions occur, adsorption is strongest in slightly-to-moderately basic conditions (pH 7.5-10), which are not observed in alluvial groundwater around the BAP (ATSDR 2010). Therefore, it is not likely that oxidizing conditions present in surface water would impact boron concentrations in the BAP, nor is it likely that adsorption/desorption processes are significantly impacting the concentrations of boron in groundwater surrounding the BAP. Boron is expected to act as a conservative tracer due to its high solubility and mobility in groundwater.

TABLE 6-1: BAP BORON RESULTS

Analyte	Units	Bottom Ash Pond[a]	Reclaim Pond[a]	Downgradient BAP Wells[b]
Boron	mg/L	0.44	0.51	2.1

[a] Average sample results from February 2018 to October 2022.
[b] Average sample results from BAC-02, BAC-03, BAC-04, and BAC-05 in October/November 2024.

LEACHING DATA

Based on leaching testing performed on bottom ash from the BAP, the CCR material present in the BAP does not yield concentrations of Appendix III parameters above background (or below background in the case of pH). Therefore, the BAP does not constitute a source of impact to groundwater.

Gavin collected composite bottom ash samples annually from the BAP. These samples were extracted by modified TCLP following method ASTM D3987 to evaluate the leaching potential of bottom ash material from the BAP. A summary of the results is included in Table 6-2, including minimum, maximum, and average leachate concentrations for the bottom ash samples from 2016 to 2023. Table 6-2 also includes applicable LPL and UPL values derived for the BAP Appendix III parameters, as well as the average of 11 samples collected from monitoring well BAC-21, located west of the BAP to represent groundwater quality hydraulically upgradient and distant from the BAP.

TABLE 6-2: BAP TCLP RESULTS

Appendix III Parameter	Units	App III LPL	App III UPL	BAC-21 (Avg)	Gavin Modified TCLP			
					n	Min	Max	Avg
Fluoride	mg/L	-	0.161	0.08	8	<0.01	0.059	0.053
Chloride	mg/L	-	24.7	69.9	8	0.174	0.91	0.621
Sulfate	mg/L	-	140	128.2	8	2.1	42	10
TDS	mg/L	-	505	530	8	<10.0	56	29
pH	SU	6.63	7.22	6.84	8	6.5	9.7	8.02
Calcium	mg/L	-	129	126.2	4	3	12	6.1
Boron	mg/L	-	0.177	0.37	4	<0.1	<0.1	<0.1

Notes: n = number of samples available from 2016 to 2023; < = not detected at the listed reporting limit; SU = standard units.

These results indicate that the Appendix III parameters do not leach from Gavin bottom ash at concentrations above the Appendix III UPLs. We note that the pH SSI is for pH levels lower than the LPL, so the fact that the average pH level in the TCLP results is not only above the LPL but also above the UPL is further indication that the BAP is not the source of the low pH SSI. Leaching results are generally lower than background groundwater observed west of the BAP. Accordingly, concentrations observed in downgradient wells must be caused by a source other than the BAP.

6.3 CHEMICAL FINGERPRINTS

The geochemical fingerprints of surface water from the BAP, upgradient groundwater west of the BAP, groundwater flowing from the Kyger Creek NFAP, and surface water from the Ohio River were evaluated using the concentrations of parameters that are not expected to sorb strongly or participate in redox reactions. Boron, chloride, and potassium were chosen for these comparisons due to their higher water solubility, limited redox chemistry, and presence in groundwater around the BAP. Boron-chloride and boron-potassium plots are shown in Figure 6-1 and Figure 6-2, respectively.

The samples presented on the concentration plots were collected from 2016 through 2024. The primary observations based on the concentration plots (Figures 6-1 and 6-2) are the following:

- Multiple samples collected from a single location (e.g., the Ohio River or Well BAC-01) tended to be tightly clustered, indicating that the chemical signatures of individual locations were consistent over time.
- Monitoring wells collected from a similar environment (e.g., upgradient wells located west of the BAP) tended to have similar concentrations and plot near each other.
- Groundwater from BAP upgradient wells MW-1, BAC-01, and MW-6 has a unique signature with relatively low boron, chloride, and potassium. The Ohio River has similar concentrations of boron and chloride, but generally has a higher concentration of potassium.
- Groundwater migrating from the Kyger Creek NFAP is sampled at monitoring wells B-0904 and BAC-17, which was installed to replace B-0904. Concentrations of boron, chloride, and potassium at these wells are similar. These wells are characterized by high boron and low chloride and potassium.

- Groundwater from BAP downgradient wells BAC-02, BAC-03, BAC-04, and BAC-05 has a signature similar to groundwater migrating onto Gavin from the Kyger Creek NFAP (B-0904 and BAC-17). BAC-05, which is located closest to the Kyger Creek NFAP, plots closest to the Kyger Creek NFAP groundwater, followed by BAC-04, BAC-03, and BAC-02, respectively. This is consistent with their distance from the Kyger Creek NFAP. Groundwater at these wells is characterized by high boron, with elevated chloride and potassium relative to Kyger Creek NFAP groundwater due to the influence of bedrock groundwater. Supplemental monitoring wells BAC-12 and BAC-14 have chemical fingerprints consistent with other BAP downgradient wells.
- Groundwater from monitoring wells BAC-06 and BAC-07 shows a distinct signature with similar concentrations of chloride and potassium to Kyger Creek NFAP groundwater, with lower but still elevated concentrations of boron. These wells are screened at a deeper interval than B-0904 and BAC-17, indicating that the boron plume flowing from the Kyger Creek NFAP is primarily located in the upper part of the alluvial aquifer.
- Groundwater from supplemental bedrock wells BAC-09, BAC-11, BAC-13, and BAC-19 has a unique signature with moderate concentrations of boron (comparable to those observed at some upgradient locations) and very high chloride. Chloride concentrations are up to three orders of magnitude higher in bedrock groundwater than in alluvial background groundwater, which is consistent with the interpretation of brine influencing Cow Run groundwater quality.
- Groundwater from supplemental upgradient monitoring wells located farther to west/northwest (BAC-21, BAC-22, and BAC-23) has a signature similar to the network upgradient wells (MW-1, BAC-01 and MW-6), but with slightly higher boron and potassium.
- Groundwater from supplemental separation layer monitoring well BAC-15 has a distinct signature characterized by moderate boron and potassium and very low chloride. This well has limited connectivity to surrounding groundwater due to the low hydraulic conductivity of the separation layer.
- BAP surface water through 2023 had a signature distinct from downgradient groundwater, characterized by moderate boron and chloride, with potassium concentrations higher than both upgradient and downgradient groundwater.

Based on the data summarized above and the chemical fingerprints of the groundwater at issue, the BAP is not the source of the SSIs.

7. ALTERNATE SOURCE DATA ARE HISTORICALLY CONSISTENT WITH HYDROGEOLOGIC CONDITIONS AND FINDINGS OF THE MONITORING PROGRAM

7.1 REGIONAL BRINE

The existence of Regional Brine in the area surrounding the plant is supported by historical studies and data. Regional groundwater flow regimes through fractured bedrock upgradient of the BAP were established after the last deglaciation, which occurred approximately 14,000 years ago (Hansen 2017). Enhancement of transmissivity in the Ohio River Valley from stress-relief fracturing in bedrock provides conditions for bedrock to be interconnected to coarse glacial outwash alluvial deposits (USGS 1981; USGS, 1997). Regional groundwater within the fractured sedimentary bedrock in the Ohio River Valley generally flows from areas of higher topographic elevation towards areas of lower elevation, ultimately discharging to the Ohio River (ORSANCO 1984). Assuming a conservatively high effective porosity of 1 percent, estimated groundwater velocity values for the Morgantown Sandstone and Cow Run Sandstone units are approximately 77 to 79 feet per year and 31 to 32 feet per year, respectively. These flow rates would allow ample time for groundwater to migrate from upgradient regional background sources to Plant property. The data supporting these conclusions are historically consistent with hydrogeologic conditions and findings of the BAP monitoring program.

The discharge of brines is seen at a regional scale along the Ohio River with shallow wells near the Ohio River observing saltwater impacts; whereas, further from the Ohio River shallow wells report little to no brine impacts (USGS 1997). At the site, upward gradients between bedrock and alluvial wells near the Ohio River have been observed, and locations with the strongest observed upward gradients generally have high hydraulic conductivities, which supports the conclusion that bedrock and alluvial aquifers are hydraulically connected on-site. Additionally, the influence of pumping conditions further contributes to upward vertical gradients, as described in previous sections. TDS concentrations observed in bedrock wells around the BAP are consistent with observations seen at brine-freshwater mixing zones at other brine-impacted sites (Yager et al. 2017). The regional and site-specific data are in strong agreement and support the conclusion that regional brines are discharging under the BAP and mixing with alluvial groundwater underneath the BAP.

7.2 KYGER CREEK NORTH FLY ASH POND

The Kyger Creek NFAP was constructed in 1955 on a native soil base and without an engineered liner system to capture and contain leachate. The unit was used to manage fly ash until it was drained and closed from 1998 to 2000. However, despite closure, ash is still present within the Kyger Creek NFAP (AEP 1994). The NFAP was capped with boiler slag and clay but did not include synthetic materials that would be more likely to prevent infiltration of precipitation, subsequent migration of water through highly leachable CCR materials in the subsurface and resulting recharge of sulfate and boron-impacted water to the alluvial aquifer. Approximately 900,000 cubic yards of boiler slag and boiler slag fines were also used as surface fill and as material to build berms. Both materials yielded low pH samples during leachability testing (OEPA 1996).

Groundwater in the alluvial aquifer flows from the Kyger Creek NFAP in a northeasterly direction toward the BAP. Given the six decades that this unit has contained fly ash and the alluvial aquifer groundwater velocity estimates of 130 to 200 feet per year, ample time has passed for groundwater to migrate from the Kyger Creek NFAP beneath the BAP. The following evidence therefore supports that the Kyger Creek NFAP is the alternate source of boron, sulfate, and low pH.

- The low concentration of boron in water from the BAP compared to the higher concentrations of boron in groundwater beneath the BAP (Section 4 and Section 6).
- Analytical results from groundwater samples collected for the Kyger Creek NFAP and SFAP suggest boron and sulfate are present in Kyger Creek groundwater and groundwater has an acidic pH. Given the similarity in construction and types of CCR managed, it is reasonable to interpret Kyger Creek SFAP groundwater results for boron are also representative of Kyger Creek NFAP groundwater quality (Section 4).
- TCLP data indicates that material placed in the Kyger Creek NFAP leaches high sulfate and low pH, while bottom ash from the BAP leaches low sulfate, low boron, and near-neutral pH.
- The chemical fingerprinting evidence suggests groundwater from the Kyger Creek NFAP mixes with upgradient groundwater from west of the BAP, groundwater discharging from the bedrock, and water from the Ohio River water under the eastern portion of the BAP (Section 6).
- The OEPA has concluded that groundwater appears to be impacted by a release (i.e., elevated conductivity, sulfate, TDS, and low pH) from the Kyger Creek NFAP (Appendix A and Appendix B).

A comparison of the materials managed in the BAP provides evidence that the BAP is not the source of boron and that the Kyger Creek NFAP is a more likely source of boron. The Kyger Creek NFAP has contained fly ash since 1955, while the BAP has been used primarily for the management of bottom ash since 1974. Bottom ash and fly ash have different physical and chemical properties; laboratory investigations have demonstrated elements (including Appendix III constituents) have a much greater potential to leach from fly ash compared to bottom ash (Cox et al. 1978; Jones et al. 2012). The higher concentrations of boron observed in Kyger Creek SFAP groundwater compared to the lower concentration of boron observed in groundwater downgradient of the BAP are consistent with the known leaching properties of fly ash and bottom ash. Boron, therefore, is more likely to leach from the Kyger Creek SFAP/NFAP than the BAP based on the historical use of each unit. These observations support the conclusion that the Kyger Creek NFAP, and not the BAP, is the source of boron in groundwater under the BAP. Thus, the data supporting these conclusions are historically consistent with hydrogeologic conditions and findings of the BAP monitoring program.

8. CONCLUSIONS

The SSIs identified in this ASD Report are based on results from downgradient BAP monitoring well samples collected in October/November 2024. Review of data for quality assurance and statistical comparison was completed on December 16, 2024. In response to the SSIs, this ASD Report was prepared within the required 90-day period in accordance with 40 CFR § 257.94(e)(2).

SSIs in the downgradient BAP monitoring wells have been determined to result from alternate sources based on analysis of the gathered data: discharge of regional brine present in bedrock and the Kyger Creek Power Plant NFAP. Table 8-1 summarizes the six lines of evidence for each of the SSIs.

In conclusion, the BAP is not the source of the SSIs associated with the second semiannual sampling event groundwater results for 2024. Thus, Gavin will continue detection monitoring at the BAP in accordance with 40 CFR § 257.94(e)(2).

TABLE 8-1: BAP ASD SUMMARY

Analyte	SSI Location	Six Lines of Evidence from USEPA Guidance					
		Alternate Source	Hydraulic Connection	Constituent Present at Source or along Flow Path	Constituent Distribution More Strongly Linked to Alternate Source	Constituent Could Not Have Resulted from the BAP	Data Are Historically Consistent with Hydrogeologic Conditions
Boron	BAC-02 BAC-03 BAC-04 BAC-05	Kyger Creek NFAP	X	X	X	X	X
Calcium	BAC-02	Regional Brine	X	X	X	X	X
Chloride	BAC-02 BAC-03 BAC-04 BAC-05	Regional Brine	X	X	X	X	X
Fluoride	BAC-02	Regional Brine	X	X	X	X	X
pH	BAC-03 BAC-04 BAC-05	Kyger Creek NFAP	X	X	X	X	X
Sulfate	BAC-02 BAC-03 BAC-04 BAC-05	Kyger Creek NFAP	X	X	X	X	X
TDS	BAC-02 BAC-03 BAC-05	Regional Brine	X	X	X	X	X

Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond; SSI = statistically significant increase; TDS = total dissolved solids; USEPA = United States Environmental Protection Agency.

9. PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I, or an agent under my review, have prepared this Alternate Source Demonstration Report for the Bottom Ash Pond and it meets the requirements of 40 CFR § 257.94(e)(2). To the best of my knowledge, the information contained in this Report is true, complete, and accurate.



James A. Hemme, P.E.
State of Ohio License No.: 72851

Date: 1/24/25

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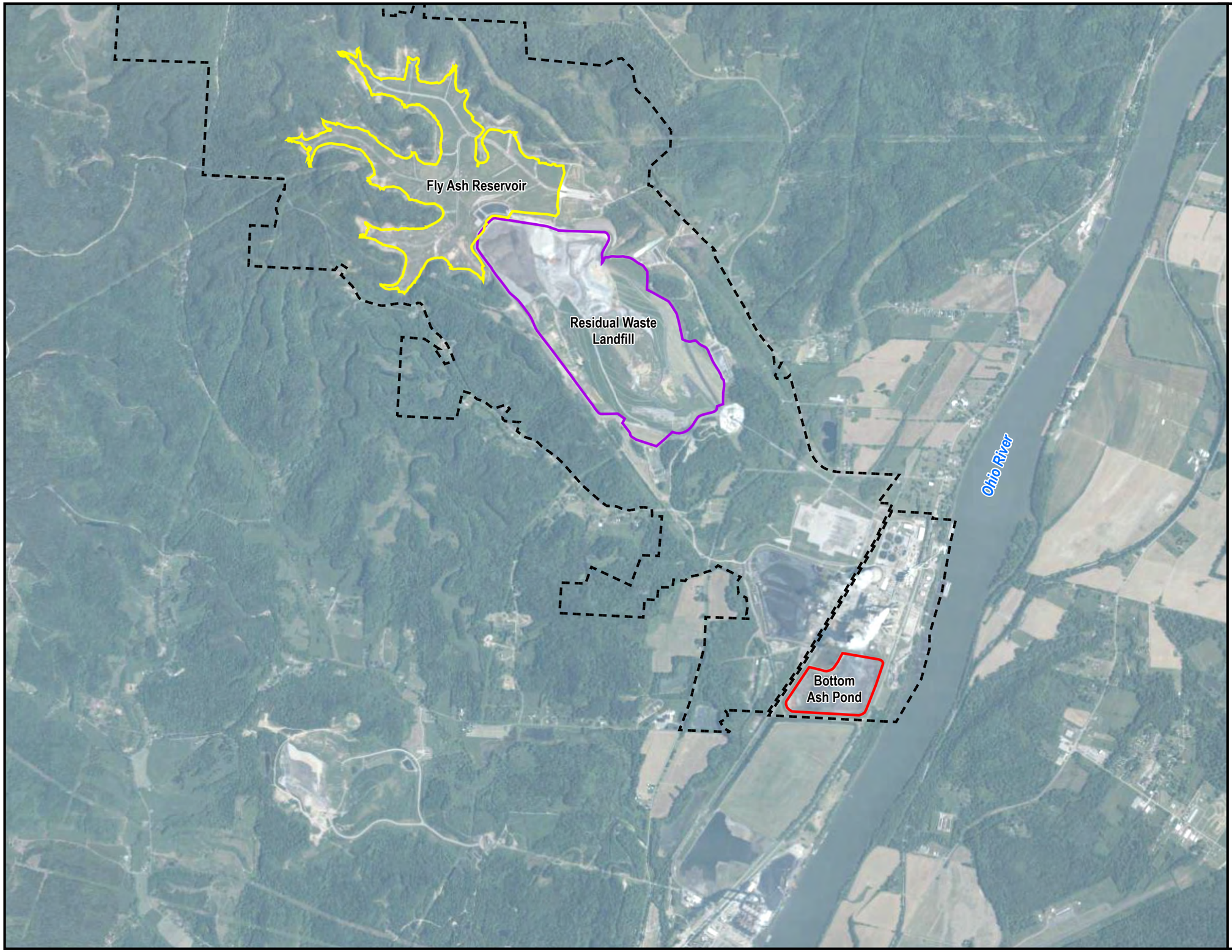
FIGURES

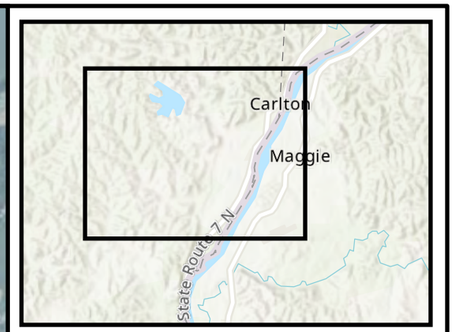


Figure 1-1: Gavin Plant Location
Gavin Generating Station
Cheshire, Ohio

ERM

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Legend

- Fly Ash Reservoir
- Residual Waste Landfill
- Bottom Ash Pond
- Property Boundary

NOTES:

1. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

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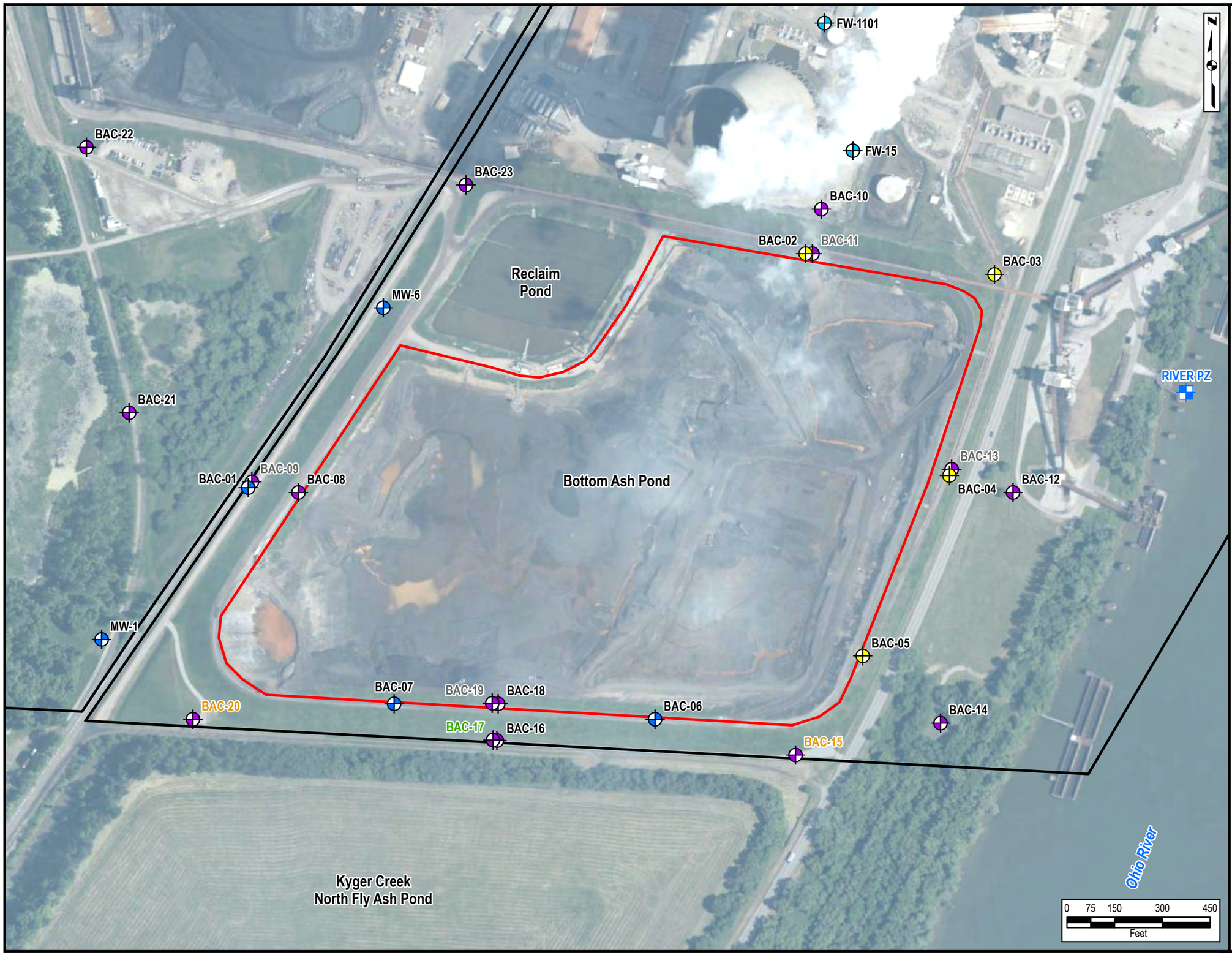
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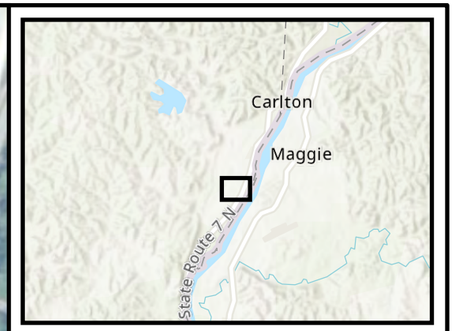
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Figure 1-2: Former Bottom Ash Pond Location
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM

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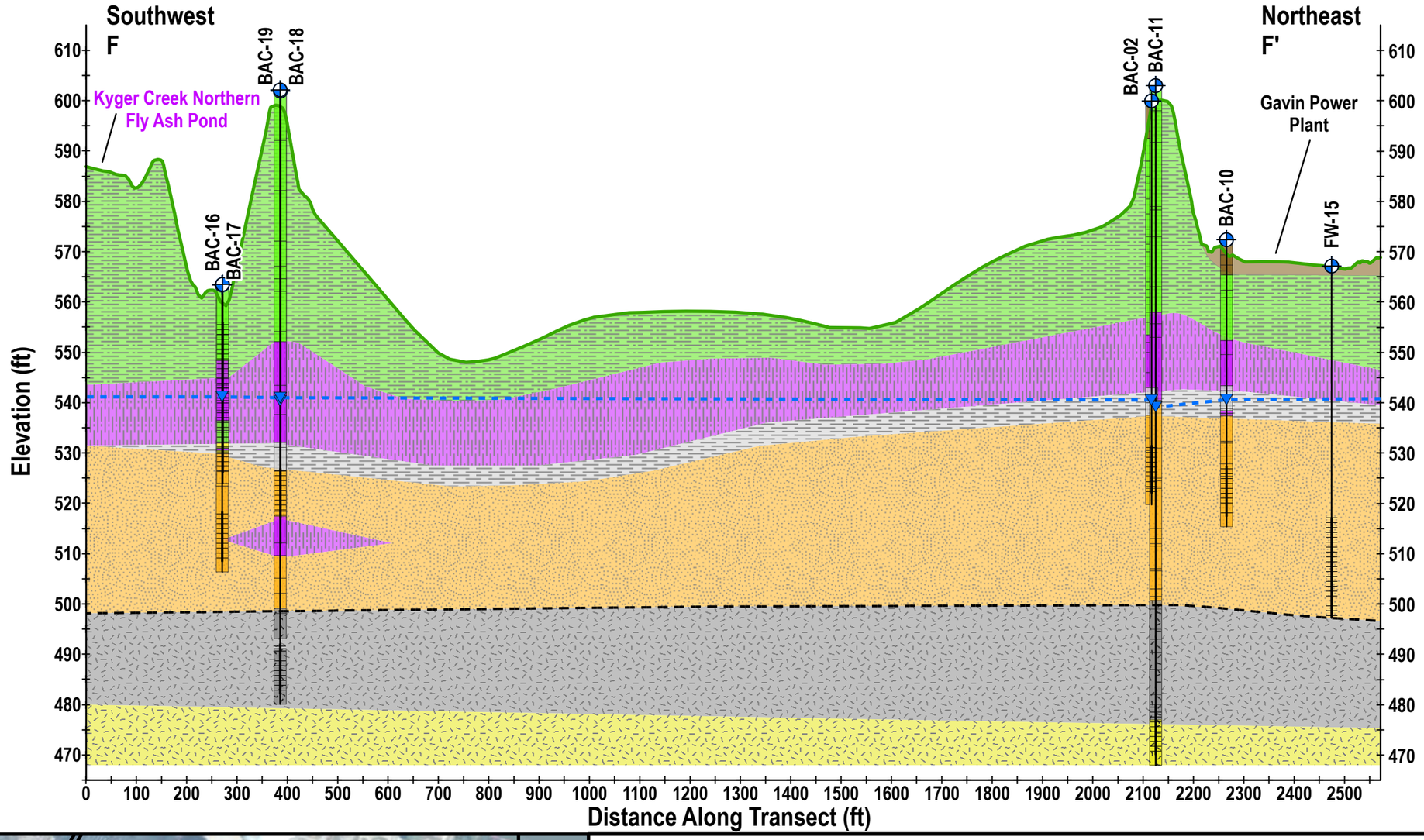
- 2022 Monitoring Well (Not in Federal Program)
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Water Supply Well
- Piezometer
- BAC Alluvium Well
- BAC Silt and Clay/Alluvium Well
- BAC Silt and Clay Well
- BAC Bedrock Well
- Approximate location of Bottom Ash Pond boundary
- Gavin Property Boundary

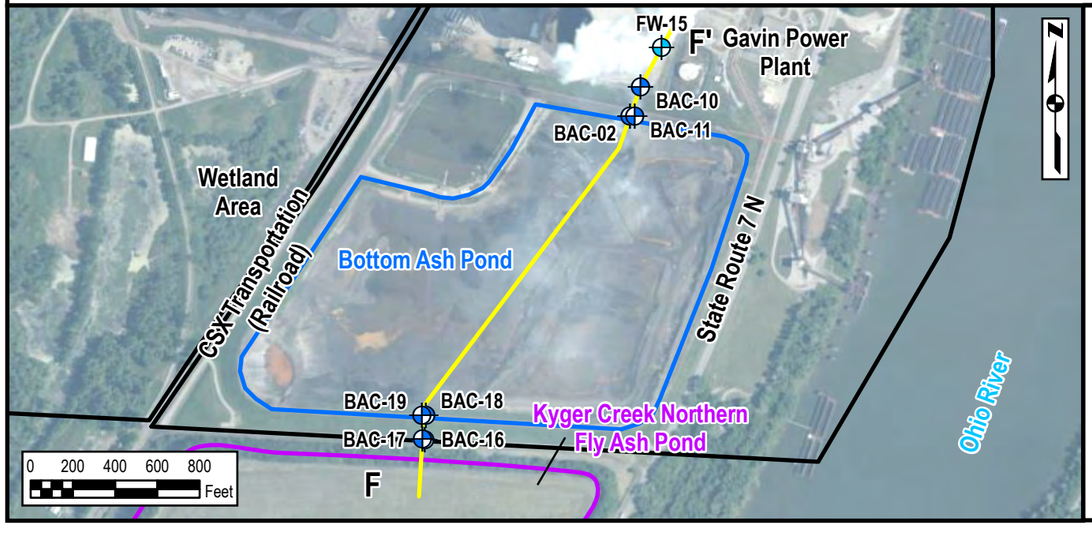
NOTES:

1. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

Figure 1-3: Bottom Ash Pond Monitoring Well Network
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM





Legend

- Water Supply Well
- Monitoring Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Generalized Lithology

- Road Material
- Separation Layer
  - Clay and Silt
  - Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer
  - Sand and Gravel
  - Sand
- Bedrock Units
  - Claystone/Siltstone
  - Sandstone

Figure 1-4: Bottom Ash Pond Cross Section
Gavin Power, LLC
Cheshire, Ohio

NOTES:

1. Potentiometric elevations from August 2024.
2. Surface profile from OGRIP LiDAR 2020.
3. Elevation is exaggerated 10X.
4. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
5. The geology is generalized based on the lithology descriptions.
6. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

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General James M. Gavin Plant

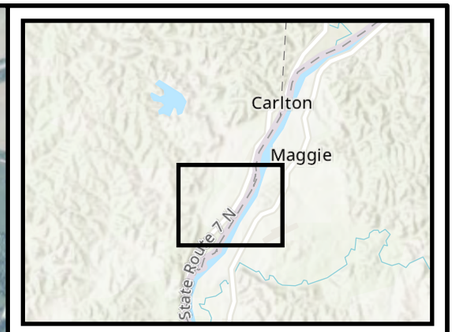
MW-6
BAC-02
BAC-03
BAC-01
Gavin
Bottom Ash
Pond
BAC-04
MW-1
BAC-07
BAC-06
BAC-05

Kyger Creek North
Fly Ash Pond (Closed)

Kyger Creek South
Fly Ash Pond (Active)

Kyger Creek
Generating Station

Ohio River



Legend

- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Gavin Bottom Ash Pond
- Kyger Creek Fly Ash Ponds

NOTES:

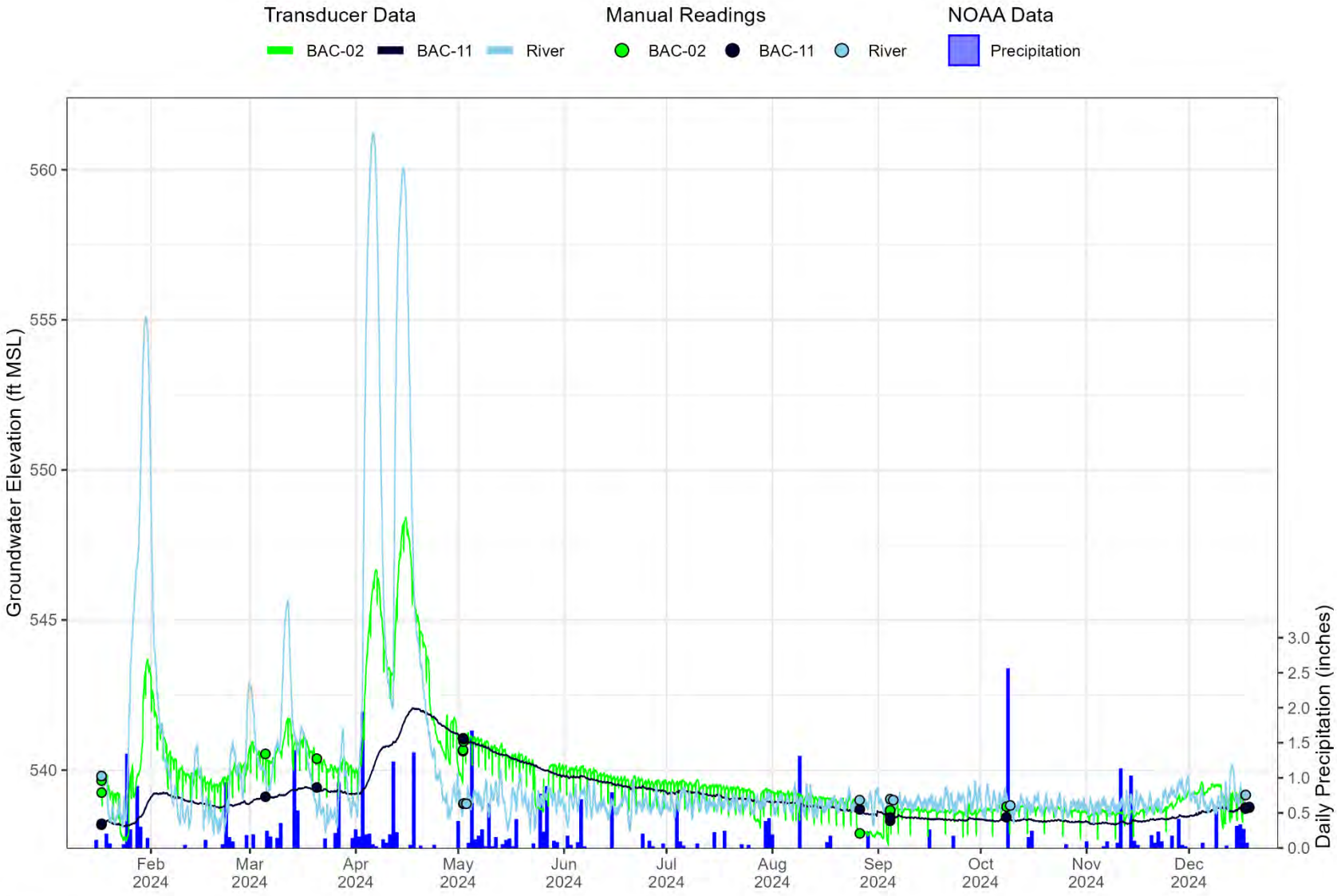
1. Kyger Creek features are from AEP. 1994. Hydrogeologic Site Investigation Plan for the Proposed North Fly Ash Pond Closure, Kyger Creek Station, Ohio Valley Electric Corporation, Gallia County, Ohio.
2. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

N

0 300 600 1,200 1,800
Feet

Figure 2-1: Kyger Creek Generating Station Location
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM

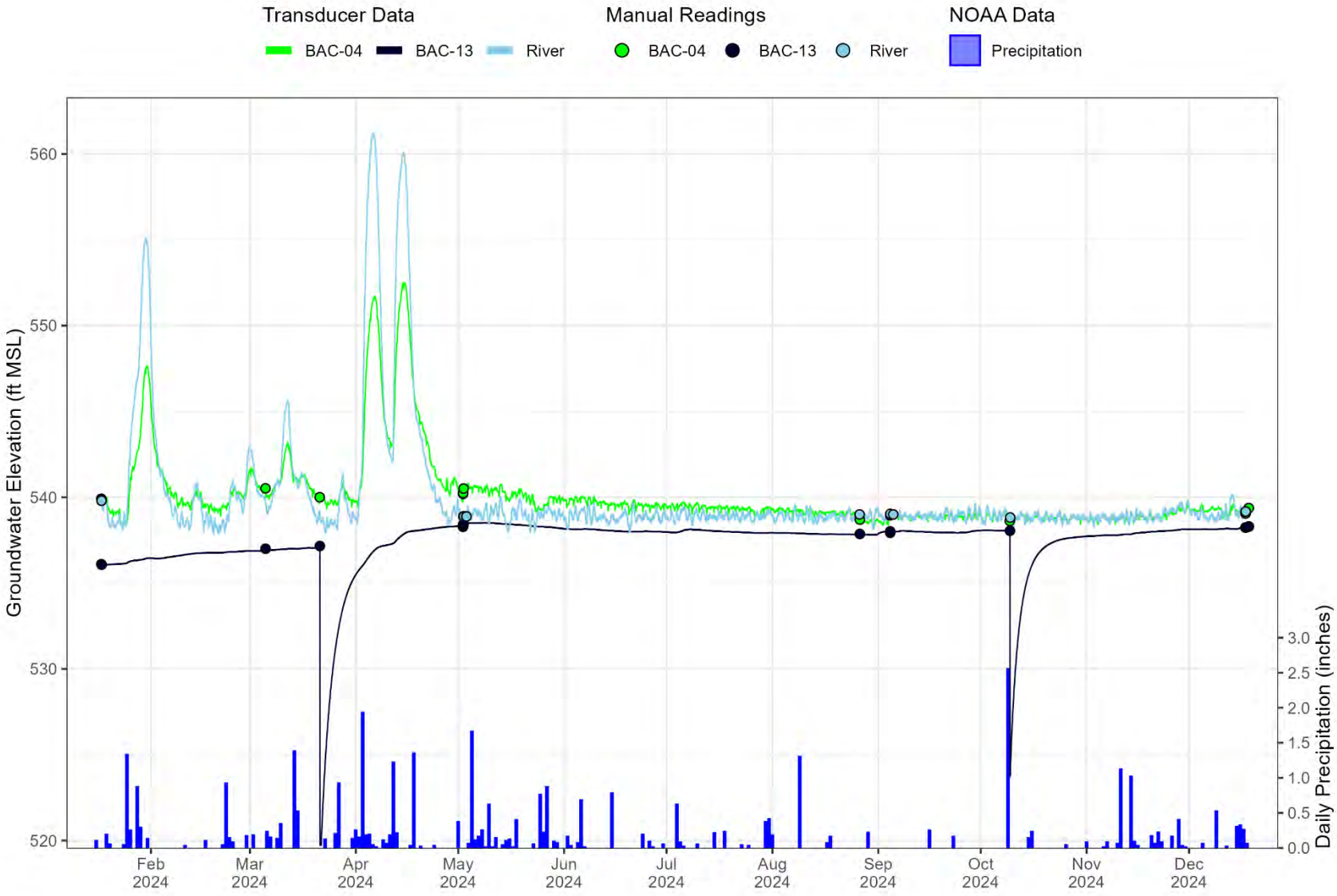


Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-1: BAC-02 and BAC-11 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM

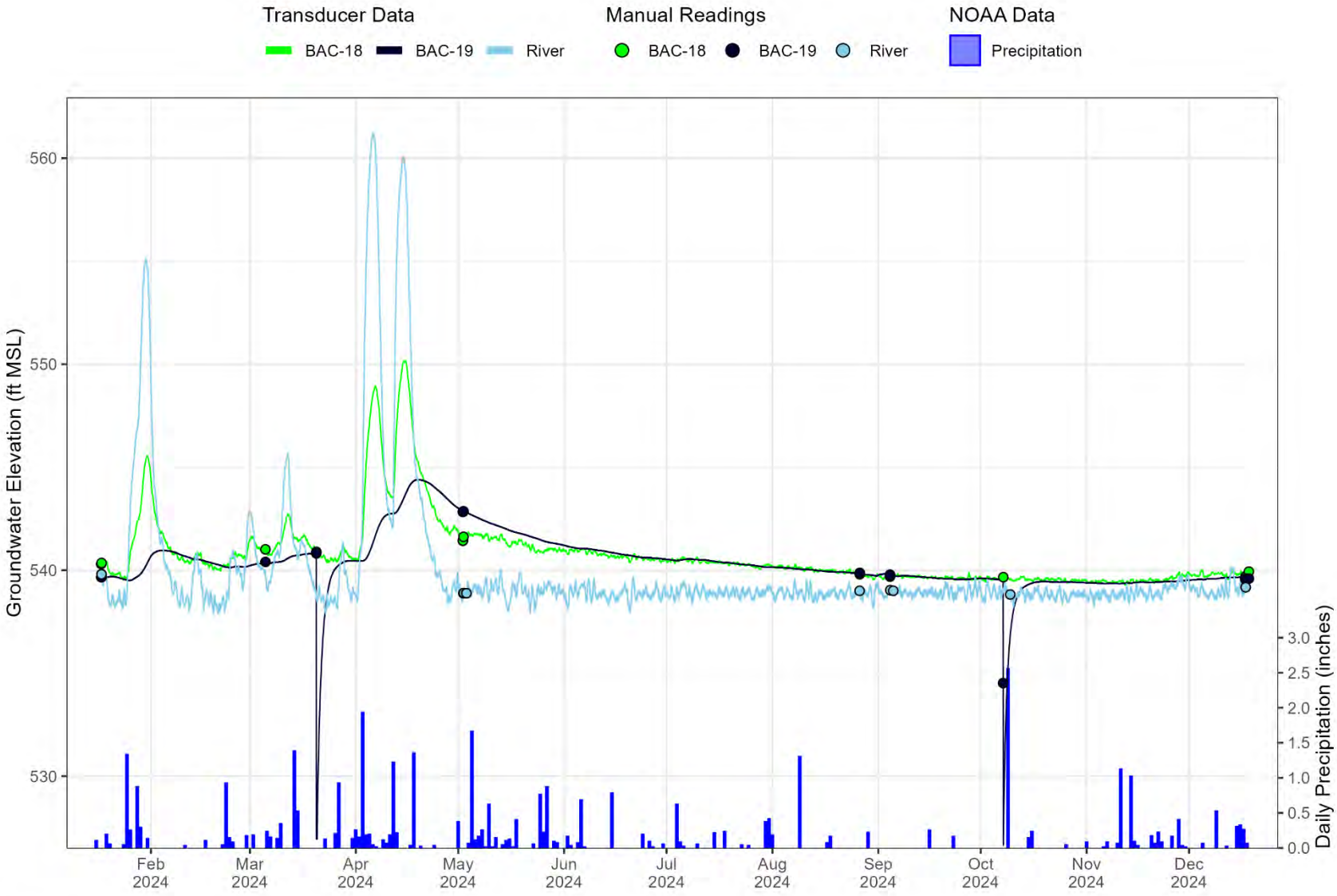


Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-2: BAC-04 and BAC-13 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM

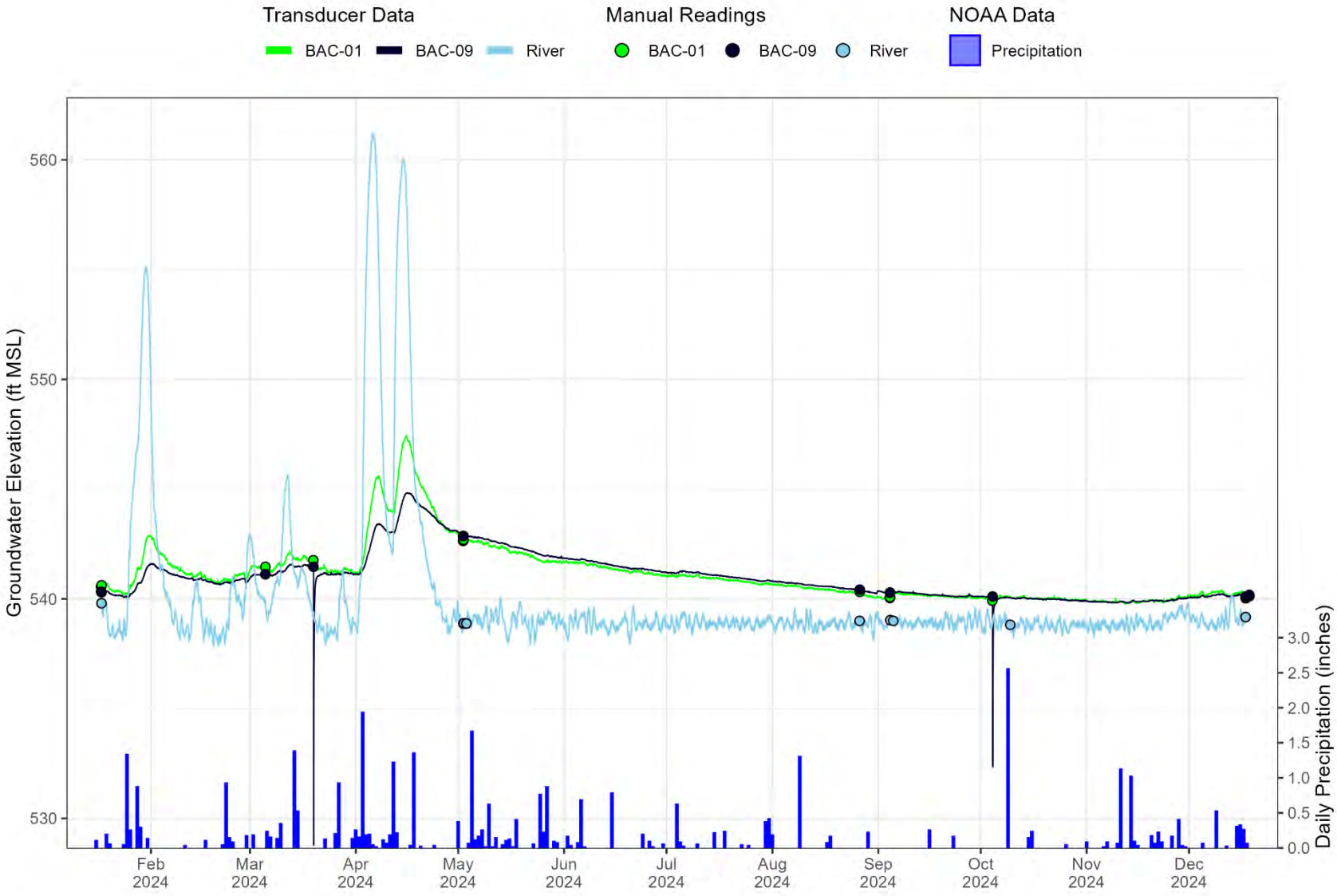


Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-3: BAC-18 and BAC-19 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM

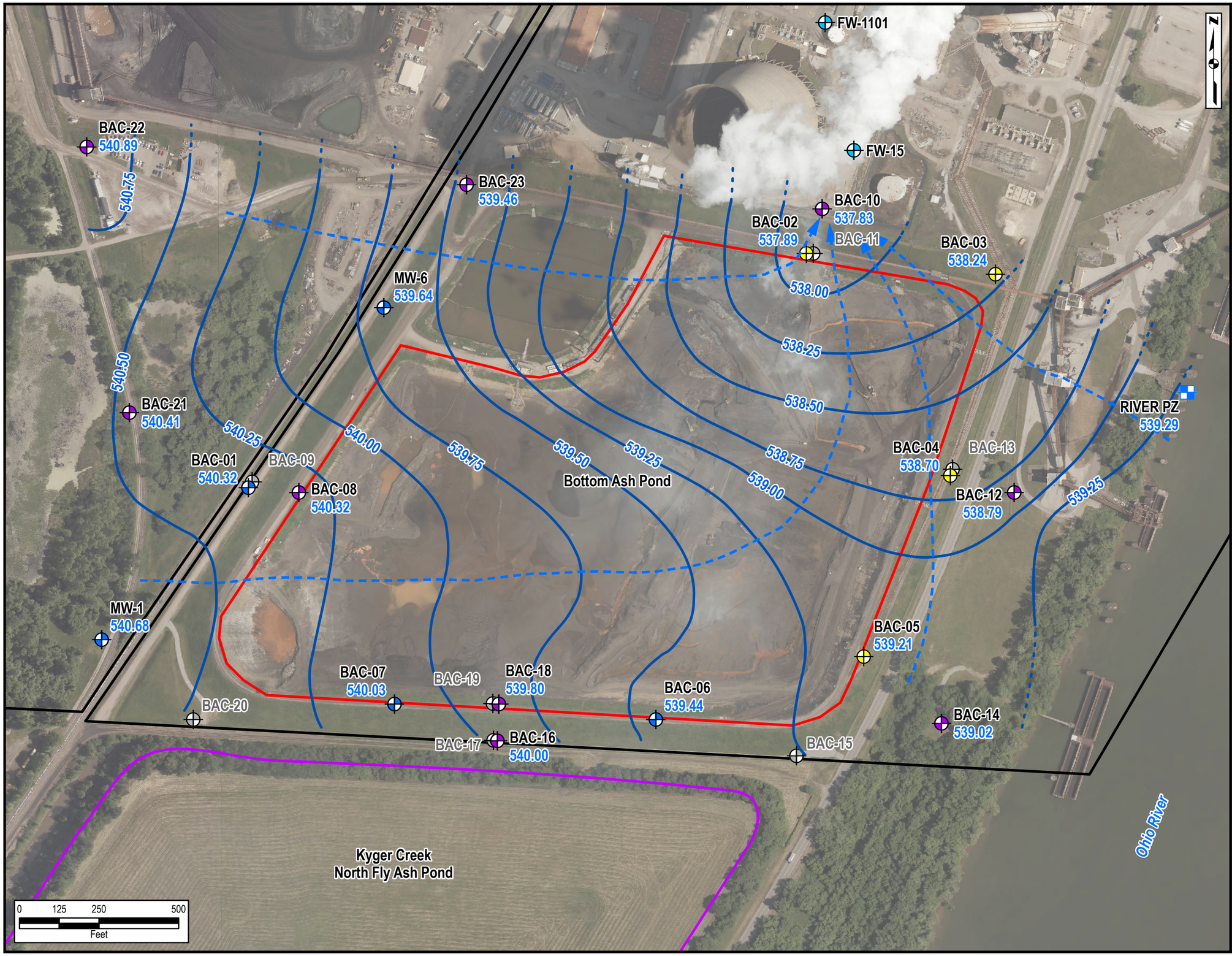


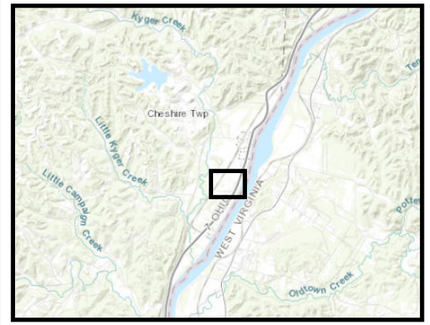
Notes:
1.) River data from on-site stilling well
2.) Transducer reading frequency was set to 15min
3.) Precipitation Source: NOAA Cheshire, OH, Albany, OH & Parkersburg WV

Figure 3-4: BAC-01 and BAC-09 Hydrograph

Gavin Power, LLC
Cheshire, Ohio

ERM





Legend

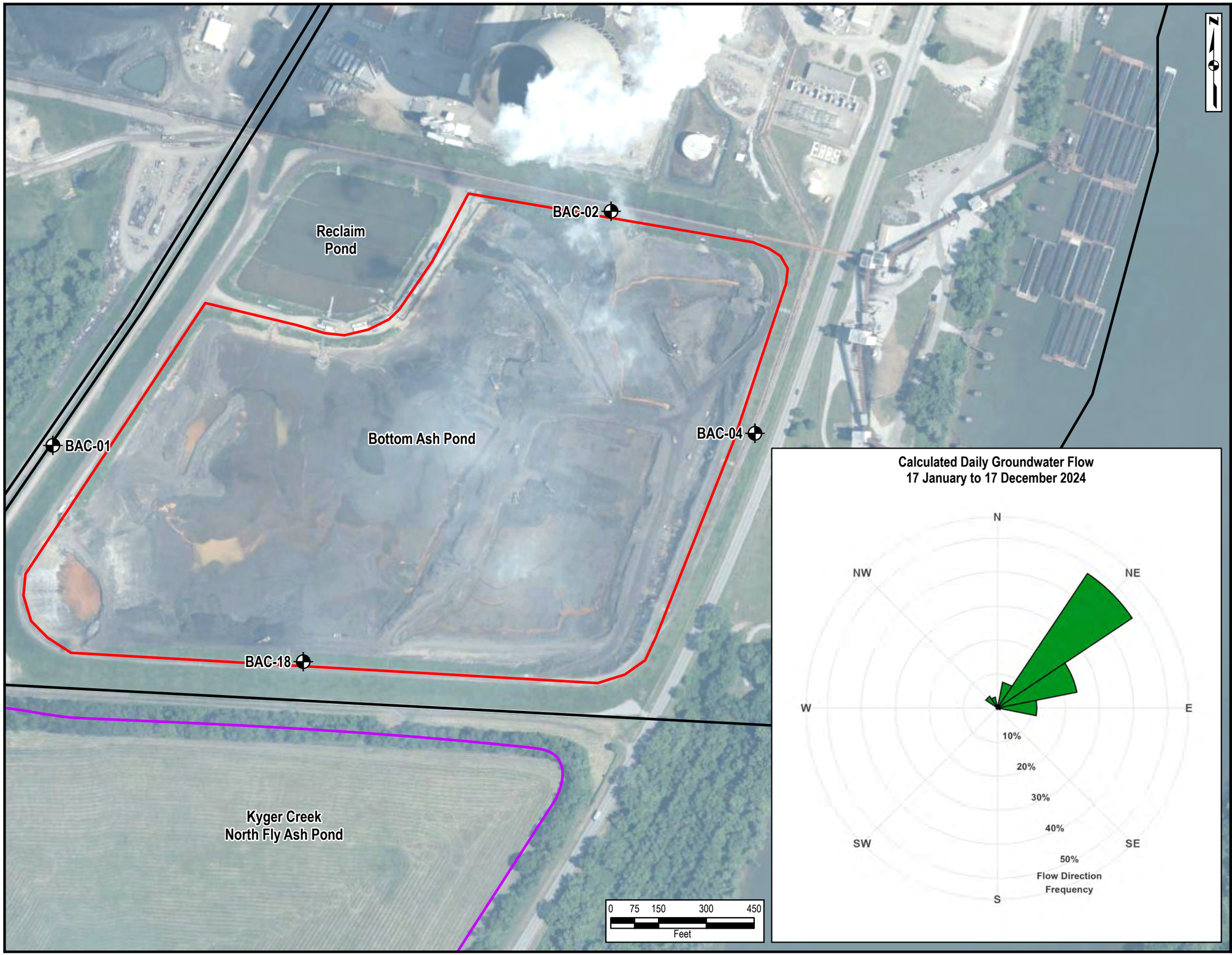
- New 2022 Monitoring Well
- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- River Stilling Well Location
- Bedrock or Silt/Clay Well (excluded from contouring)
- Water Supply Well
- 539.85 Groundwater Elevation (ft)
- H2 2024 Interpreted Groundwater Potentiometric Contour
- H2 2024 Interpreted Generalized Groundwater Flow Direction
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

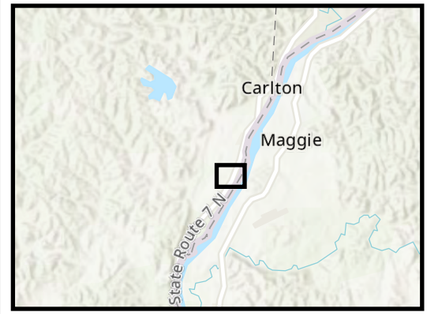
NOTES:

- Monitoring wells were gauged on 8/26/2024 - 8/27/2024.
- Wells not used for contouring of the Alluvium include wells screened in silt/clay or bedrock.
- Flow lines indicate a general groundwater flow direction within alluvium beneath the Former Bottom Ash Pond. They do not represent all potential flow paths within the alluvium, nor do they represent preferential flow paths or convergence of flow.
- Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.8
- H2 refers to the second half of 2024

Figure 3-5: Interpretive Groundwater Potentiometric Contour Map
H2 2024 - Pumping Conditions
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

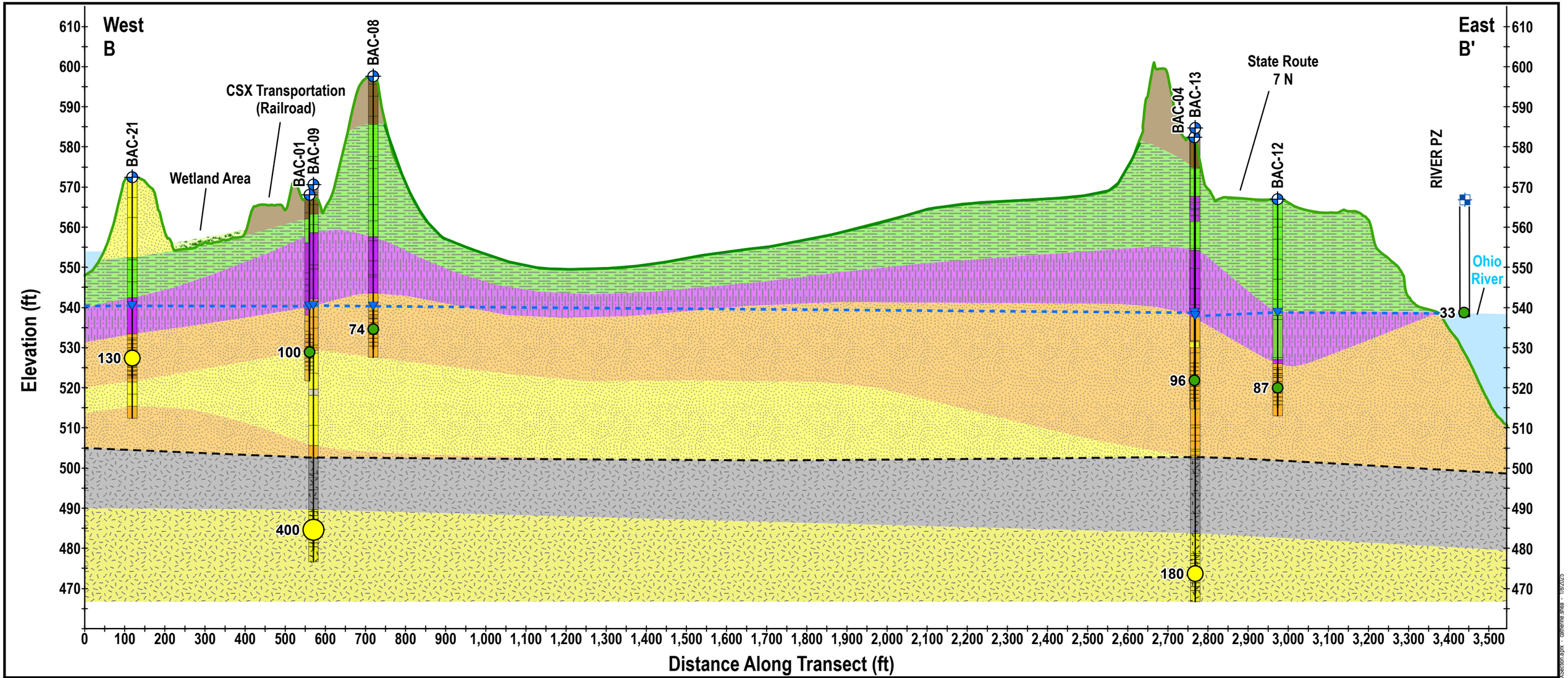
- Groundwater Monitoring Locations
- Frequency of Vector Flow Direction (% Days)
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

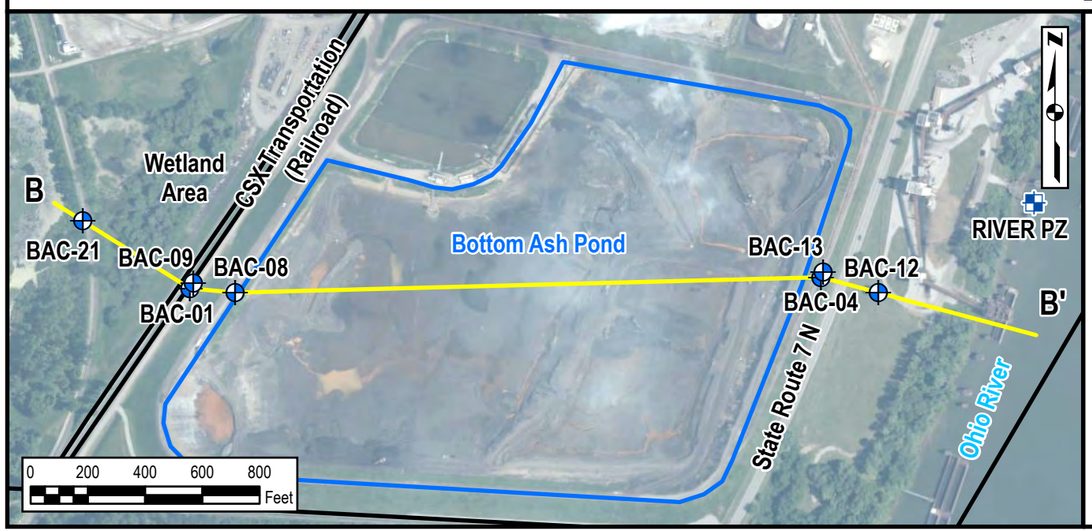
NOTES:

1. Groundwater flow vector diagrams calculated using an R Studio Shiny application.
2. The approach was adapted from the EPA On-line Hydraulic Gradient Magnitude and Direction tool.
3. Interpreted groundwater flow directions calculated based on data from transducers installed in the four displayed wells.
4. Transducer data were collected from 17 January 2024 through 17 December 2024.
5. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

Figure 3-6: Interpreted 2024 Groundwater Flow Directions
Gavin Power, LLC
Cheshire, Ohio

ERM





Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Wetland Area
- Bottom Ash Pond Boundary

Calcium Concentrations in Groundwater (mg/L)

- <129
- 129 - 200
- 200 - 500
- 500 - 1,000
- >1,000

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

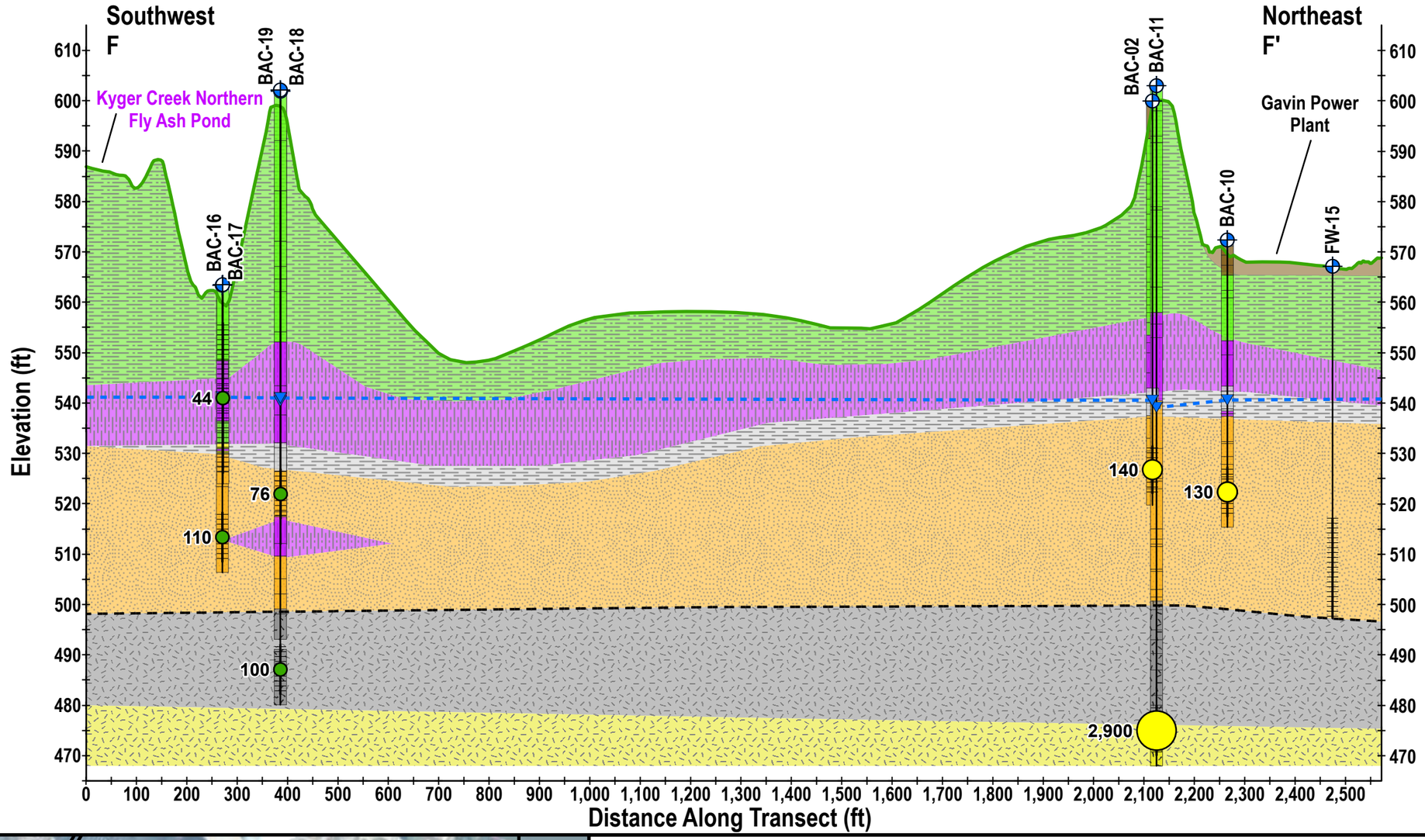
Figure 4-1a: Calcium Concentrations in Groundwater (Cross Section View 1)
Gavin Power, LLC
Cheshire, Ohio

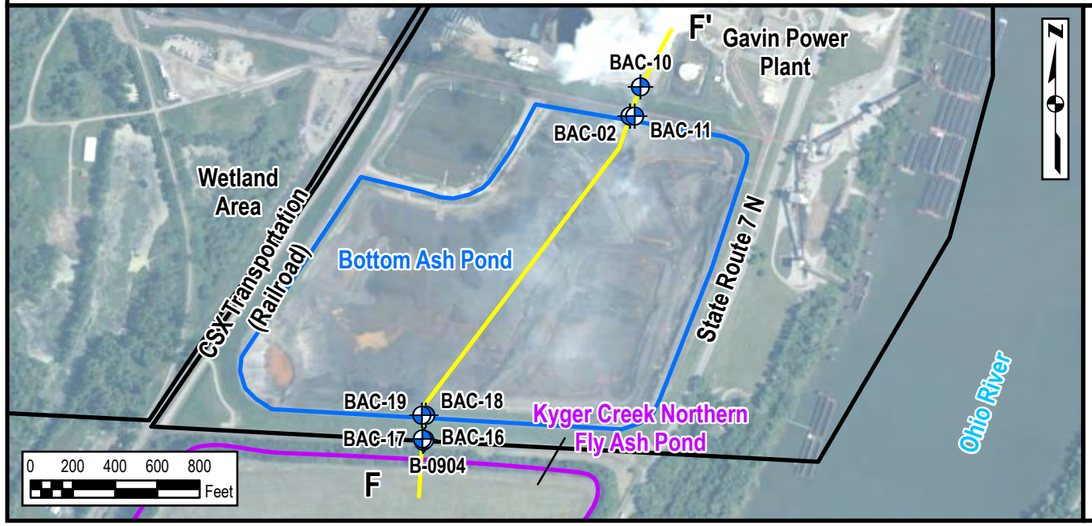
NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater and Ohio River samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

- Monitoring Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Calcium Concentrations in Groundwater (mg/L)

- <129
- 129 - 200
- 200 - 500
- 500 - 1,000
- >1,000

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

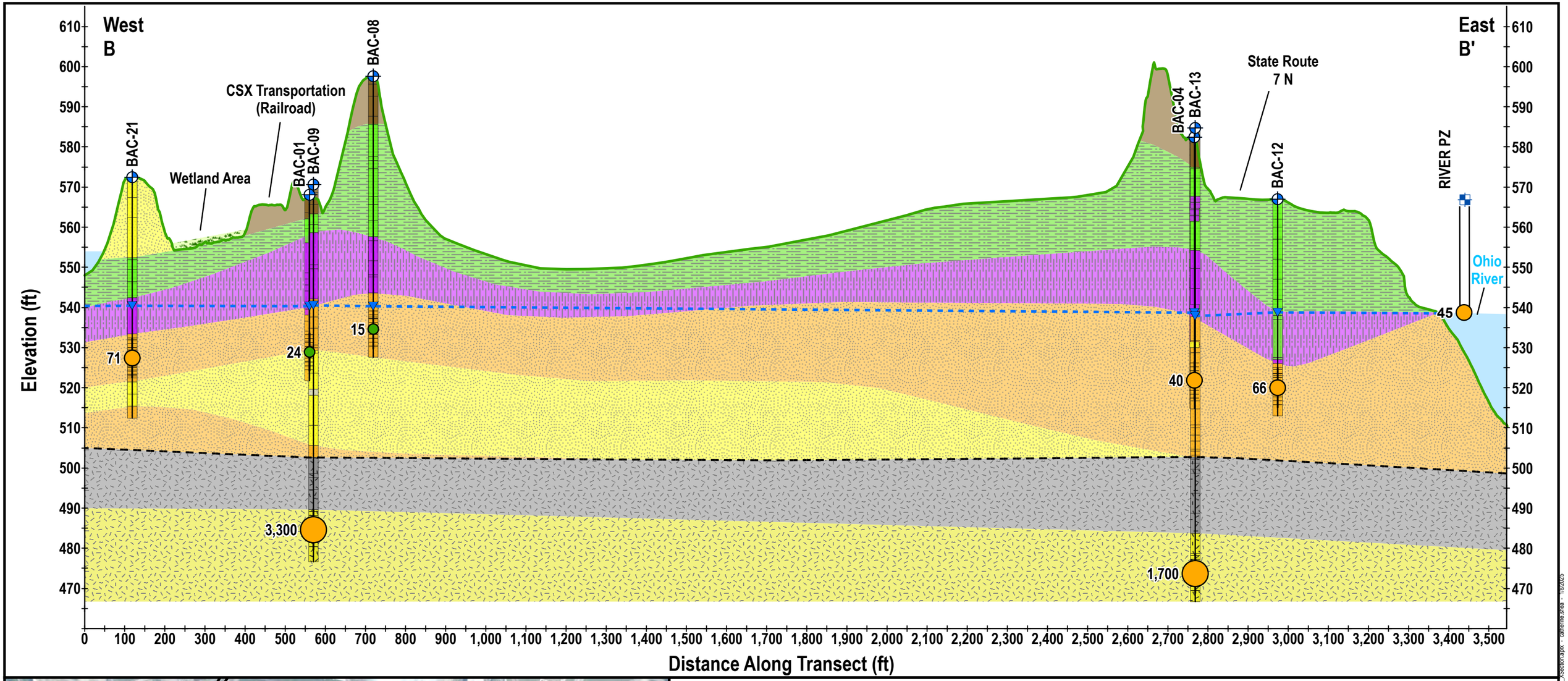
Figure 4-1b: Calcium Concentrations in Groundwater (Cross Section View 2)
Gavin Power, LLC
Cheshire, Ohio

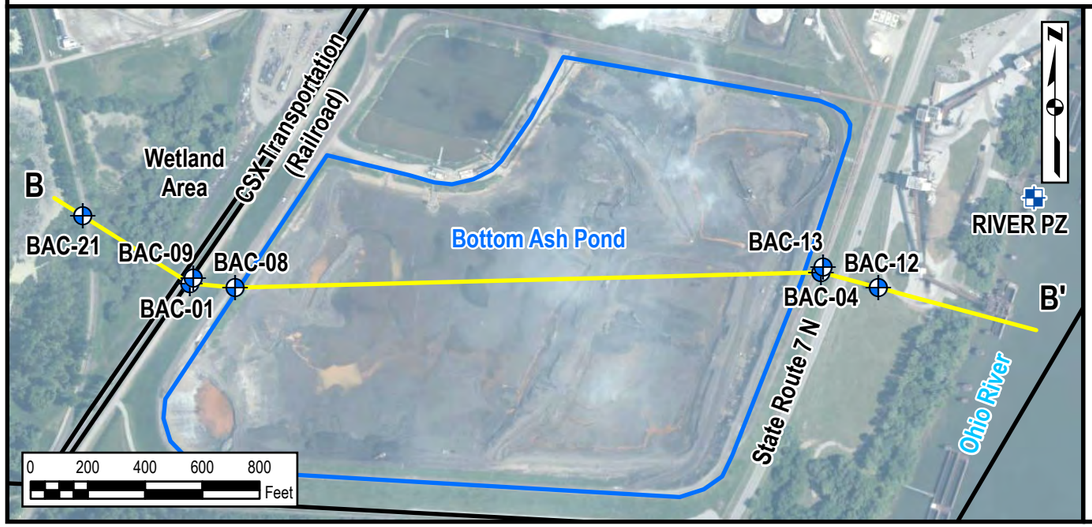
NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

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Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Chloride Concentrations in Groundwater (mg/L)

- <24.7
- 24.7 - 100
- 100 - 1,000
- 1,000 - 10,000
- >10,000

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

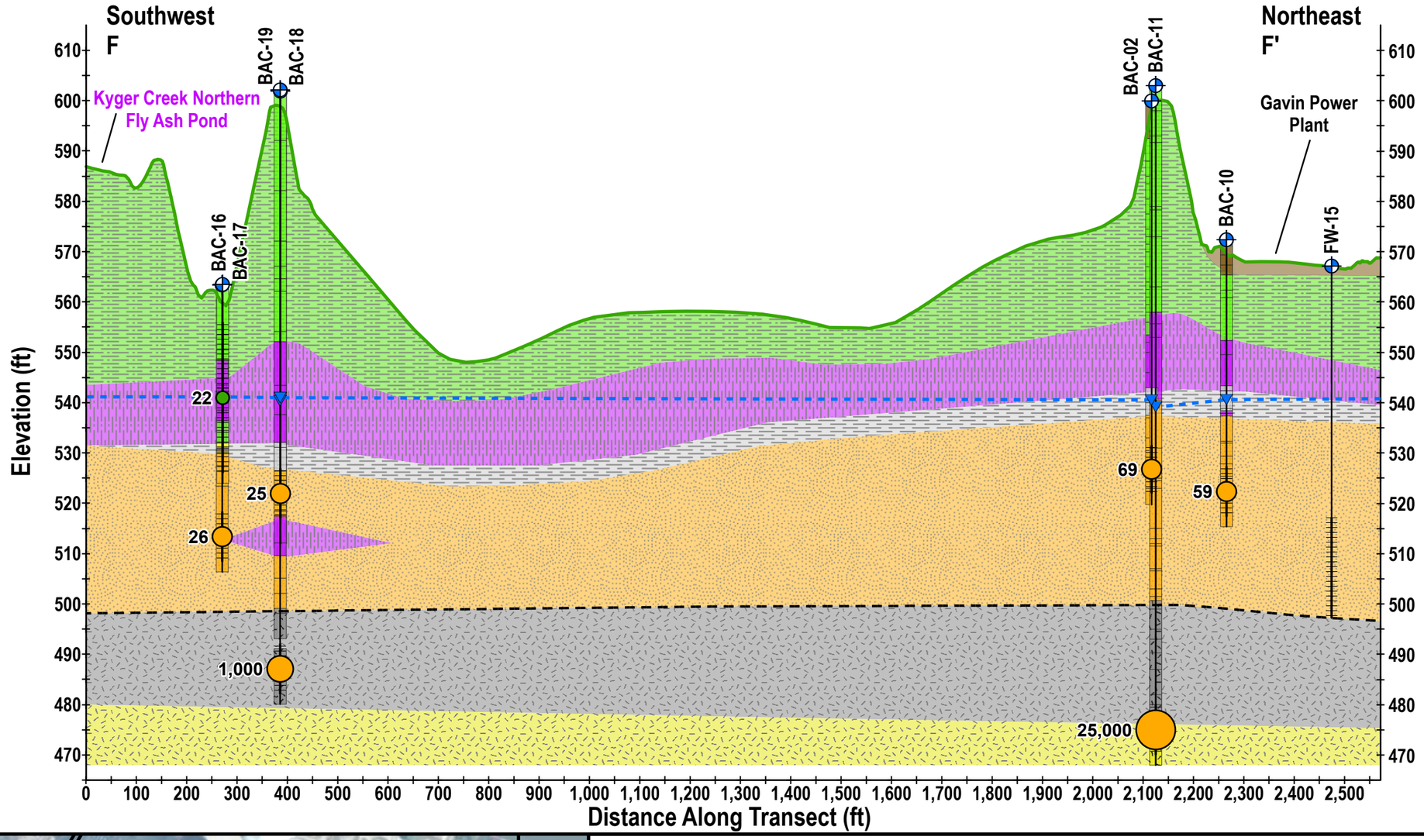
Figure 4-2a: Chloride Concentrations in Groundwater (Cross Section View 1)
Gavin Power, LLC
Cheshire, Ohio

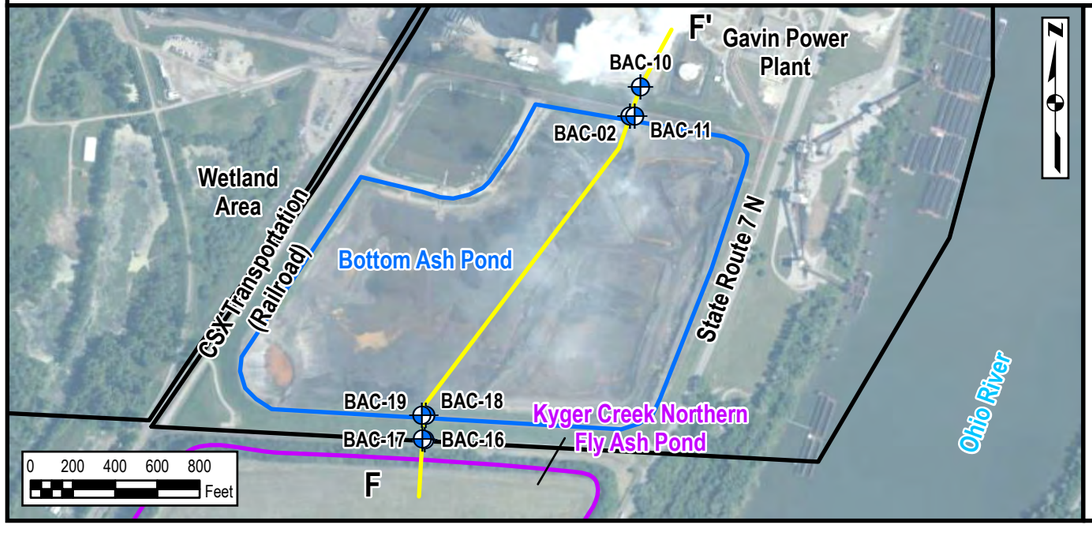
NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater and Ohio River samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

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Legend

- Monitoring Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Chloride Concentrations in Groundwater (mg/L)

- <24.7
- 24.7 - 100
- 100 - 1,000
- 1,000 - 10,000
- >10,000

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

Figure 4-2b: Chloride Concentrations in Groundwater (Cross Section View 2)
Gavin Power, LLC
Cheshire, Ohio

NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

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West
B

East
B'

BAC-21
BAC-01
BAC-09
BAC-08
BAC-04
BAC-13
BAC-12
RIVER PZ

CSX Transportation
(Railroad)

Wetland Area

State Route
7 N

Ohio
River

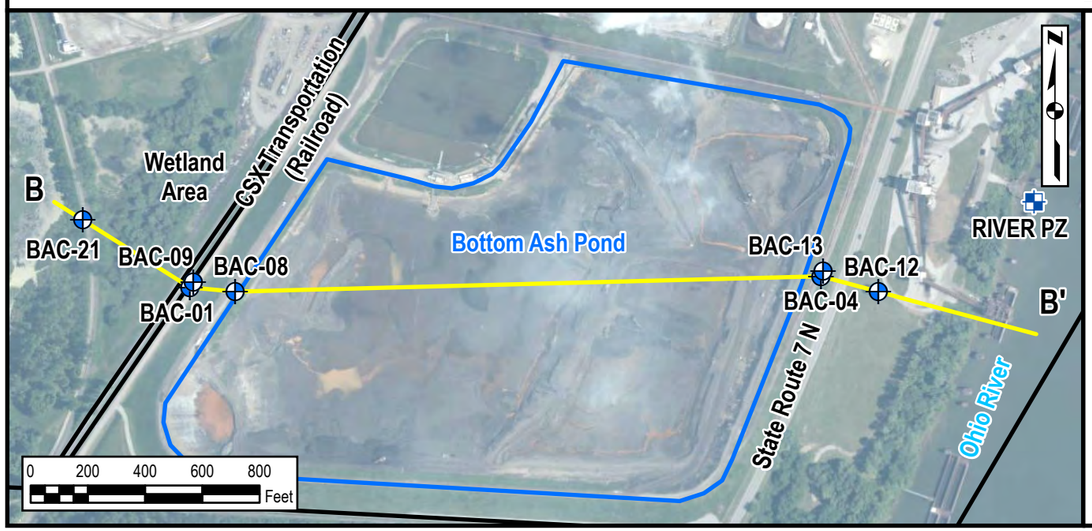
530
370
340
250
500
490
6,100
1,700

Elevation (ft)

610 600 590 580 570 560 550 540 530 520 510 500 490 480 470

0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500 2,600 2,700 2,800 2,900 3,000 3,100 3,200 3,300 3,400 3,500

Distance Along Transect (ft)



Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Total Dissolved Solids Concentrations in Groundwater (mg/L)

- < 505
- 505 - 1,000
- 1,000 - 10,000
- 10,000 - 20,000
- >20,000

Generalized Lithology

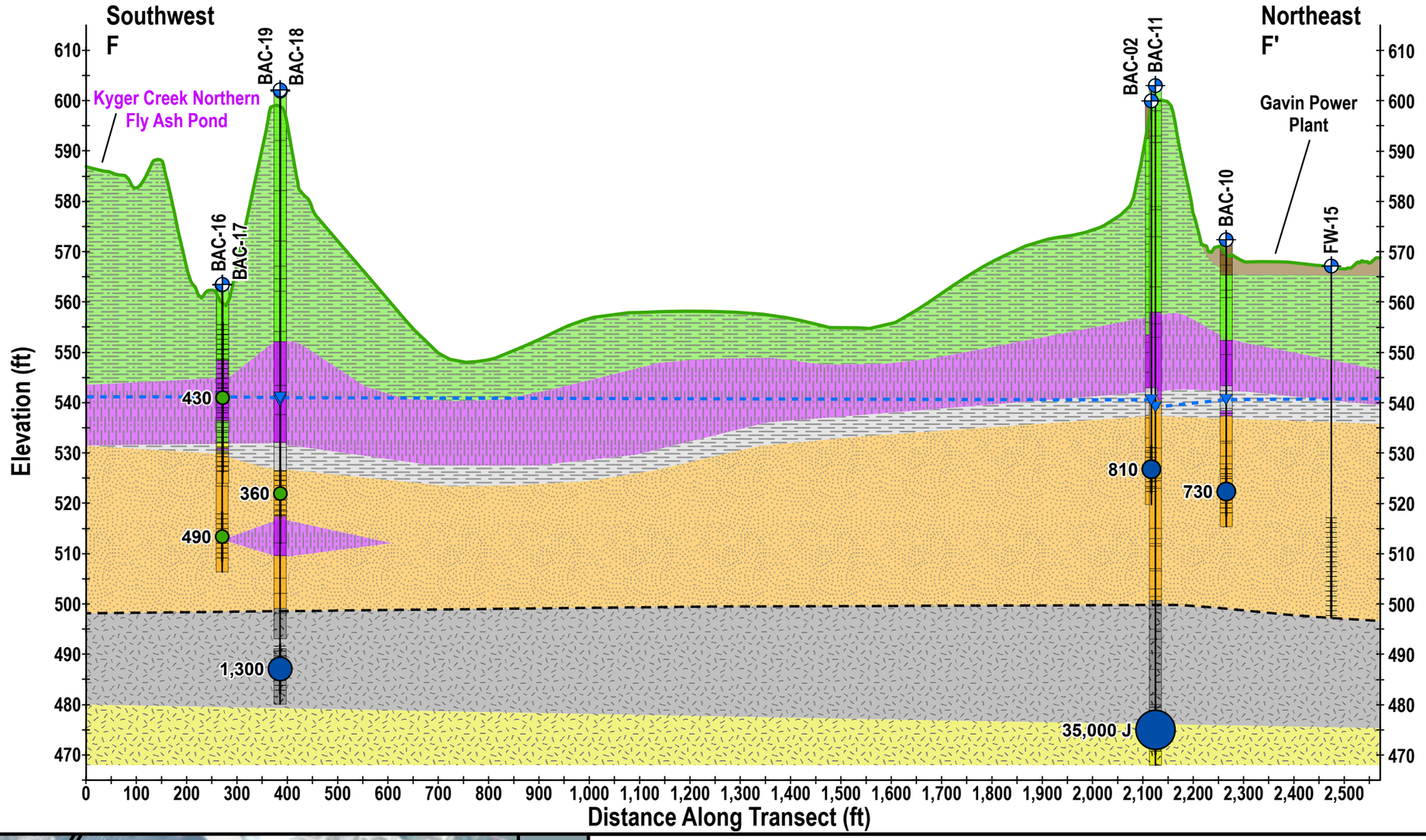
- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

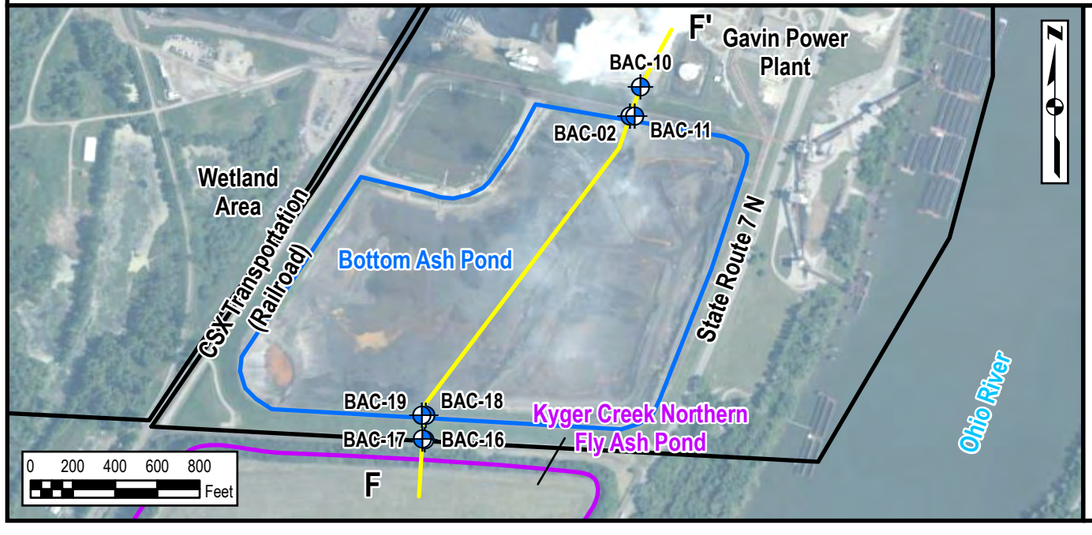
Figure 4-3a: TDS Concentrations in Groundwater (Cross Section View 1)
Gavin Power, LLC
Cheshire, Ohio

NOTES:
1. Potentiometric elevations from August 2024.
2. Groundwater and Ohio River samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

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Legend

- Monitoring Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Total Dissolved Solids Concentrations in Groundwater (mg/L)

- < 505
- 505 - 1,000
- 1,000 - 10,000
- 10,000 - 20,000
- > 20,000

Generalized Lithology

- Road Material
- Clay and Silt — Separation Layer
- Sandy Clay and Silt — Separation Layer
- Sand and Clay
- Sand and Gravel — Alluvial Aquifer
- Sand — Alluvial Aquifer
- Claystone/Siltstone — Bedrock Units
- Sandstone — Bedrock Units

Figure 4-3b: TDS Concentrations in Groundwater (Cross Section View 2)
Gavin Power, LLC
Cheshire, Ohio

NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 result has J qualifier due to being reanalyzed outside of holding time.

ERM

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West
B

East
B'

Elevation (ft)

610
600
590
580
570
560
550
540
530
520
510
500
490
480
470

BAC-21
BAC-01
BAC-09
BAC-08
BAC-04
BAC-13
BAC-12
RIVER PZ

CSX Transportation
(Railroad)

State Route
7 N

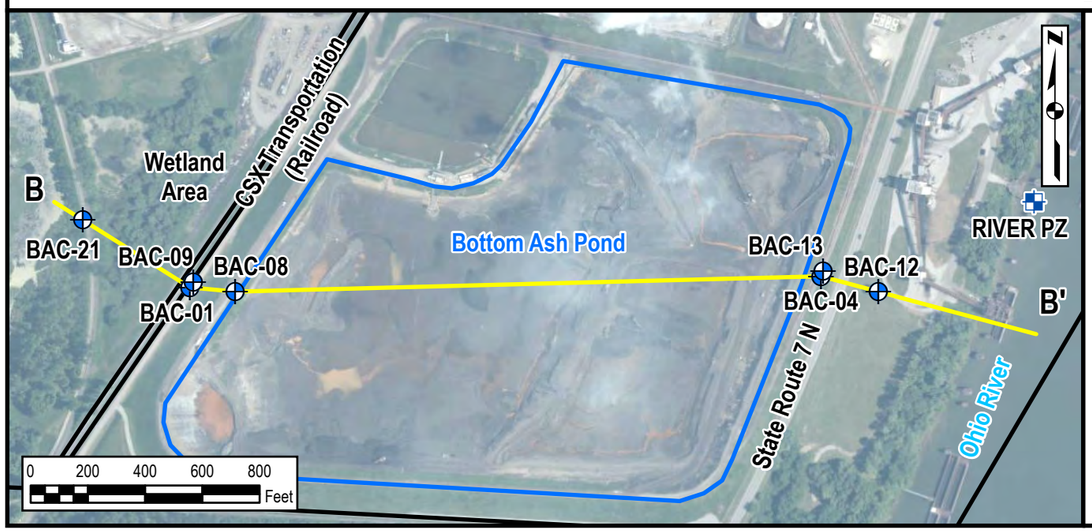
Wetland Area

Ohio
River

0.084
0.12
0.15
0.44
0.082
0.085
0.17
0.92

0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500 2,600 2,700 2,800 2,900 3,000 3,100 3,200 3,300 3,400 3,500

Distance Along Transect (ft)



Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Wetland Area

Fluoride Concentrations in Groundwater (mg/L)

- <0.161
- 0.161 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- >0.4

Generalized Lithology

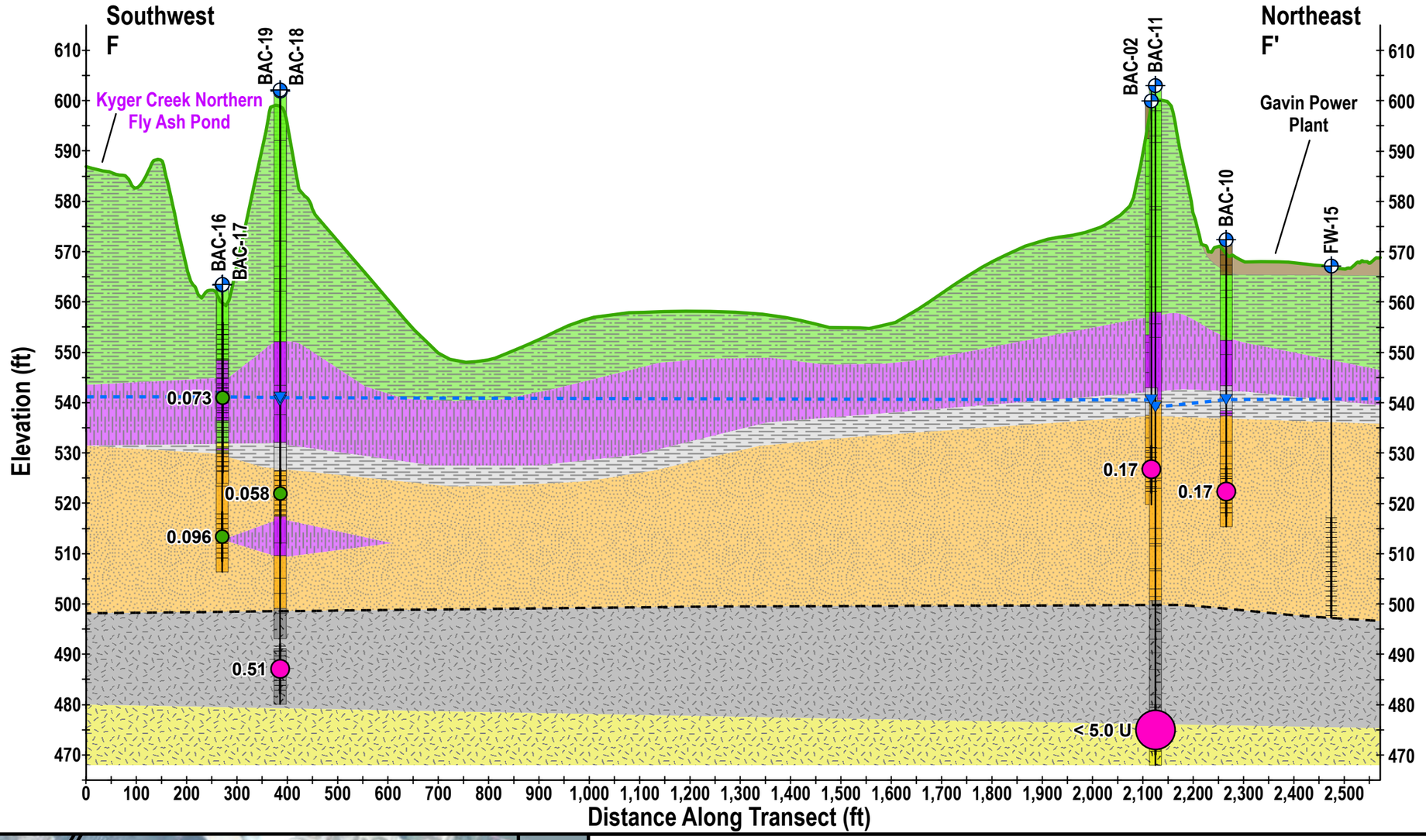
- Road Material
- Clay and Silt
- Sandy Clay and Silt
  - Separation Layer
- Sand and Clay
- Sand and Gravel
- Sand
  - Alluvial Aquifer
- Claystone/Siltstone
- Sandstone
  - Bedrock Units

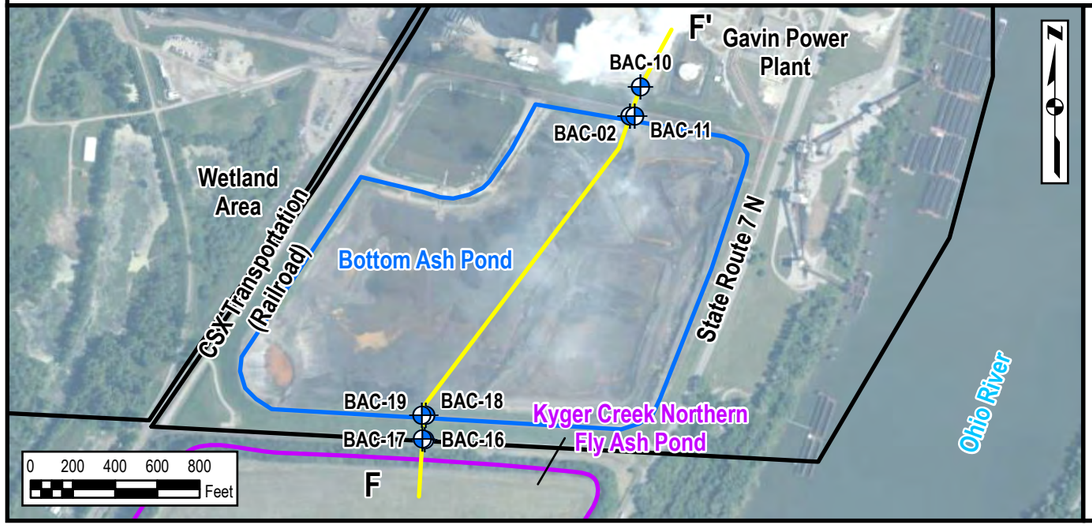
Figure 4-4a: Fluoride Concentrations in Groundwater (Cross-Section View 1)
Gavin Power, LLC
Cheshire, Ohio

NOTES:
1. Potentiometric elevations from August 2024.
2. Groundwater and Ohio River samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

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Legend

- Monitoring Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Fluoride Concentrations in Groundwater (mg/L)

- <0.161
- 0.161 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- >0.4

Generalized Lithology

- Road Material
- Separation Layer: Clay and Silt; Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer: Sand and Gravel; Sand
- Bedrock Units: Claystone/Siltstone; Sandstone

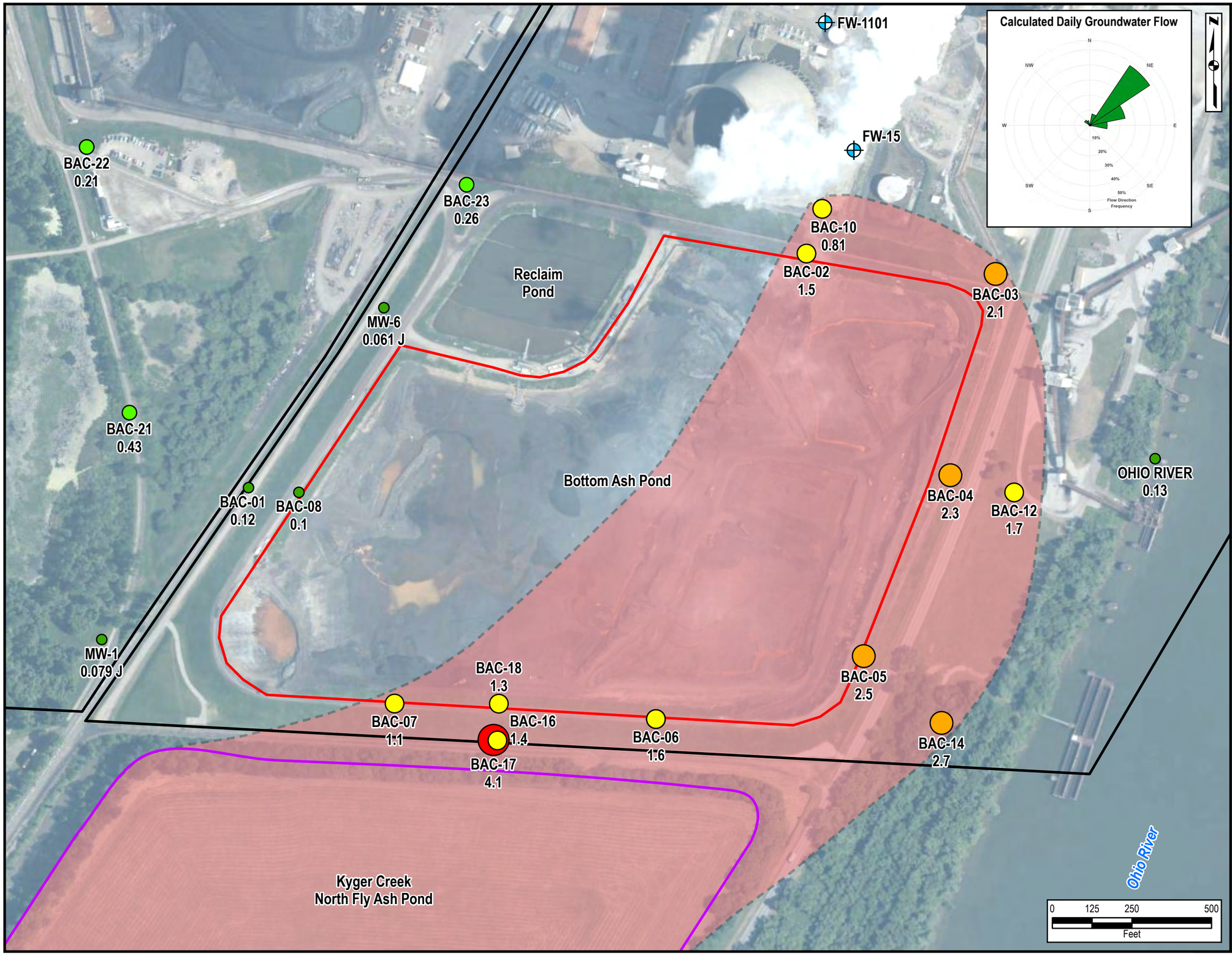
Figure 4-4b: Fluoride Concentrations in Groundwater (Cross-Section View 2)
Gavin Power, LLC
Cheshire, Ohio

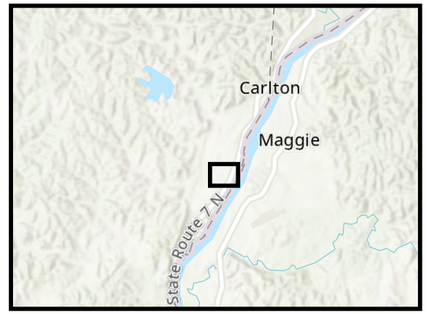
NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.
8. BAC-11 reporting limit elevated due to sample dilution.

ERM

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Legend

Boron Concentrations in Groundwater (mg/L)

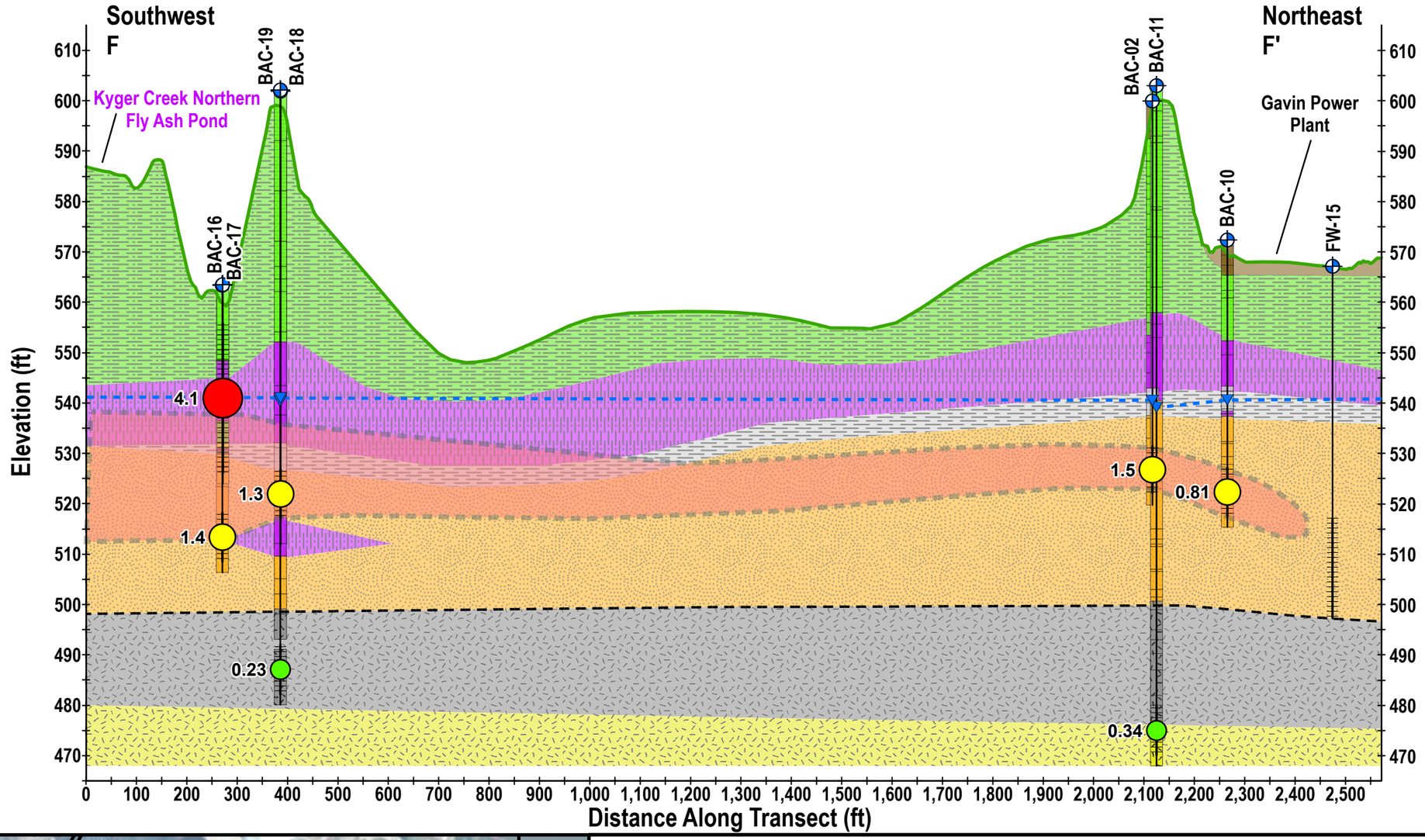
- <0.17
- 0.17 - 0.5
- 0.5 - 2
- 2 - 3
- >3
- Not Sampled
- Water Supply Well Location
- Approximated Boron Plume
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

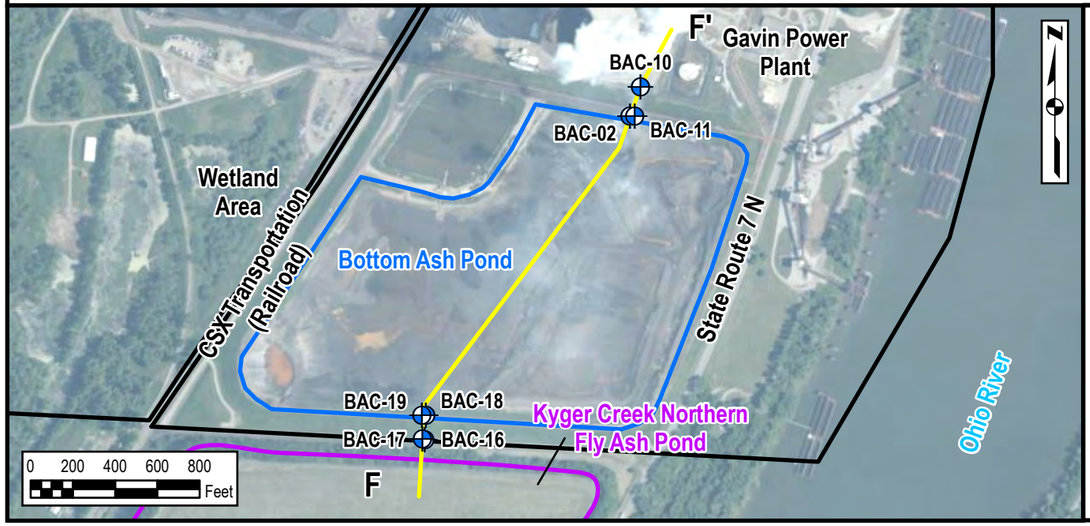
NOTES:

1. mg/L = milligrams per liter
2. Groundwater and Ohio River samples collected from 10/01/24 to 11/01/24.
3. Surface water data is from August 2024.
4. Daily groundwater flow direction calculated based on transducer data collected from 17 January 2024 through 17 December 2024.
5. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

Figure 4-5: Boron Distribution in Groundwater (Map View)
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM





Legend

- Monitoring Well
- Water Supply Well
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Boron Concentrations in Groundwater (mg/L)

- <0.177
- 0.177 - 0.5
- 0.5 - 2
- 2 - 3
- >3

- Approximated Boron Plume

Generalized Lithology

- Road Material
- Separation Layer
  - Clay and Silt
  - Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer
  - Sand and Gravel
  - Sand
- Bedrock Units
  - Claystone/Siltstone
  - Sandstone

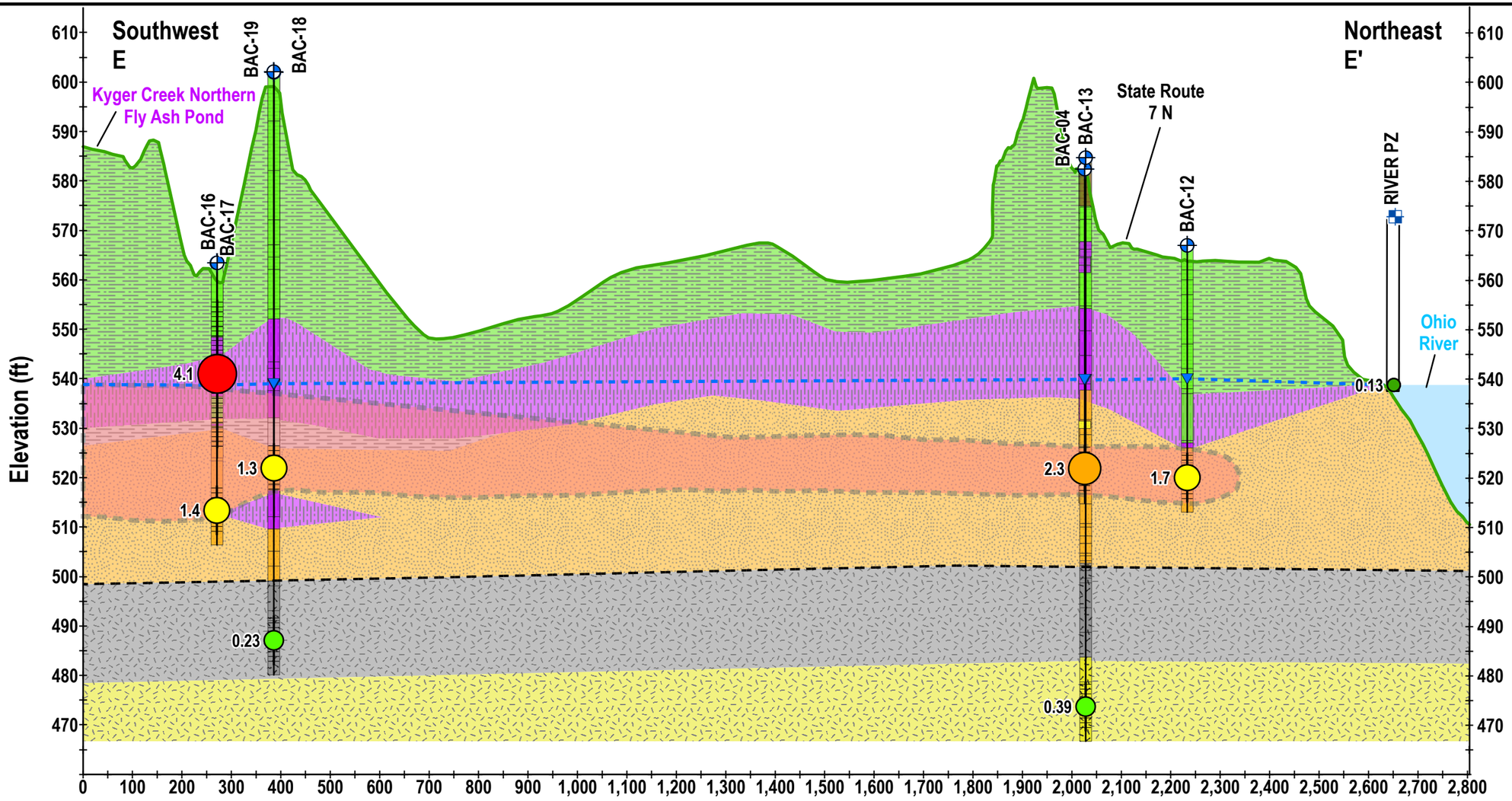
Figure 4-6a: Boron Concentrations in Groundwater (Cross-Section View 1)
Gavin Power, LLC
Cheshire, Ohio

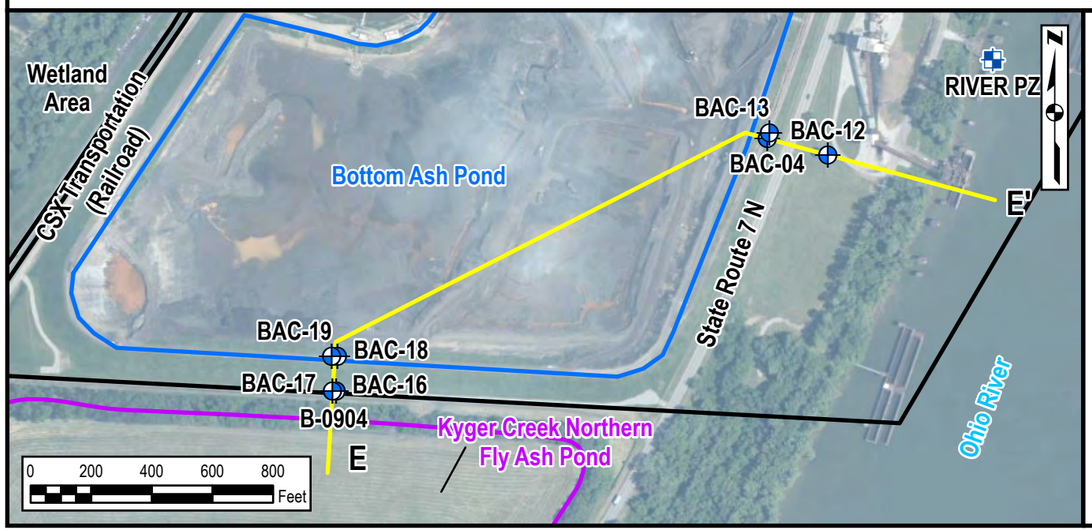
NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

- Monitoring Well
- Piezometer
- Potentiometric Elevation (August 2024)
- Potentiometric Surface
- Surface Profile
- Approximate Bedrock Surface
- Total Depth
- Well Screen
- Transect
- Site Boundary
- Bottom Ash Pond Boundary
- Kyger Creek Northern Fly Ash Pond

Boron Concentrations in Groundwater (mg/L)

- <0.177
- 0.177 - 1
- 1 - 2
- 2 - 3
- >3

- Approximated Boron Plume

Generalized Lithology

- Road Material
- Separation Layer
  - Clay and Silt
  - Sandy Clay and Silt
- Sand and Clay
- Alluvial Aquifer
  - Sand and Gravel
  - Sand
- Bedrock Units
  - Claystone/Siltstone
  - Sandstone

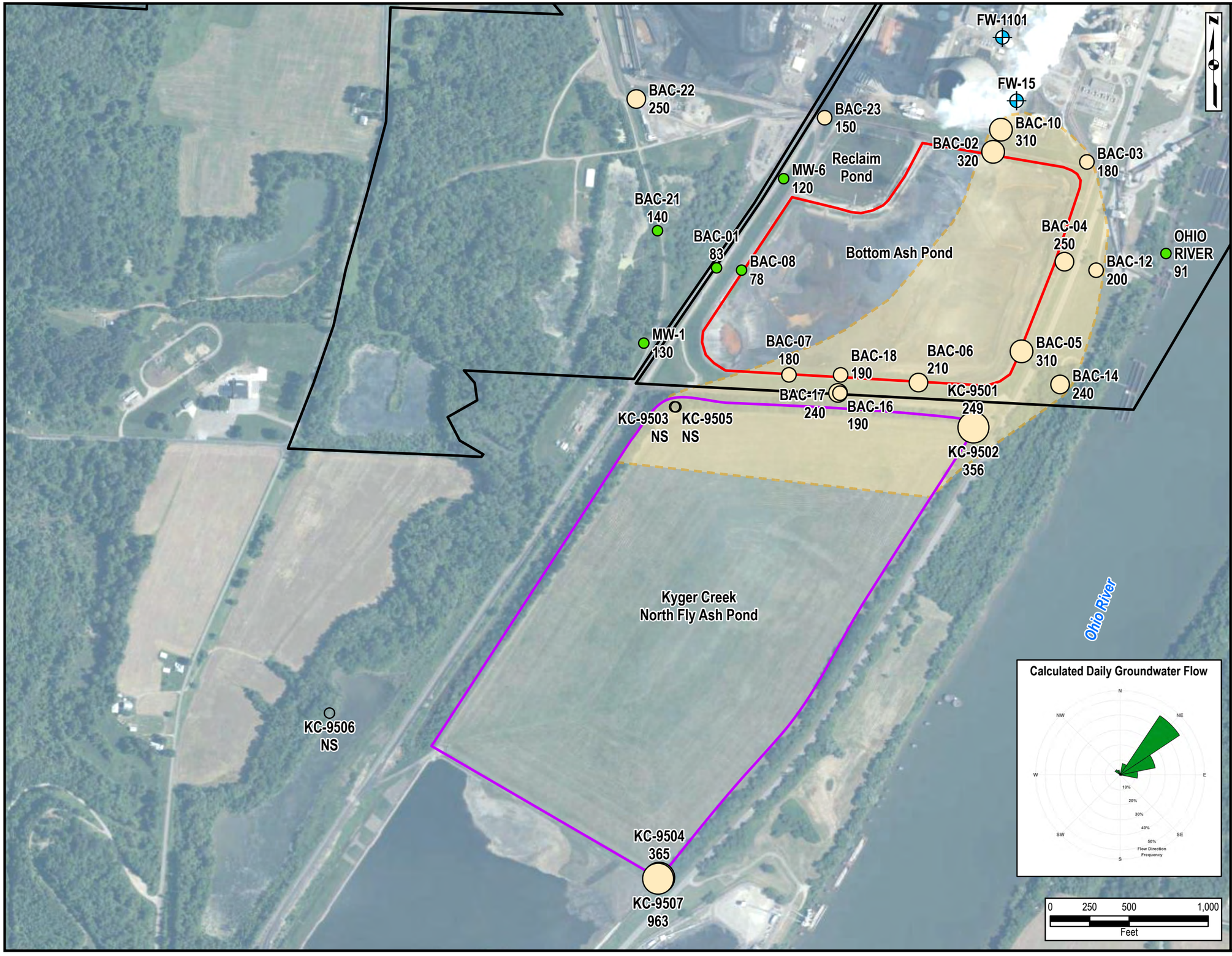
Figure 4-6b: Boron Concentrations in Groundwater (Cross-Section View 2)
Gavin Power, LLC
Cheshire, Ohio

NOTES:

1. Potentiometric elevations from August 2024.
2. Groundwater samples collected from 10/01/24 to 11/01/24.
3. Surface profile from OGRIP LiDAR 2020.
4. Elevation is exaggerated 10X.
5. Boring surface elevations, ground surface elevations and estimated bedrock surface are projected along transect line.
6. The geology is generalized based on the lithology descriptions.
7. The bottom elevation profile of the bottom ash pond is from Integrated Solutions, Inc CPT borings conducted between 3/18/2020 to 5/28/20.

ERM

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Legend

Sulfate Concentration (mg/L)

- <140
- 140 - 200
- 200 - 260
- 260 - 320
- >320
- Not Sampled
- Water Supply Well Location
- Approximated Sulfate Plume
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

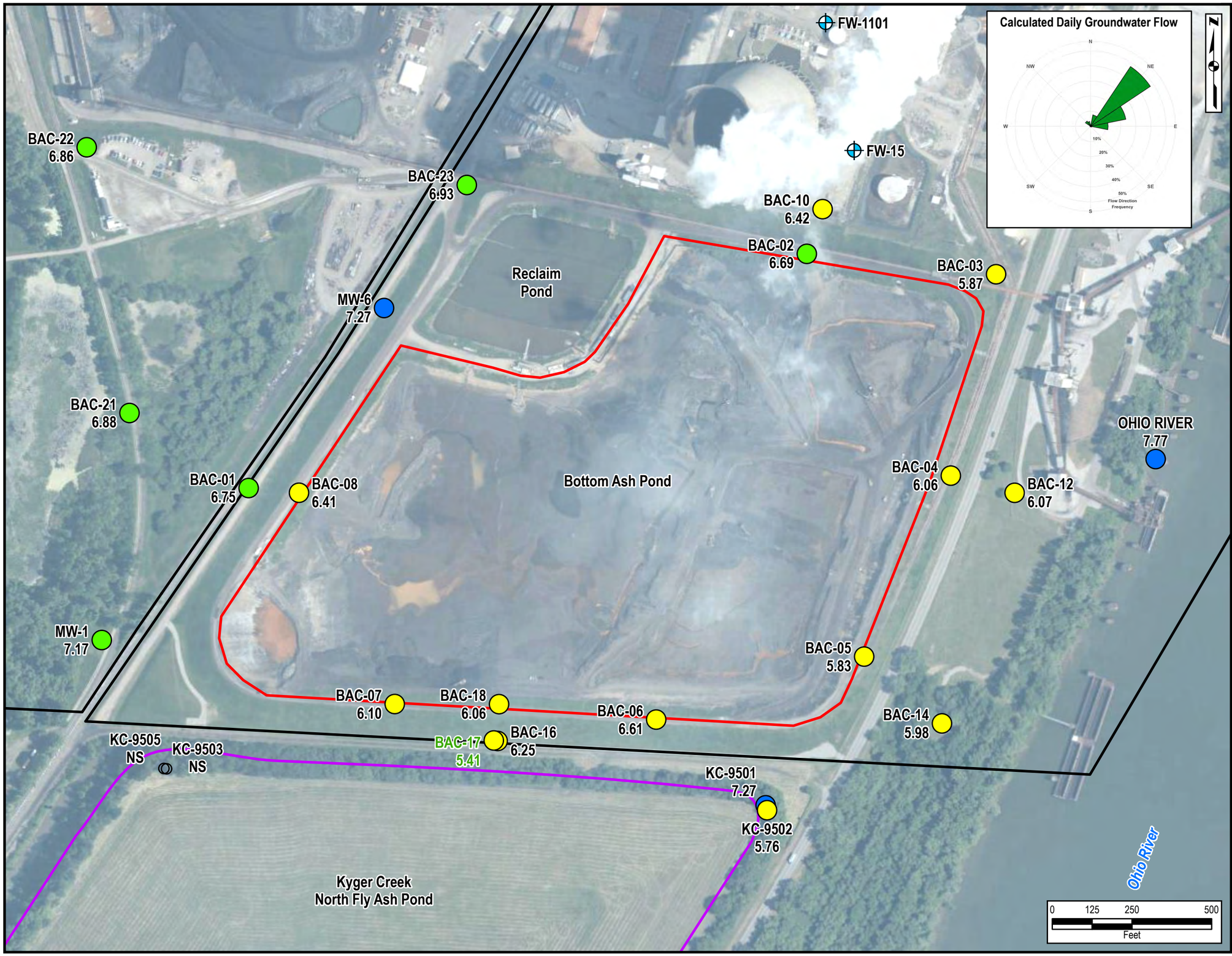
NOTES:

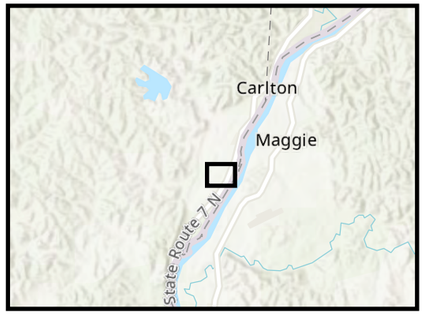
1. mg/L = milligrams per liter
2. NS = Not Sampled
3. Gavin groundwater and surface water samples were collected October / November 2024.
4. Kyger Creek groundwater samples results collected 10/22/2024 to 10/23/2024.
5. Daily groundwater flow direction calculated based on transducer data collected from 17 January 2024 through 17 December 2024.
6. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

Figure 4-7: Sulfate Distribution in Groundwater (Map View)
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM

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Legend

pH Concentrations in Groundwater (SU)

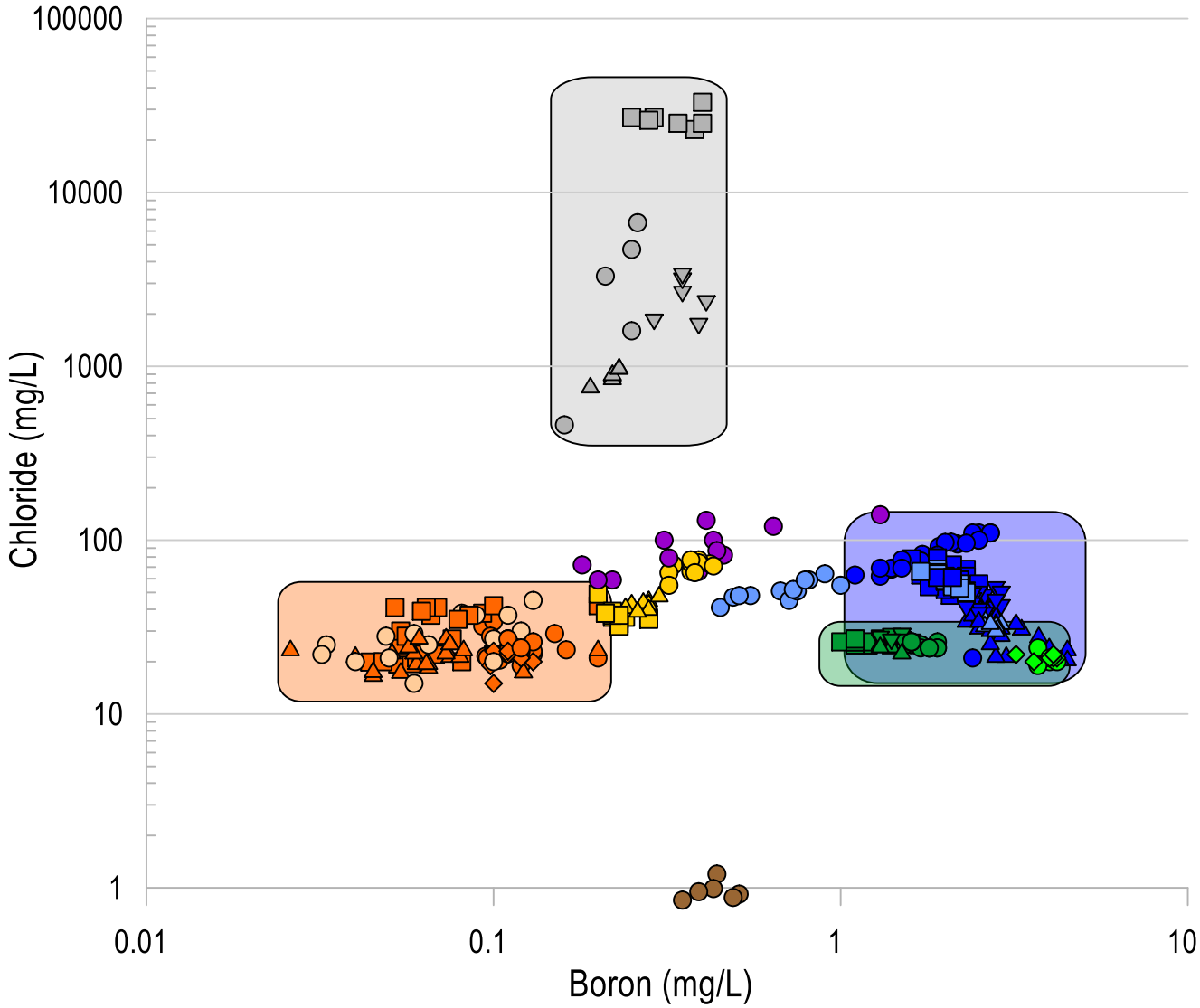
- <6.63
- 6.63 - 7.22
- >7.22
- Not Sampled
- Water Supply Well
- **BAC** Alluvial Aquifer Well
- **BAC** Separation Layer and Alluvial Aquifer Well
- Approximate Location of Bottom Ash Pond Boundary
- Gavin Property Boundary
- Approximate Location of Kyger Creek North Fly Ash Pond Boundary

NOTES:

1. SU = standard units
2. NS = Not Sampled
3. Gavin groundwater and surface water samples were collected October / November 2024.
4. Kyger Creek groundwater samples were collected 10/22/2024 to 10/23/2024.
5. Daily groundwater flow direction calculated based on transducer data collected from 17 January 2024 through 17 December 2024.
6. Aerial Imagery: USDA National Agriculture Imagery Program (NAIP), May 2023

Figure 4-8: pH Distribution in Groundwater (Map View)
Gavin Generating Station
Gavin Power, LLC
Cheshire, Ohio

ERM



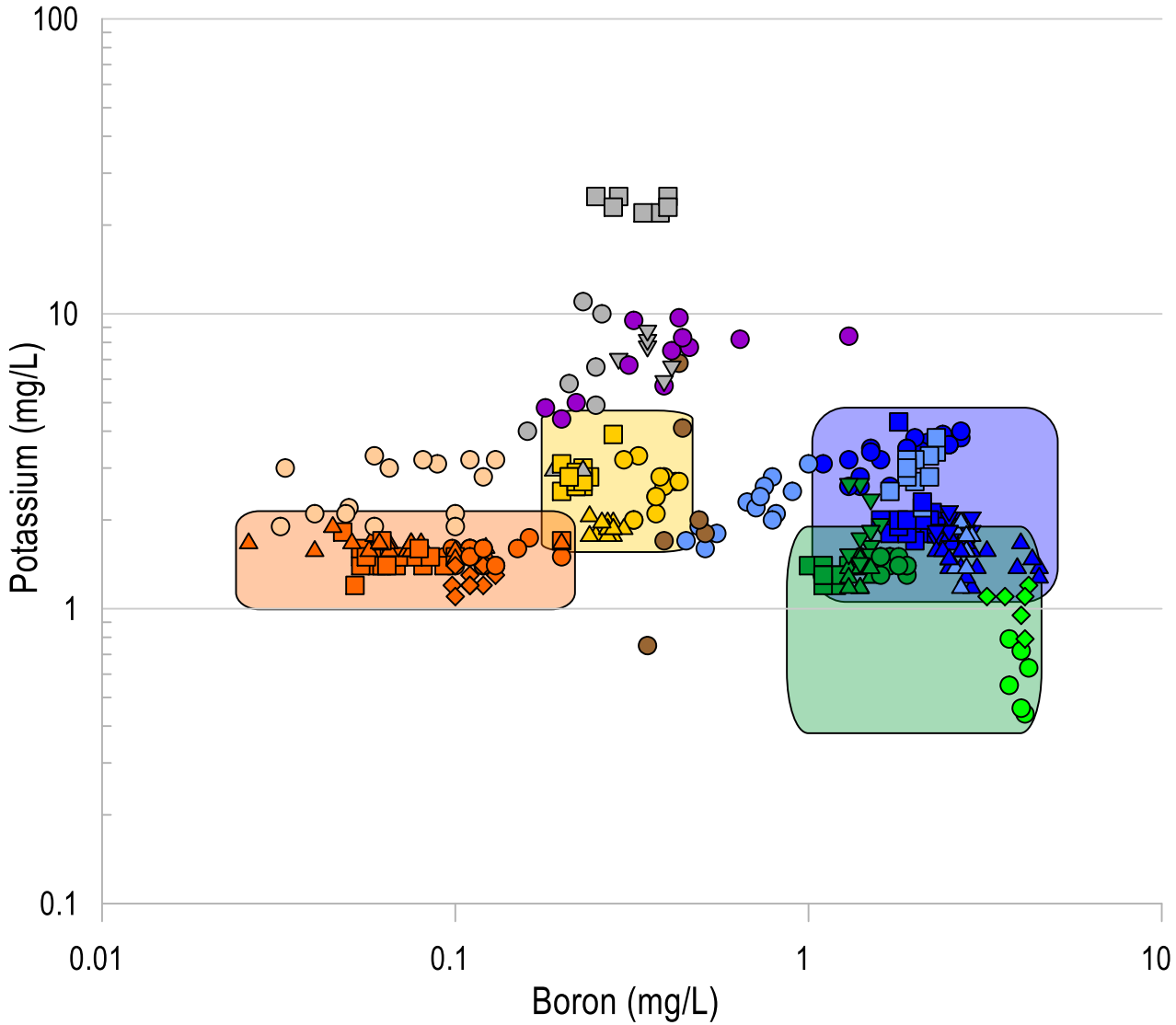
Legend

BAC-01, MW-1, MW-6	Historical Upgradient Wells
BAC-02, BAC-03, BAC-04, BAC-05	Historical Downgradient Wells
B-0904	Historical Kyger Creek Groundwater
BAC-06, BAC-07	2020 Southern Boundary Wells
BAC-09, BAC-11, BAC-13, BAC-19	2022 Bedrock Wells
BAC-21, BAC-22, BAC-23	2022 Northwestern Wells
BAC-08	2022 Upgradient Well
BAC-10, BAC-12, BAC-14	2022 Downgradient Wells
BAC-16, BAC-18	2022 Southern Boundary Wells
BAC-17	2022 Kyger Creek Groundwater
BAC-15	2022 Silt and Clay Well
Ohio River	
Bottom Ash Pond	

NOTES:
1. Historical Upgradient and Downgradient well data ranges from Aug 2016 to Oct 2024
2. B-0904 data ranges from Mar 2018 to Mar 2020
3. 2020 Southern Boundary well data ranges from Sept 2020 to Oct 2024
4. 2022 Well data ranges from Oct 2022 to Oct 2024
5. Ohio River data ranges from Feb 2018 to Oct 2024
6. Bottom Ash Pond data ranges from Feb 2018 to Oct 2022

ERM

Figure 6-1. Boron-Chloride Concentration Plot
Gavin Generating Station
Cheshire, Ohio



Legend

BAC-01, MW-1, MW-6	Historical Upgradient Wells
BAC-02, BAC-03, BAC-04, BAC-05	Historical Downgradient Wells
B-0904	Historical Kyger Creek Groundwater
BAC-06, BAC-07	2020 Southern Boundary Wells
BAC-09, BAC-11, BAC-13, BAC-19	2022 Bedrock Wells
BAC-21, BAC-22, BAC-23	2022 Northwestern Wells
BAC-08	2022 Upgradient Well
BAC-10, BAC-12, BAC-14	2022 Downgradient Wells
BAC-16, BAC-18	2022 Southern Boundary Wells
BAC-17	2022 Kyger Creek Groundwater
BAC-15	2022 Silt and Clay Well
Ohio River	
Bottom Ash Pond	

NOTES:
1. Historical Upgradient and Downgradient well data ranges from Aug 2016 to Oct 2024
2. B-0904 data ranges from Mar 2018 to Mar 2020
3. 2020 Southern Boundary well data ranges from Sept 2020 to Oct 2024
4. 2022 Well data ranges from Oct 2022 to Oct 2024
5. Ohio River data ranges from Feb 2018 to Oct 2024
6. Bottom Ash Pond data ranges from Feb 2018 to Oct 2022

ERM

Figure 6-2. Boron-Potassium Concentration Plot
Gavin Generating Station
Cheshire, Ohio

APPENDIX A 2024 KYGER CREEK STATION *CLOSED NORTH FLY ASH POND GROUNDWATER SEMI-ANNUAL DATA ANALYSIS*

OHIO VALLEY ELECTRIC CORPORATION
3932 U. S. Route 23
P. O. Box 468
Piketon, Ohio 45661
740-289-7200

WRITER'S DIRECT DIAL NO:
(740) 289-7259

December 6, 2024

Delivered Electronically

Mr. Marco Deshaies
Division of Surface Water
Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138

Dear Mr. Deshaies:

Re: Ohio Valley Electric Corporation
Kyger Creek Station- Closed North Fly Ash Pond
Groundwater Semi-Annual Data Analysis

Attached are field data (Attachment I) and laboratory analytical data (Attachment II) for the fifty-first (51) set of semi-annual samples collected on October 22, 2024, from groundwater monitoring wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508 and KC-9509 at the Ohio Valley Electric Corporation's (OVEC's) Kyger Creek Station Closed North Fly Ash Pond (CNFAP).

In accordance with the groundwater sampling and analysis plan dated July 5, 1996, for the North Fly Ash Pond Closure Project (hereinafter referred to as "the Plan") and the statistical method notification letter dated October 20, 1999, the analytical results of the semi-annual samples were statistically compared to the background data for the four Groundwater Contamination Indicator Parameters (alkalinity, specific conductivity, sulfate, and total dissolved solids) to determine if any significant change in groundwater quality has occurred. The statistical evaluation was performed by using the tolerance interval method for intrawell comparison in accordance with the Plan and notification letter.

An upper tolerance limit was calculated for each of the four parameters at each well using the background data set with a coverage of 95% (i.e., contains 95% of all possible sample measurements) and a tolerance coefficient of 95% (i.e., 95% degree of confidence with which the interval reaches the specified coverage).

The upper tolerance limits were constructed in accordance with "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance" (U.S. EPA, 1989), using a one-sided tolerance factor of K=3.188 for n=8 found in Table 5 of Appendix B.

A summary of the sampling results as well as the calculated upper tolerance limits can

be seen for each well on the spreadsheets included under Attachment III.

In accordance with the Plan, verbal communication of parameters exceeding upper tolerance limits has been provided to you via voicemail on December 5, 2024, detailing that the concentrations for the parameter alkalinity exceeded the upper tolerance limit at wells KC-9501, KC-9502, and KC-9507; the concentrations for the parameter sulfate exceeded the upper tolerance limit at wells KC-9501, KC-9502,KC-9507; the concentration for conductivity exceeding the upper tolerance limit at well KC-9507; and the concentrations for the parameter total dissolved solids exceeded the upper tolerance limit at wells KC-9501, KC-9502, and KC-9507.

If you have any questions, please email or contact me at (740) 289-7259.

Sincerely,

Jeremy Galloway
Environmental Specialist

JDG:zsh

Attachments

Attachment I

MONITORING WELL SAMPLING

	KC-9501	KC-9502	KC-9504	KC-9507	KC-9508	KC-9509
DATE	10/22/2024	10/22/2024	10/23/2024	10/23/2024	10/23/2024	10/23/2024
PUMP TIME	5	6	7	6	5	6
FLOW (ml/mi	740	800	780	690	600	1170
VOL. PUMPE	3700	4800	5460	4140	3000	7020
TIME	1254	1336	932	1242	1305	1334
TEMPERATU	15.9	17	16.4	17.7	19	18.6
COND. (uS/cn	999	793	1040	1973	938	954
pH(S.U.)	7.78	5.86	6.56	6.78	7.08	6.99
TIME	1255	1337	933	1243	1306	1335
TEMPERATU	15.1	17.5	16.1	17	18.5	17.6
COND. (uS/cn	1008	790	1036	1982	945	979
pH(S.U.)	7.27	5.93	6.57	6.84	7.06	6.82
TIME	1256	1338	934	1244	1307	1336
TEMPERATU	14.90	15.20	16.00	16.60	18.00	17.00
COND. (uS/cn	1016	788	1012	2000	955	983
pH(S.U.)	7.27	5.77	6.31	6.86	7.06	6.76
TIME	1257	1339	935	1245	1308	1337
TEMPERATU	15.00	15.20	16.00	16.50	17.80	16.80
COND. (uS/cn	1017	788	1004	2004	954	988
pH(S.U.)	7.27	5.77	6.30	6.86	7.05	6.73
TIME		1340	936	1296		1338
TEMPERATURE(C)		15.30	16.00	16.30		16.80
COND. (uS/cm)		792	996	2004		988
pH(S.U.)		5.76	6.25	6.89		6.73
TIME			937			
TEMPERATURE(C)			16			
COND. (uS/cm)			991			
pH(S.U.)			6.23			
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
TIME						
TEMPERATURE(C)						
COND. (uS/cm)						
pH(S.U.)						
SAMPLE TIM	858	910	932	940	1009	1021
APPEARANC	Clear	Clear	turbid	turbid	turbid	clear/black particles
ODOR	None	None	None	None	None	None
SAMPLER	HC/KP	HC/KP	HC/KP	HC/KP	HC/KP	HC/KP

WELL #	LEVEL READING
KC-9501	52.50
KC-9502	52.30
KC-9503	
KC-9504	49.70
KC-9505	
KC-9506	
KC-9507	49.70
KC-9508	24.40
KC-9509	24.80
KC-9510	
KC-9511	
KC-9512	
KC-9513	
KC-9514	

DATE	RIVER LEVEL
10/12/2024	539.2
10/13/2024	539.3
10/14/2024	538.9
10/15/2024	539.1
10/16/2024	539.1
10/17/2024	539.3
10/18/2024	539.3
10/19/2024	539.0
10/20/2024	539.4
10/21/2024	539.1
10/22/2024	539.2
10/23/2024	539.1

CALIBRATION	
PARAMETER	TIME
pH	0800
CONDUCT.	0800

Attachment II

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: KC-9501 **Customer Description:**
Lab Number: 243179-001 **Preparation: Dissolved**
Date Collected: 10/22/2024 12:58 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	25.0	mg/L	25	0.8	0.3		CRJ	10/31/2024 18:29	EPA 300.1-1997, Rev. 1.0
Sulfate	249	mg/L	25	8	2		CRJ	10/31/2024 18:29	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	72.3	µg/L	5	1.0	0.3		ELH	11/12/2024 02:31	EPA 200.8-1994, Rev. 5.4
Calcium	149	mg/L	50	3	1	M1	ELH	11/19/2024 23:53	EPA 200.8-1994, Rev. 5.4
Iron	0.72	mg/L	5	0.10	0.02		ELH	11/12/2024 02:31	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	ELH	11/12/2024 02:31	EPA 200.8-1994, Rev. 5.4
Magnesium	29.3	mg/L	50	5.0	0.5	M1	ELH	11/19/2024 23:53	EPA 200.8-1994, Rev. 5.4
Manganese	0.887	mg/L	5	0.0050	0.0004		ELH	11/12/2024 02:31	EPA 200.8-1994, Rev. 5.4
Selenium	<0.2	µg/L	5	2.5	0.2	U1	ELH	11/12/2024 02:31	EPA 200.8-1994, Rev. 5.4
Sodium	19.9	mg/L	5	1.0	0.1		ELH	11/12/2024 02:31	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	253	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	710	mg/L	1	50	20		BLB	10/28/2024 09:36	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: KC-9502 **Customer Description:**
Lab Number: 243179-002 **Preparation: Dissolved**
Date Collected: 10/22/2024 13:41 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	25.2	mg/L	10	0.3	0.1		CRJ	10/31/2024 19:02	EPA 300.1-1997, Rev. 1.0
Sulfate	356	mg/L	10	3.0	0.6		CRJ	10/31/2024 19:02	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	24.4	µg/L	5	1.0	0.3		ELH	11/12/2024 02:41	EPA 200.8-1994, Rev. 5.4
Calcium	84	mg/L	50	3	1		ELH	11/20/2024 00:09	EPA 200.8-1994, Rev. 5.4
Iron	0.12	mg/L	5	0.10	0.02		ELH	11/12/2024 02:41	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	ELH	11/12/2024 02:41	EPA 200.8-1994, Rev. 5.4
Magnesium	28.6	mg/L	50	5.0	0.5		ELH	11/20/2024 00:09	EPA 200.8-1994, Rev. 5.4
Manganese	14.0	mg/L	5	0.0050	0.0004		ELH	11/12/2024 02:41	EPA 200.8-1994, Rev. 5.4
Selenium	<0.2	µg/L	5	2.5	0.2	U1	ELH	11/12/2024 02:41	EPA 200.8-1994, Rev. 5.4
Sodium	22.2	mg/L	5	1.0	0.1		ELH	11/12/2024 02:41	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	31	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	640	mg/L	1	50	20		BLB	10/28/2024 09:36	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: KC-9504 **Customer Description:**
Lab Number: 243179-003 **Preparation: Dissolved**
Date Collected: 10/23/2024 09:38 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	98.1	mg/L	25	0.8	0.3		CRJ	10/31/2024 20:08	EPA 300.1-1997, Rev. 1.0
Sulfate	365	mg/L	25	8	2		CRJ	10/31/2024 20:08	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	27.1	µg/L	5	1.0	0.3		ELH	11/12/2024 02:52	EPA 200.8-1994, Rev. 5.4
Calcium	135	mg/L	50	3	1		ELH	11/20/2024 00:15	EPA 200.8-1994, Rev. 5.4
Iron	2.12	mg/L	5	0.10	0.02		ELH	11/12/2024 02:52	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	ELH	11/12/2024 02:52	EPA 200.8-1994, Rev. 5.4
Magnesium	13.2	mg/L	50	5.0	0.5		ELH	11/20/2024 00:15	EPA 200.8-1994, Rev. 5.4
Manganese	0.401	mg/L	5	0.0050	0.0004		ELH	11/12/2024 02:52	EPA 200.8-1994, Rev. 5.4
Selenium	<0.2	µg/L	5	2.5	0.2	U1	ELH	11/12/2024 02:52	EPA 200.8-1994, Rev. 5.4
Sodium	54	mg/L	50	10	1		ELH	11/12/2024 02:47	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	25	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	780	mg/L	1	50	20		BLB	10/28/2024 09:42	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: KC-9507 **Customer Description:**
Lab Number: 243179-004 **Preparation: Dissolved**
Date Collected: 10/23/2024 12:48 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	122	mg/L	25	0.8	0.3		CRJ	10/31/2024 20:41	EPA 300.1-1997, Rev. 1.0
Sulfate	963	mg/L	25	8	2		CRJ	10/31/2024 20:41	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	29.1	µg/L	5	1.0	0.3		ELH	11/12/2024 03:03	EPA 200.8-1994, Rev. 5.4
Calcium	311	mg/L	50	3	1		ELH	11/25/2024 19:42	EPA 200.8-1994, Rev. 5.4
Iron	2.44	mg/L	5	0.10	0.02		ELH	11/12/2024 03:03	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	ELH	11/12/2024 03:03	EPA 200.8-1994, Rev. 5.4
Magnesium	37.0	mg/L	50	5.0	0.5		ELH	11/25/2024 19:42	EPA 200.8-1994, Rev. 5.4
Manganese	3.69	mg/L	5	0.0050	0.0004		ELH	11/12/2024 03:03	EPA 200.8-1994, Rev. 5.4
Selenium	<0.2	µg/L	5	2.5	0.2	U1	ELH	11/12/2024 03:03	EPA 200.8-1994, Rev. 5.4
Sodium	91	mg/L	50	10	1		ELH	11/12/2024 02:58	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	64	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	1770	mg/L	1	50	20		BLB	10/28/2024 09:42	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: KC-9508 **Customer Description:**
Lab Number: 243179-005 **Preparation: Dissolved**
Date Collected: 10/23/2024 13:09 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	31.5	mg/L	25	0.8	0.3		CRJ	10/31/2024 21:14	EPA 300.1-1997, Rev. 1.0
Sulfate	229	mg/L	25	8	2		CRJ	10/31/2024 21:14	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	58.2	µg/L	5	1.0	0.3		ELH	11/12/2024 03:14	EPA 200.8-1994, Rev. 5.4
Calcium	147	mg/L	50	3	1		ELH	11/25/2024 19:47	EPA 200.8-1994, Rev. 5.4
Iron	4.66	mg/L	5	0.10	0.02		ELH	11/12/2024 03:14	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	ELH	11/12/2024 03:14	EPA 200.8-1994, Rev. 5.4
Magnesium	22.2	mg/L	50	5.0	0.5		ELH	11/25/2024 19:47	EPA 200.8-1994, Rev. 5.4
Manganese	1.84	mg/L	5	0.0050	0.0004		ELH	11/12/2024 03:14	EPA 200.8-1994, Rev. 5.4
Selenium	<0.2	µg/L	5	2.5	0.2	U1	ELH	11/12/2024 03:14	EPA 200.8-1994, Rev. 5.4
Sodium	15.2	mg/L	5	1.0	0.1		ELH	11/12/2024 03:14	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	209	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	670	mg/L	1	50	20		BLB	10/28/2024 09:48	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: KC-9509 **Customer Description:**
Lab Number: 243179-006 **Preparation: Dissolved**
Date Collected: 10/23/2024 13:39 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	42.4	mg/L	25	0.8	0.3		CRJ	10/31/2024 21:47	EPA 300.1-1997, Rev. 1.0
Sulfate	266	mg/L	25	8	2		CRJ	10/31/2024 21:47	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	58.8	µg/L	5	1.0	0.3		ELH	11/12/2024 03:25	EPA 200.8-1994, Rev. 5.4
Calcium	123	mg/L	50	3	1		ELH	11/25/2024 19:53	EPA 200.8-1994, Rev. 5.4
Iron	5.48	mg/L	5	0.10	0.02		ELH	11/12/2024 03:25	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	ELH	11/12/2024 03:25	EPA 200.8-1994, Rev. 5.4
Magnesium	22.2	mg/L	50	5.0	0.5		ELH	11/25/2024 19:53	EPA 200.8-1994, Rev. 5.4
Manganese	11.1	mg/L	5	0.0050	0.0004		ELH	11/12/2024 03:25	EPA 200.8-1994, Rev. 5.4
Selenium	<0.2	µg/L	5	2.5	0.2	U1	ELH	11/12/2024 03:25	EPA 200.8-1994, Rev. 5.4
Sodium	17.5	mg/L	5	1.0	0.1		ELH	11/12/2024 03:25	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	170	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	680	mg/L	1	50	20		BLB	10/28/2024 09:48	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: Trip Blank **Customer Description:**
Lab Number: 243179-007 **Preparation: Dissolved**
Date Collected: 10/22/2024 10:15 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	0.02	mg/L	2	0.06	0.02	J1	CRJ	10/31/2024 22:52	EPA 300.1-1997, Rev. 1.0
Sulfate	0.2	mg/L	2	0.6	0.1	J1	CRJ	10/31/2024 22:52	EPA 300.1-1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	0.11	µg/L	1	0.20	0.05	J1	ELH	11/12/2024 04:42	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	ELH	11/25/2024 19:58	EPA 200.8-1994, Rev. 5.4
Iron	0.004	mg/L	1	0.020	0.003	J1	ELH	11/12/2024 04:42	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	ELH	11/12/2024 04:42	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	ELH	11/25/2024 19:58	EPA 200.8-1994, Rev. 5.4
Manganese	0.00031	mg/L	1	0.00100	0.00007	J1	ELH	11/12/2024 04:42	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELH	11/12/2024 04:42	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	ELH	11/12/2024 04:42	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	<20	mg/L	1	50	20	U1	BLB	10/28/2024 09:54	SM 2540C-2015

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Customer Sample ID: Duplicate **Customer Description:**
Lab Number: 243179-008 **Preparation: Dissolved**
Date Collected: 10/22/2024 12:58 EDT **Date Received: 10/25/2024 11:30 EDT**

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	24.9	mg/L	25	0.8	0.3		CRJ	10/31/2024 23:25	EPA 300.1-1997, Rev. 1.0
Sulfate	249	mg/L	25	8	2		CRJ	10/31/2024 23:25	EPA 300.1-1997, Rev. 1.0

Metals

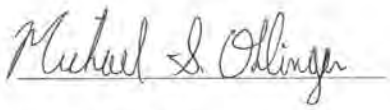
Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Barium	70.6	µg/L	1	0.20	0.05		ELH	11/12/2024 04:52	EPA 200.8-1994, Rev. 5.4
Calcium	149	mg/L	50	3	1	M1	ELH	11/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Iron	0.664	mg/L	1	0.020	0.003		ELH	11/12/2024 04:52	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELH	11/12/2024 04:52	EPA 200.8-1994, Rev. 5.4
Magnesium	30.1	mg/L	50	5.0	0.5	M1	ELH	11/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Manganese	0.836	mg/L	1	0.00100	0.00007	M1	ELH	11/12/2024 04:52	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELH	11/12/2024 04:52	EPA 200.8-1994, Rev. 5.4
Sodium	19	mg/L	50	10	1		ELH	11/12/2024 04:47	EPA 200.8-1994, Rev. 5.4

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	260	mg/L	1	20	5		MGK	10/28/2024 14:49	SM 2320B-2011
TDS, Filterable Residue	690	mg/L	1	50	20		BLB	10/28/2024 09:54	SM 2540C-2015

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

AMERICAN ELECTRIC POWER

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 243179 **Customer: Kyger Creek Plant** **Date Reported: 12/03/2024**

Data Qualifer Legend

M1 - The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
U1 - Not detected at or below method detection limit (MDL).
J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

Form COC-2
Rev. 3, 03/12/07

Chain-of-Custody Record and Analysis Request Form

243179

AEP AMERICAN ELECTRIC POWER

Location: (District, Region, Plant, etc.) OVEC - Kyger Creek Station

Program/Project: (If applicable)

Submitted/Requested By: H. E. Cleland

Phone/Fax/E-mail: Audinet 241-5323; hcleland@ovec.com

Sample(s) Origin: (NPDES Permit, Outfall No., etc.) OIB00005*QD; Monitoring Wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508, and KC-9509

Additional Information: (Site Description, Sample Type, etc.) Grab, Filtered through a .45 micron in-line filter

Analyses Requested: (Attach information if necessary) Alkalinity, Sulfate, TDS, Chloride

Results Turnaround: (Select One ☑) (Please date non-routine)

Routine	Priority	Rush	Date By:
X			

Weather Conditions Affecting Sampling:

Bottle or Analysis ID's	Preservatives and Filtering (Codes/Colors)	Sample Volume (mL)	Sampler(s) Initials	Flow	Select One Per Line: COMPOSITE Date/Time	COMPOSITE mL Added	GRAB Date/Time
KC-9501	B, Blue F, Pink	1000 mL	HC/KP				10/22/24 1258
KC-9502	B, Blue F, Pink	1000 ml	HC/KP				10/22/24 1341
KC-9504	B, Blue F, Pink	1000 ml	HC/KP				10/23/24 0938
KC-9507	B, Blue F, Pink	1000 ml	HC/KP				10/23/24 1248
KC-9508	B, Blue F, Pink	1000 ml	HC/KP				10/23/24 1309
KC-9509	B, Blue F, Pink	1000 ml	HC/KP				10/23/24 1339
Trip Blank	B, Blue F, Pink	1000 ml	HC				10/22/24 1145
Duplicate	B, Blue F, Pink	1000 ml	HC				10/22/24 1258

Units of Flow ☑: ☐ mgd ☐ gpm ☐ Other

Preservatives and Filtering

(Codes)	(Colors)
(A) None	{White}
(B) Cool, ≤ 6° C	{Blue}
(C) NaOH; pH > 12	{Yellow}
(D) HNO_3; pH < 2	{Red}
(E) 1:1 H_2SO_4; pH < 2	{Green}
(F) Filtered	{Pink}
(G) 1:1 HCl; pH < 2	{Gray}
(H) Zinc Acetate	{Black}
(I) Other	

Samplers Initials Code

Initials	Print Sampler Name(s)
HC	Henry Cleland
KP	Kristen Pelfrey

Relinquished By: (Sampling supervisor or personnel) Kristen Pelfrey **Date/Time:** 10/25/24 10:30

Transportation: ☑ ☐ Employee ☒ AEP Courier ☐ UPS ☐ Fed-Ex ☐ Other (Name):

Received by Transporter: **Date/Time:**

Relinquished by Transporter: **Date/Time:**

Received By: (Testing laboratory receiving personnel) Michael Ohlinger **Date/Time:** 10/25/24 ~~10/2~~ 11:30

Receipt Notes:

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, Ohio 43125
Phone: 8-210-4211 or 614-836-4211
Fax: 8-210-4168 or 614-836-4168

A PROPERLY FILLED OUT COPY OF THIS FORM MUST ACCOMPANY EACH SET OF SAMPLES SENT TO THE WATER TESTING LABORATORY.
ALSO, A TAG ON THE SAMPLE OR CONTAINER IS NECESSARY FOR THE SAMPLE(S) TO BE PROPERLY PROCESSED.
FEDERAL REGULATIONS REQUIRE THAT THIS INFORMATION BE RETAINED FOR AT LEAST THREE YEARS.
LABORATORY DATA FOR THESE SAMPLES SHOULD BE FILED WITH A COPY OF THIS CHAIN-OF-CUSTODY RECORD.

Form COC-2
Rev 3, 03/12/07

Chain-of-Custody Record and Analysis Request Form

AMERICAN ELECTRIC POWER

Location: (District, Region, Plant, etc.) OVEC - Kyger Creek Station

Program/Project: (If applicable)

Submitted/Requested By: H. E. Cleland

Phone/Fax/E-mail: Audinet 241-5323; hcleland@ovec.com

Sample(s) Origin: (NPDES Permit, Outfall No., etc.) OIB00005*QD; Monitoring Wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508, and KC-9509

Additional Information: (Site Description, Sample Type, etc.) Grab, Filtered through a .45 micron in-line filter

Analyses Requested: (Attach information if necessary) Barium, Calcium, Iron, Lead, Magnesium, Manganese, Selenium, Sodium

Results Turnaround: (Select One ☑) (Please date non-routine)

Routine	Priority	Rush	Date By:
X			

Weather Conditions Affecting Sampling:

Bottle or Analysis ID's	Preservatives and Filtering (Codes/Colors)	Sample Volume (mL)	Sampler(s) Initials	Flow	Select One Per Line: COMPOSITE Date/Time	COMPOSITE mL Added	GRAB Date/Time
KC-9501	D, Red F, Pink	1000 mL	HC/KP				10/22/24 1258
KC-9502	D, Red F, Pink	1000 ml	HC/KP				10/22/24 1341
KC-9504	D, Red F, Pink	1000 ml	HC/KP				10/23/24 0938
KC-9507	D, Red F, Pink	1000 ml	HC/KP				10/23/24 1248
KC-9508	D, Red F, Pink	1000 ml	HC/KP				10/23/24 1309
KC-9509	D, Red F, Pink	1000 ml	HC/KP				10/23/24 1339
Trip Blank	D, Red F, Pink	1000 ml	HC				10/22/24 1015
Duplicate	D, Red F, Pink	1000 ml	HC				10/22/24 1258

Units of Flow ☑: ☐ mgd ☐ gpm ☐ Other

Preservatives and Filtering

(Codes)	(Colors)
(A) None	{White}
(B) Cool, ≤ 6° C	{Blue}
(C) NaOH; pH > 12	{Yellow}
(D) HNO_3; pH < 2	{Red}
(E) 1:1 H_2SO_4; pH < 2	{Green}
(F) Filtered	{Pink}
(G) 1:1 HCl; pH < 2	{Gray}
(H) Zinc Acetate	{Black}
(I) Other	

Samplers Initials Code

Initials	Print Sampler Name(s)
HC	Henry Cleland
KP	Kristen Palfrey

Relinquished By: (Sampling supervisor or personnel) Kristen Palfrey **Date/Time:** 10/25/24 10:30

Transportation: ☑ ☐ Employee ☒ AEP Courier ☐ UPS ☐ Fed-Ex ☐ Other (Name):

Received by Transporter: **Date/Time:**

Relinquished by Transporter: **Date/Time:**

Received By: (Testing laboratory receiving personnel) Rachael Ohley **Date/Time:** 10/25/24 1720

Receipt Notes:

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, Ohio 43125
Phone: 8-210-4211 or 614-836-4211
Fax: 8-210-4168 or 614-836-4168

A PROPERLY FILLED OUT COPY OF THIS FORM MUST ACCOMPANY EACH SET OF SAMPLES SENT TO THE WATER TESTING LABORATORY.
ALSO, A TAG ON THE SAMPLE OR CONTAINER IS NECESSARY FOR THE SAMPLE(S) TO BE PROPERLY PROCESSED.
FEDERAL REGULATIONS REQUIRE THAT THIS INFORMATION BE RETAINED FOR AT LEAST THREE YEARS.
LABORATORY DATA FOR THESE SAMPLES SHOULD BE FILED WITH A COPY OF THIS CHAIN-OF-CUSTODY RECORD.

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.9, 10/07/24

Package Type

(Cooler) Box Bag Envelope

Delivery Type

UPS FedEX USPS

Other Courier

Plant/Customer Kyger Creek **Total # of Containers RECEIVED in Job:** 16

Opened By MSJ

Date/Time 10/25/24 11:30

Were all temperatures within 0-6°C? (Y) / N or N/A (Temps) **Initial:** MSJ on (ice) / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: Routine If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Was pH checked & Color Coding done? (Y) / N or N/A (pH) **Initial & Date:** MSJ 10/25/24

pH paper mfr LabRat ,PN 4801 ,LOT# X000RWDG21 ,EXPIR DATE 11/30/2025

*** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments _____ (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Initial & Date & Time : _____

Lab ID# 243179

Comments: _____

Logged by MSJ

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 16

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 243179 **Initial/ Date:** MSD 10/25/24 **Peer Review Initial/ Date:** KMB 10/29/24

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
17	243179-001		17
	-002		
	-003		
	-004		
	-005		
	-006		
	-007		
	-008		

Review for Received Jobs:

Job # 243179 Peer Review Initials & Date KMD 10/29/24

Mark Yes or No. *Mark "corrected by" with you Initials & Date when making corrections.*

STEP 1: Create Login Report and Compare to COC

1. Open LIMS, go to "Job Review". Select job number that is being reviewed.
2. Right click on Job, go to "Reports", select "Login Report";
3. Select "Export Document" When "PDF Export Options" appears, select "OK". Save "Login Report" to H:Internal/Login Reports/**Not Sent Login Reports**
4. Save with the following format:
    a. "Job Number" "Location Abbreviation" "General Sample Info" "Collection Date" Login Report
    b. Example: 241496 CK TRS & WWTP 5-(6,7)-24 Login Report
    c. Close the login report preview screen.

STEP 2: Reviewing and Receiving Jobs

Y / N **1. (For each sample) Does Count of Tests from COC match the Count of Tests on Login Report?**
- a. Especially for Total & Dissolved
- b. COUNT Tests on each Sample from COC & record on back of Sample Receipt Form.
- c. Compare Your Count to the Login Report (& to Test Count recorded at Login)

From Job Tab

Y / N **2. Is location correct?**
- a. Plant name listed
- b. Or correct Region in the Location field (i.e. wastes received from REC)

Y / N 3. **Is the Customer listed appropriately?** (Blank except for the following list.)
- i. Mitchell Water
- ii. Amos Water vs Amos Wells
- iii. Mountaineer Water
- iv. Welsh Water
- v. (Or in case of Wastes from REC – is Customer Name listed?)

Y / N **4. Is the COC signed and dated with the date/time received?**
- a. Does the Job "Date Received" match the COC?

Y / N **5. Is the "Due Date" in LIMS (or "Report Due" on Login Report) correct?**
- a. If "Date By" on COC is marked with a date, this date takes precedence.
- b. 28 days for wells marked "routine"
- c. 14 days for non-wells marked "routine"
- d. Rush is 3 business days.
- e. Priority is 1 week.

From Samples Tab

Y / N **6. Is Collection Date/Time entered correctly?**
- a. Eastern Plants should all match COC
- b. Western Plants should be 1 hour later in LIMS vs. COC

Y / N **7. Does "Customer Sample Name" match COC?**

a. Sampling Point (alias) (if available) similar to "Customer Sample Name"

Y / N **8. Do all of the "Date Results Required" on the <u>Samples</u> match the <u>Job</u>?**

a. If subsample due dates are incorrect,

i. Right click on job
ii. Go to "Workflow Login"
iii. Select "Modify"
iv. Go to "Sample Data" Tab
v. Click on first sample "Date Results Required" – make changes
vi. Hit Right Arrow Button at top right of window
vii. Select "Ok"

Y / N **9. Is the project selected and correct in LIMS?**

a. Either "CCR" for wells or "Other" for all other project types (or "Vault Manhole" for specific TCLP samples)

From Test Tab

Check the following items and verify they are correct. If incorrect, then check with Login Staff:

Y / N **10. Do tests listed on COC match what has been logged in LIMS?**

i. If Clinch or Glen Lyn (Va only) ensure that secondary tests are selected.
ii. <u>Except</u> Glen Lyn's "Addair Run"/"Bluestone Facility" which is in WV and should be primary tests.

Y / N **11. Is the "Sample Receipt Form" filled out completely and correctly?**

a. Based on COC ("dissolved", "request Filtration"), Did any samples require filtration ?

__a__ And IF SO was this marked YES on the Sample Receipt Form ?

corrected

<u>STEP 3: "Receive Job" in the LIMS</u>

When STEP 2 REVIEW is complete,

- Initial and Date the "Peer Reviewed By" line on top of <u>this</u> form.
- Go to the "Job" tab in "Job Review". Select right click on job number. Go to "Process", select "Receive Job".

<u>STEP 4: Re- create Login Report and Scan COC packet</u>

Reminder: If a change was made to the login, re-create (overwrite original) login report per STEP 1.

1. Add Peer Review form to COC packet (COC and Sample receipt form)
2. Scan full COC packet (COC, sample receipt form, login peer review checklist) and save to H:Internal/COC/WWAG/**Not Sent COC**
3. Save with the following format:
   a. COC "Job Number" "Location Abbreviation
   b. Example: COC 241496 CK
4. Place paper COC packet in folder with label and deliver to Chemist – who will email Login Report and COC to customer.

Water – Blue Solids – Pink Waste - Green

MICROBAC®

Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M4J1584

Project Description

Kyger Creek

For:

Kristen Pelfrey

Ohio Valley Electric Co.

Kyger Creek Station 5758 St Rt 7N

Cheshire, OH 45620

Tiffany Bailey

Customer Relationship Coordinator

Tiffany Bailey

Friday, November 15, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories Inc., - Marietta, OH. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC

Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M4J1584

Ohio Valley Electric Co.

Kristen Pelfrey
Kyger Creek Station 5758 St Rt 7N
Cheshire, OH 45620

Project Name: Kyger Creek

Project / PO Number: N/A
Received: 10/24/2024
Reported: 11/15/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
KC-9501	M4J1584-01	Wastewater	Grab		10/22/24 12:00	10/24/24 10:25
KC-9502	M4J1584-02	Wastewater	Grab		10/22/24 13:41	10/24/24 10:25
KC-9504	M4J1584-03	Wastewater	Grab		10/22/24 09:38	10/24/24 10:25
KC-9507	M4J1584-04	Wastewater	Grab		10/22/24 12:48	10/24/24 10:25
KC-9508	M4J1584-05	Wastewater	Grab		10/22/24 13:09	10/24/24 10:25
KC-9509	M4J1584-06	Wastewater	Grab		10/22/24 13:39	10/24/24 10:25

MICROBAC

Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M4J1584

Analytical Testing Parameters

Client Sample ID: KC-9501
Sample Matrix: Wastewater
Lab Sample ID: M4J1584-01 **Collection Date:** 10/22/2024 12:00

Analyses Performed by: Microbac Laboratories, Inc., Northbrook

Radiochemistry	Result	UNC	MDA	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 900.0								
Gross Alpha	0.2305	+/-1.19	1.08	pCi/L		10/30/24 0900	11/05/24 1600	AK
Gross Beta	1.056	+/-0.661	0.578	pCi/L		10/30/24 0900	11/05/24 1600	AK

Client Sample ID: KC-9502
Sample Matrix: Wastewater
Lab Sample ID: M4J1584-02 **Collection Date:** 10/22/2024 13:41

Analyses Performed by: Microbac Laboratories, Inc., Northbrook

Radiochemistry	Result	UNC	MDA	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 900.0								
Gross Alpha	-0.04086	+/-1.02	0.935	pCi/L		10/30/24 0900	11/05/24 1600	AK
Gross Beta	0.1656	+/-0.683	0.623	pCi/L		10/30/24 0900	11/05/24 1600	AK

Client Sample ID: KC-9504
Sample Matrix: Wastewater
Lab Sample ID: M4J1584-03 **Collection Date:** 10/22/2024 9:38

Analyses Performed by: Microbac Laboratories, Inc., Northbrook

Radiochemistry	Result	UNC	MDA	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 900.0								
Gross Alpha	1.083	+/-1.19	1.03	pCi/L		10/30/24 0900	11/06/24 1600	AK
Gross Beta	1.067	+/-0.671	0.588	pCi/L		10/30/24 0900	11/06/24 1600	AK

Client Sample ID: KC-9507
Sample Matrix: Wastewater
Lab Sample ID: M4J1584-04 **Collection Date:** 10/22/2024 12:48

Analyses Performed by: Microbac Laboratories, Inc., Northbrook

Radiochemistry	Result	UNC	MDA	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 900.0								
Gross Alpha	1.068	+/-1.87	1.65	pCi/L		10/30/24 0900	11/06/24 1600	AK
Gross Beta	2.030	+/-0.73	0.614	pCi/L		10/30/24 0900	11/06/24 1600	AK

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Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M4J1584

Client Sample ID: KC-9508
Sample Matrix: Wastewater
Lab Sample ID: M4J1584-05 **Collection Date:** 10/22/2024 13:09

Analyses Performed by: Microbac Laboratories, Inc., Northbrook

Radiochemistry	Result	UNC	MDA	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 900.0								
Gross Alpha	0.6156	+/-0.903	0.791	pCi/L		10/30/24 0900	11/06/24 1600	AK
Gross Beta	0.5484	+/-0.633	0.567	pCi/L		10/30/24 0900	11/06/24 1600	AK

Client Sample ID: KC-9509
Sample Matrix: Wastewater
Lab Sample ID: M4J1584-06 **Collection Date:** 10/22/2024 13:39

Analyses Performed by: Microbac Laboratories, Inc., Northbrook

Radiochemistry	Result	UNC	MDA	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 900.0								
Gross Alpha	1.604	+/-1.05	0.867	pCi/L		10/30/24 0900	11/06/24 1600	AK
Gross Beta	1.465	+/-0.62	0.526	pCi/L		10/30/24 0900	11/06/24 1600	AK

Definitions

MDA: Minimum Detectable Activity, Sample Specific - Concentration which can be counted with a precision +/- 100% at the 95% confidence level (1.96*sigma where sigma is the standard deviation of the net counting rate of the sample).
pCi/L: Picocuries per Liter
UNC: The uncertainty listed is the combined standard uncertainty with an expanded uncertainty of 2*sigma, which provides a level of confidence of approximately 95%.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 7.0°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

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Microbac Laboratories Inc., - Marietta, OH

CERTIFICATE OF ANALYSIS

M4J1584

Report Comments

Reviewed and Approved By:

Tiffany Bailey

Tiffany Bailey
Customer Relationship Coordinator
Reported: 11/15/2024 15:37

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

MICROBAC Return to: 158 Starlite Drive Marietta Ohio 45750

CHAIN OF CUSTODY RECORD

Number

Instructions on back

Lab Report Address		Invoice Address		Turnaround Time	TO BE COMPLETED BY MICROBAC
Client Name:	Microbac	Client Name:	Same	[x] Routine (5 to 7 business days) [ ] RUSH* (notify lab)	Temperature Upon Receipt (°C) 7.0 Therm ID N
Address:	158 Starlite Drive	Address:			Holding Time
City, State, Zip:	Marietta, OH 45750	City, State, Zip:		(needed by)	Samples Received on Ice? Yes No N/A
Contact:	Alicia Walker	Contact:		Report Type	Custody Seals Intact? Yes No N/A
Telephone No.:	740-373-4071	Telephone No.:		[ ]Results Only [ ]Level 1 [ ]Level 2 [ ]Level3 [ ]Level 4 [ ]EDD	

Send Report via: [ ] Mail [ ] Fax [x] e-mail (address) hcleland@ovec.com Send Invoice via: [ ] Mail [ ] Fax [X] e-mail (address)

Project: KC Monitoring Well Sampling Location: Cheshire, OH PO No.: Compliance Monitoring? [X] Yes [ ] No ( ) Agency/Program

Sampled by (PRINT): Henry Cleland/Kristen Pelfrey Sampler Signature: Sampler Phone No.: 740-648-8484

M 4 J 1 5 8 4

Ohio Valley Electric Co.
Rec'd: 10/24/2024 10:25
By: Erin Porter Temp: 7 (Signature)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Grab Analysis	Grab Bottles	Additional Notes
	KC-9501	10/22/24	1258	2	WW	G	1	1	1	Need one gallon containers
	KC-9502	10/22/24	1341	2	WW	G	1	1	1	Need one gallon containers
	KC-9504	10/23/24	0938	2	WW	G	1	1	1	Need one gallon containers
	KC-9507	10/23/24	1248	2	WW	G	1	1	1	Need one gallon containers
	KC-9508	10/23/24	1309	2	WW	G	1	1	1	Need one gallon containers
	KC-9509	10/23/24	1339	2	WW	G	1	1	1	Need one gallon containers

Possible Hazard Identification [ ] Hazardous [X] Non-Hazardous [ ] Radioactive Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	10/24/24 1025		
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
			10-24-24 1025

rev.12/26/2017

Sample Acceptance Policy for Environmental Chemistry and Microbiology

MICROBAC®

Work Order # M45584

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

CW 10-24-24

pH Lot # NVA

pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

CW 10-24-24

CONSERVATIVE
EXCEPTIONS
X NONE
AS NOTED
CW 10-24-24

Document Control # 1957
Last 04-10-2019

Issued to: Document Master File

Attachment III

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9501
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chlorids mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	169	63	118	43	2.3	4.1	0.36	<2	20.7	0.78	545	<5	22.5	196	509	15.59	7.18	51.7	539
	2	01/06/98	179	65	108	41	5.5	6.9	0.3	<2	18.8	0.57	539	<5	21.5	200	585	15.42	7.1	51.4	540
	3	05/22/98	181	68	114	40	1.8	4	0.68	<2	21	0.64	576	<5	22.4	194	815	16.06	7.12	50.9	539
	4	07/21/98	168	63	121	40	2	3	0.61	<2	21.2	0.72	564	<5	23.6	203	760	16.46	7.11	51	539
	5	10/21/98	161	61	115	41	3.7	4	0.6	<2	20.4	0.61	548	<5	21.1	211	761	15.86	6.83	51.7	539
	6	01/13/99	171	64	114	40	1.5	5.1	0.59	<2	21.2	0.56	547	<5	21.8	208	760	15.25	6.71	51.7	540
	7	04/21/99	176	61	109	39	6	5.9	0.54	<2	20.5	0.52	549	<5	20.9	201	811	15.76	6.58	50.7	541
	8	07/27/99	167	64	117	31	5	3.6	0.55	<2	21.3	0.56	562	<5	21.5	207	813	17.92	6.64	51.4	540
	95% Tol.	Upper	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	593	N/A	N/A	221	1095	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL DATA	1	10/13/99	160	61	117	41	5	6.6	0.56	<2	21.8	0.49	538	<5	21.8	222	818	18.35	6.8	52	539
	2	05/04/00	179	67	122	46	2.6	3.2	0.59	<2	21.6	0.66	578	<5	23.2	196	880	16.47	6.2	51.5	538
	3	10/19/00	138	65	116	39	1.3	3.2	0.59	<2	21.5	0.52	568	<5	22	237	818	15.92	6.27	52.25	539
	4	04/25/01	152	–	–	–	–	–	–	–	–	–	600	–	–	214	864	16.37	6.34	51.83	539
	5	10/04/01	149	61	119	–	6	6.2	0.65	<2	22.3	0.53	571	<5	21.6	219	822	16.48	7.26	52.68	538
	6	06/05/02	162	–	–	36	–	–	–	–	–	–	620	–	–	234	814	16.35	7.24	51.50	538
	7	10/31/02	152	71	117	43	4.5	5.3	0.45	<2	20.9	0.63	565	<5	24.8	237	798	15.38	7.30	52.39	538
	8	04/08/03	133	–	–	–	–	–	–	–	–	–	570	–	–	258	826	15.29	7.34	49.50	541
	9	10/09/03	137	69	115	38	0.8	3.4	0.39	<2	20.1	0.61	552	<5	24	235	784	15.24	7.51	52.50	538
	10	05/05/04	153	–	–	–	–	–	–	–	–	–	563	–	–	214	791	15.16	7.43	50.55	540
	11	10/21/04	136	66	118	30	5	5.9	0.2	<2	18.1	0.65	529	<5	23.4	204	791	15.40	7.37	52.45	540
	12	04/26/05	140	–	–	–	–	–	–	–	–	–	517	–	–	207	803	15.20	7.27	49.00	542
	13	10/19/05	132	51	96.6	34	7.9	7.3	0.03	<2	16	0.37	732	<5	25.6	208	759	15.50	7.31	52.00	539
	14	04/18/06	128	–	–	–	–	–	–	–	–	–	489	–	–	198	764	15.40	7.26	51.84	539
	15	10/19/06	126	55	101	38	4.3	4.1	0.09	<10	15.8	0.57	492	<20	19.9	207	734	15.60	7.30	50.40	541
	16	04/27/07	127	–	–	–	–	–	–	–	–	–	541	–	–	192	840	14.60	7.41	50.14	539
	17	11/05/07	143	64	108	–	4.6	2.8	0.03	<5	15.8	0.69	566	<0.5	27.4	193	832	14.60	7.00	51.66	539
	18	04/22/08	160	–	–	–	–	–	–	–	–	–	591	–	–	186	513	14.62	5.87	52.80	539
	19	11/04/08	132	76	116	30.9	1.5	1.09	0.04	<0.05	19.4	0.89	519	<0.5	24.6	192	506	15.10	6.94	52.29	539
	20	04/23/09	132	–	–	30.3	–	–	–	–	–	–	500	–	–	192	762	13.78	7.21	51.22	539
	21	10/21/09	151	55	90.2	31.7	7.2	6.1	0.02	<10	15.2	0.36	499	<0.5	21.1	189	740	16.20	7.33	52.00	539
	22	04/20/10	151	–	–	–	–	–	–	–	–	–	500	–	–	189	759	14.90	7.50	51.85	539
	23	10/15/10	158	63	102	31.5	2.9	3.8	0.17	<10	17.8	0.61	495	<0.5	22.6	195	702	14.80	7.33	52.30	539
	24	06/07/11	164	–	–	–	–	–	–	–	–	–	513	–	–	185	748	14.80	6.72	50.50	539
	25	10/19/11	188	56	94.8	24.6	5.3	7.5	0.38	<10	18.3	0.44	484	<0.5	20.6	168	709	14.00	7.31	51.50	539
	26	04/25/12	204	–	–	20	–	–	–	–	–	–	503	–	–	147	684	14.10	7.35	51.62	539
	27	10/09/12	247	60.7	110	22.1	4.7	2.9	0.39	0.04	21	0.48	492	<0.1	21.5	146	739	13.60	7.08	52.30	539
	28	04/24/13	220	–	–	18.2	–	–	–	–	–	–	508	–	–	128	754	14.60	7.44	52.10	538
	29	10/24/13	218	63.3	114	22.7	1.9	1.2	0.34	0.06	19.9	0.53	508	<0.2	19.9	150	732	14.20	7.06	52.10	539
	30	04/17/14	228	–	–	–	–	–	–	–	–	–	531	–	–	155	781	14.30	7.45	51.10	540
	31	10/28/14	234	67	112	20.6	2.9	4.1	0.47	0.01	21.5	0.53	513	<0.1	20	160	835	14.70	7.03	52.20	538
	32	05/21/15	232	–	–	22.4	–	–	–	–	–	–	522	–	–	172	852	14.40	7.27	51.00	538
	33	10/29/15	235	68.5	126	20.7	4.9	7	0.53	0.02	24.8	0.61	558	<0.03	21	173	845	14.50	7.14	51.40	539
	34	04/21/16	252	–	–	22.9	–	–	–	–	–	–	528	–	–	173	789	15.00	7.27	51.70	539
	35	10/13/16	260	68.6	122	20.9	14.4	4.9	0.43	0.01	23.8	0.57	518	<0.03	20.2	160	887	15.00	7.16	52.90	539
	36	04/27/17	254	-	-	23.5	-	-	-	-	-	-	534	-	-	173	854	14.90	6.86	50.70	540
	37	10/17/17	259	76.4	124	22.2	2.6	8.3	0.56	0.01	24.1	0.64	569	<0.03	19.3	202	909	15.50	7.16	52.10	539
	38	06/06/18	256	-	-	23.7	-	-	-	-	-	-	591	-	-	206	894	14.90	7.18	50.90	540
	39	10/18/18	270	70.7	121	23.4	3	0	0.54	<0.02	23.3	0.59	578	<0.03	17.9	193	977	14.80	7.16	51.00	540
	40	04/22/19	247	-	-	23.8	-	-	-	-	-	-	603	-	-	199	959	14.50	7.11	48.40	541
	41	10/29/19	277	73.3	118	24	1.47	2.54	0.68	<0.05	26	0.49	578	<0.03	19.4	189	856	15.00	6.96	52.30	541
	42	06/12/20	261	-	-	26.2	-	-	-	-	-	-	683	-	-	242	927	15.60	7.23	51.00	536
	43	10/23/20	246	83.4	140	24.3	0.75	0.89	2.4	<0.05	28	0.7	763	<0.03	18.2	232	939	14.30	7.27	52.30	539
	44	04/28/21	244	-	-	26.5	-	-	-	-	-	-	651	-	-	242	997	14.60	7.43	51.70	539
	45	10/19/22	266	80.7	142	26	0.2	1.12	0.79	<0.03	28.4	0.75	660	<0.5	20	242	1007	15.7	7.13	52.6	539
	46	04/22/22	259	-	-	25.9	-	-	-	-	-	-	660	-	-	266	1016	14.7	7.23	50.2	541
	47	10/25/22	250	82.8	129	25.2	0.74	0	0.73	<0.05	27.1	0.73	670	<0.09	18.7	260	946	14.8	7.17	52.9	537
	48	05/24/23	232	-	-	25.2	-	-	-	-	-	-	680	-	-	263	614	14.6	7.29	52.3	537
	49	10/19/23	227	82.7	146	26.1	1.5	1.13	0.78	<0.05	29.3	0.83	690	<0.04	20.1	278	916	14.6	7.24	52.6	539
	50	05/14/24	253	-	-	25.6	-	-	-	-	-	-	710	-	-	261	1022	14.6	7.25	51.2	539
	51	10/22/24	250	72.3	149	25	0.23	1.06	0.72	<0.3	29.3	0.89	710	<0.2	19.9	249	1017	15.00	7.27	52.5	539

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9502
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field µmhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	19	19	59.1	38	1	2.7	3.79	<2	20.9	16.5	464	<5	24.1	233	409	15.68	5.69	51.65	538.6
	2	01/06/98	17	21	56.1	40	4.8	12.8	5.37	3	18.2	11.6	449	<5	24.8	232	455	15.6	5.69	51.37	539.5
	3	05/22/98	19	24	55.6	40	<1	2.7	6.67	<2	19	12.6	494	<5	24.9	238	623	15.93	5.7	50.81	538.8
	4	07/21/98	17	19	59.4	40	<1	2.1	6.85	3	20	13.4	463	<5	25	236	604	16.4	5.48	50.9	539
	5	10/21/98	18	18	58.6	40	<1	2.1	5.54	<2	19	13.3	474	<5	23	232	606	15.91	5.49	51.62	539
	6	01/13/99	15	23	54.3	42	<1	1.5	6.86	2	18.7	11.4	470	<5	23.8	239	594	15.62	5.23	51.66	539.5
	7	04/21/99	15	16	53.5	34	<1	1.7	2.11	3	18	13.1	478	<5	22.1	236	633	16.25	5.24	50.65	541
	8	07/27/99	16	19	58.6	31	1.7	2.3	3.38	4	19.2	14.6	510	<5	24.1	220	634	17.89	5.36	51.36	540
		95% Tol. Upper	22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	536	N/A	N/A	252	847	N/A	N/A	N/A	N/A
		95% Tol. Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMIANNUAL	1	10/13/99	18	16	59.7	45	0	5.8	1.64	<2	19.5	16.2	461	<5	23.3	239	640	16.96	5.49	51.9	538.5
	2	05/04/00	18	19	58.7	58	0.4	1.7	3.85	2	19.9	14.8	509	<5	25.3	251	687	16.46	5.19	51.46	538
	3	10/19/00	20	19	58.4	31	1.1	1.8	4.68	<2	19.7	13.9	509	<5	24.2	241	656	16.02	5.40	52.18	538.8
	4	04/25/01	18	–	–	–	–	–	–	–	–	–	546	–	–	240	593	15.86	5.89	51.67	539
	5	10/04/01	22	18	61.3	–	0	1.8	3.4	2	20	15	483	<5	22.9	237	658	16.29	5.90	52.61	538
	6	06/05/02	22	–	–	40	–	–	–	–	–	–	612	–	–	247	640	15.73	5.81	51.46	538
	7	10/31/02	21	20	61.5	39	0.8	2.1	4.44	<2	20.4	14.4	492	<5	24.5	248	641	15.39	5.91	52.31	538.4
	8	04/08/03	15	–	–	–	–	–	–	–	–	–	513	–	–	275	682	15.32	5.63	49.45	540.7
	9	10/09/03	20	23	62.1	42	0.8	1.1	4.23	<2	21.1	14.8	486	<5	23.2	250	651	15.41	6.22	52.48	538
	10	05/05/04	19	–	–	–	–	–	–	–	–	–	538	–	–	266	685	15.16	6.04	50.50	540
	11	10/21/04	23	19	69.6	33	0.6	0	12.2	<2	21.3	12.1	516	<5	24.9	279	726	15.40	5.86	52.00	540
	12	04/26/05	12	–	–	–	–	–	–	–	–	–	527	–	–	278	703	15.10	5.54	49.40	542
	13	1019/05	16	15	59.7	32	1.2	2.9	7.28	5	19.7	13	522	<5	27.8	260	693	15.80	5.67	51.94	539
	14	04/18/06	18	–	–	–	–	–	–	–	–	–	483	–	–	274	693	15.20	5.61	51.60	539
	15	10/19/06	15	16	56.3	32.9	1.7	3.2	7.18	<10	17.7	11.6	481	<20	19.2	278	694	15.40	5.57	50.30	541
	16	04/27/07	19	–	–	–	–	–	–	–	–	–	520	–	–	276	738	14.40	5.77	50.12	539
	17	11/05/07	18	7	64.5	–	1.1	0	6.26	<5	19.8	13	538	<0.5	25.3	259	716	14.60	5.81	51.57	539
	18	04/22/08	28	–	–	–	–	–	–	–	–	–	527	–	–	244	641	14.86	7.47	52.76	539
	19	11/04/08	26	<10	62.8	23.4	0.165	0.77	4.36	0.14	19.9	13.9	484	<0.5	24	226	438	15.12	5.91	52.18	539
	20	04/23/09	28	–	–	24.8	–	–	–	–	–	–	469	–	–	240	687	13.77	6.55	51.16	539
	21	10/21/09	27	<20	52.9	26.6	1.1	1.6	4.88	<10	17.3	11.7	484	<0.5	22.5	248	681	15.20	5.75	51.80	538.7
	22	04/20/10	31.5	–	–	–	–	–	–	–	–	–	487	–	–	247	708	14.80	5.96	51.68	539
	23	10/15/10	29.3	<20	60.1	32.2	0	2	5.74	<10	20.2	13.4	470	<0.5	23.9	300	627	14.70	5.91	52.20	539
	24	06/07/11	31.9	–	–	–	–	–	–	–	–	–	471	–	–	249	659	14.60	6.83	50.37	538.8
	25	10/19/11	32.8	<20	55.6	28.3	1.5	6	4.48	<10	18.2	11.8	478	<0.5	22.8	257	652	13.90	5.79	51.40	538.9
	26	04/25/12	31	–	–	23.9	–	–	–	–	–	–	478	–	–	240	616	14.00	5.55	51.58	538.7
	27	10/09/12	26	19	62.7	26.7	0.7	1.5	3.54	0.035	20.1	14.3	462	<0.1	24.7	228	646	13.50	5.03	52.12	538.5
	28	04/24/13	42	–	–	22.8	–	–	–	–	–	–	458	–	–	246	658	14.50	5.99	52.11	538.1
	29	10/24/13	33.8	18.9	62.1	26.6	0	0.8	4.89	0.144	19	14.2	474	<0.2	22.2	238	613	13.10	5.80	52.00	538.5
	30	04/17/14	33	–	–	–	–	–	–	–	–	–	480	–	–	246	680	14.20	5.84	51.00	540
	31	10/28/14	38.8	19.5	59	25.2	0.7	2.8	4.5	0.006	19.1	14.5	462	<0.1	23	242	690	14.70	6.50	52.20	538
	32	05/21/15	48.9	–	–	20.6	–	–	–	–	–	–	450	–	–	254	684	14.40	6.04	51.00	538.1
	33	10/29/15	41.1	19.6	66.4	25.8	1	1.1	2.44	0.016	20.8	18.6	446	<0.03	24.5	249	683	14.50	5.79	51.80	539
	34	04/21/16	45.7	–	–	21.7	–	–	–	–	–	–	473	–	–	261	644	14.80	5.75	51.70	539
	35	10/13/16	39.7	21.5	67.9	26.3	7.3	1.6	0.088	0.029	21.7	21.4	473	<0.03	23.4	264	761	14.90	5.51	52.80	538.9
	36	04/27/17	62.8	-	-	19.7	-	-	-	-	-	-	446	-	-	239	715	14.70	5.68	50.60	540.2
	37	10/17/17	59.2	20.1	64.6	23.2	0	10.1	3.28	0.01	20.7	15.1	470	<.03	22.1	259	710	15.30	5.89	52.00	539.1
	38	06/06/18	61	-	-	22.6	-	-	-	-	-	-	482	-	-	102	719	14.80	5.85	50.80	540.3
	39	10/18/18	48.3	22.4	68.4	27.1	0.6	1.7	0.531	0.03	21.2	20.6	515	0.04	22	275	811	14.10	5.73	50.90	539.8
	40	04/22/19	41.9	-	-	27.3	-	-	-	-	-	-	542	-	-	288	787	14.30	5.59	48.40	541.3
	41	10/29/19	29.7	24	63.1	27.2	0.049	1.13	0.401	<0.05	22.3	21.7	544	0.03	24.1	303	724	14.60	5.52	52.20	540.8
	42	06/12/20	28.4	-	-	27.9	-	-	-	-	-	-	559	-	-	305	730	15.40	5.45	51.00	536.2
	43	10/23/20	24.9	26.7	74.8	26.1	-0.49	2.46	0.162	<0.05	24.4	25.2	573	0.07	22.7	315	763	14.20	5.52	52.20	538.9
	44	04/28/21	28.8	-	-	27.7	-	-	-	-	-	-	566	-	-	310	997	14.40	5.60	51.70	539.2
	45	10/19/21	31	27.4	73.6	27.5	0.791	0.83	0.03	<0.3	24.4	24.5	580	<0.5	24	316	796	15.70	5.64	52.60	539
	46	04/22/22	42	-	-	23.5	-	-	-	-	-	-	520	-	-	299	1148	16.70	5.62	50.30	540.9
	47	10/25/22	27	28	74.4	27	-0.37	0.62	0.041	<0.05	24.4	26	590	<0.09	23.5	355	790	14.90	5.63	52.80	537.1
	48	05/24/23	25	-	-	25.2	-	-	-	-	-	-	590	-	-	356	512	14.50	5.70	52.30	537.3
	49	10/19/23	26	27.4	75.8	26.2	1.29	1	0.088	0.08	26	26.5	610	0.04	24.1	363	734	14.60	5.64	52.60	539.4
	50	05/14/24	37	-	-	25.5	-	-	-	-	-	-	630	-	-	340	824	14.40	5.83	51.20	539.3
	51	10/22/24	31	24.4	84	25.2	-0.04	0.17	0.12	<0.3	28.6	14	640	<0.2	22.2	356	792	15.30	5.76	52.30	539.2

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9504
SAMPLING RESULTS

BACKGROUND	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/cm	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
	1	10/14/97	103	58	135	41	1.3	4.6	0.66	<2	17.9	0.85	683	<5	29.9	327	594	16.7	6.98	47.5	539
	2	01/06/98	98	52	135	40	2.8	4.3	0.41	3	15.3	0.7	667	<5	30.6	324	653	16.5	6.86	47.5	540
	3	05/22/98	101	55	139	38	<1	2.4	1.03	<2	16.9	0.83	727	<5	30.5	349	916	16.8	6.86	46.77	539
	4	07/21/98	94	54	145	40	<1	2.4	1.05	<2	16.7	0.8	704	<5	30.8	345	871	17.3	6.89	46.87	539
	5	10/21/98	95	53	150	37	<1	2.2	0.85	3	17.7	0.89	737	<5	30.4	369	915	16.6	6.78	47.88	539
	6	01/13/99	108	58	147	39	<1	2	1.06	2	17.8	0.81	744	<5	31.3	370	942	16.1	6.57	48	540
	7	04/21/99	89	45	138	32	28	29	0.33	<2	17.4	0.69	716	<5	28.6	371	1198	17.1	5.19	46.44	541
	8	07/27/99	118	49	179	35	4.3	5.8	0.85	<2	20.5	0.93	852	<5	32.1	421	1071	18.1	6.29	47.22	540
	95% Tol.	Upper	130	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	908	N/A	N/A	459	1528	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	10/13/99	117	45	184	32	12	15.6	0.91	<2	22.3	1.06	856	<5	32.2	440	1118	17.1	6.37	47.9	539
	2	05/04/00	124	44	186	58	0.8	4.8	1.17	2	22.2	1.05	919	<5	29.2	429	1182	16.4	5.92	47.95	538
	3	10/19/00	118	40	190	36	5.6	11.6	1.44	<2	24	0.92	928	<5	29.7	467	1161	16.44	6.06	48.75	539
	4	04/25/01	122	–	–	–	–	–	–	–	–	–	1070	–	–	537	968	17.42	6.04	48.25	539
	5	10/04/01	116	35	222	–	2.8	5.1	1.75	<2	27.9	0.91	1010	<5	27.9	527	1105	16.99	5.64	49.01	538
	6	06/05/02	104	–	–	36	–	–	–	–	–	–	1050	–	–	561	1205	16.85	6.83	48.00	538
	7	10/31/02	99	38	203	42	4.3	4	1.69	<2	29.3	1.16	1010	<5	24	559	1203	16.48	6.87	48.70	538
	8	04/08/03	97	–	–	–	–	–	–	–	–	–	1040	–	–	555	1301	16.47	6.92	46.50	541
	9	10/09/03	93	36	198	43	1.9	1	1.81	<2	31.2	1.22	979	<5	23.2	524	1186	16.28	7.40	49.20	538
	10	05/05/04	107	–	–	–	–	–	–	–	–	–	1040	–	–	532	1216	15.50	6.97	46.90	540
	11	10/21/04	82	32	185	38	2.6	1.7	1.93	<2	31.2	0.94	941	<5	23.3	519	1141	16.80	6.89	48.72	540
	12	04/26/05	78	–	–	–	–	–	–	–	–	–	977	–	–	519	1221	16.70	6.97	45.45	542
	13	10/19/05	75	26	175	41	1.8	4.6	2.05	<2	34	1.04	1000	12	25.9	525	1216	17.10	6.97	48.50	539
	14	04/18/06	79	–	–	–	–	–	–	–	–	–	1050	–	–	565	1285	16.80	6.98	48.24	539
	15	10/19/06	70	27	213	47	10.8	4	1.84	<10	33.9	1.06	986	<20	17.7	558	1233	17.20	6.86	47.20	541
	16	04/27/07	69	–	–	–	–	–	–	–	–	–	1050	–	–	585	1350	16.20	7.11	46.65	539
	17	11/05/07	69	29	187	–	1.5	3.7	1.83	<5	32.1	1.27	1020	<0.5	23	503	1258	16.40	7.00	48.29	539
	18	04/22/08	144	–	–	–	–	–	–	–	–	–	1480	–	–	790	1413	17.47	6.83	57.68	539
	19	11/04/08	124	37	286	29.4	2.23	2.97	4.46	<0.05	46	3.37	1430	<0.5	23.1	820	1149	17.44	6.76	48.31	539
	20	04/23/09	127	–	–	34.5	–	–	–	–	–	–	1470	–	–	778	1607	16.15	7.63	47.32	539
	21	10/21/09	129	29	273	33.8	1.5	0	3.38	<10	38.3	2.65	1390	<0.5	21.2	785	1598	17.00	6.83	48.75	539
	22	04/20/10	138	–	–	–	–	–	–	–	–	–	1420	–	–	744	946	16.90	5.85	47.51	539
	23	10/15/10	127	34	277	38	1.9	0.9	4.28	<10	39.6	3.32	1330	<0.5	21.8	775	1432	16.80	6.80	48.23	539
	24	06/07/11	127	–	–	–	–	–	–	–	–	–	1280	–	–	668	1428	16.80	7.03	46.75	539
	25	10/19/11	123	24	207	36.2	2.1	3.5	3.8	<10	28.9	2.96	1180	<0.5	19.1	666	1366	15.80	6.73	48.05	539
	26	04/25/12	117	–	–	37.3	–	–	–	–	–	–	1090	–	–	541	1184	16.50	6.77	48.48	539
	27	10/09/12	111	26.5	208	37.3	3.3	3.3	4.18	0.41	29.6	3.08	957	<0.1	19.4	459	1181	15.60	6.78	49.08	539
	28	04/24/13	111	–	–	39	–	–	–	–	–	–	965	–	–	542	1211	16.50	7.13	48.84	538
	29	10/24/13	97.9	25.9	195	40.5	3	10.6	3.7	0.11	25	2.69	903	<0.2	15.9	452	1119	15.40	6.74	49.10	539
	30	014/17/14	99.7	–	–	–	–	–	–	–	–	–	949	–	–	484	1170	16.20	7.16	48.00	540
	31	10/28/14	89.9	26.6	184	42.4	2	2.3	3.51	0.01	24.3	2.52	898	<0.1	15.8	460	1226	16.60	6.49	49.20	538
	32	05/21/15	94.6	–	–	44.5	–	–	–	–	–	–	896	–	–	481	1500	16.10	6.84	48.10	538
	33	10/29/15	85.1	26.7	192	48.9	4.7	5.1	3.76	0.03	26.7	2.67	784	<0.03	16.6	464	1130	16.30	7.00	48.80	539
	34	04/21/16	92.1	–	–	45.2	–	–	–	–	–	–	795	–	–	428	1013	16.80	6.88	48.70	539
	35	10/13/16	86.6	26.7	166	45.8	16.5	4.6	3.2	0.01	23.7	2.28	757	<0.03	14.7	423	1137	16.50	6.91	49.60	539
	36	04/27/17	12.5	-	-	54.1	-	-	-	-	-	-	295	-	-	103	446	16.50	6.21	47.50	540
	37	10/17/17	21.8	30.2	63.1	52.6	1.5	0.5	0.82	0.04	6.92	0.32	321	<.03	17.9	128	485	17.10	6.25	49.20	539
	38	06/06/18	36.1	-	-	53.8	-	-	-	-	-	-	330	-	-	102	504	16.70	6.56	47.20	540
	39	10/18/18	14.7	28.9	55.9	63.9	0.9	0	0.82	<0.02	5.9	0.42	312	<0.03	17.7	114	557	14.10	6.12	47.80	540
	40	04/22/19	14.4	-	-	70.2	-	-	-	-	-	-	391	-	-	129	571	17.10	6.27	45.40	541
	41	10/29/19	10	29.4	75.4	85.2	0.8	1.82	0.3	<0.05	7.7	0.15	464	0.04	33	185	643	16.30	6.39	48.90	541
	42	06/12/20	20.7	-	-	79.3	-	-	-	-	-	-	490	-	-	202	550	18.20	6.74	47.50	536
	43	10/23/20	10	26	90.9	80.9	-0.13	2.55	0.18	0.07	8.83	0.27	575	0.03	36.5	226	738	16.00	6.39	49.10	539
	44	04/28/21	10	-	-	86.3	-	-	-	-	-	-	568	-	-	250	837	16.20	6.49	48.50	539
	45	10/19/21	14	23.3	88.2	85.4	0	0.27	1.31	<0.3	9.43	0.46	540	<0.5	52.1	249	882	17.00	6.31	49.20	539
	46	04/22/22	13	-	-	83.4	-	-	-	-	-	-	540	-	-	259	1200	16.30	6.82	47.10	541
	47	10/25/22	13	21.3	81.9	86.8	0.06	0.09	0.47	<0.05	8.41	0.17	540	<0.09	54.7	256	776	16.90	6.71	49.50	537
	48	05/24/23	22	-	-	78.7	-	-	-	-	-	-	550	-	-	243	490	16.1	6.25	49.2	537
	49	10/19/23	16	26.4	113	89.9	0.72	0.99	0.86	<0.05	11.4	0.36	650	<0.04	53.2	326	834	16.4	7.01	49.1	539
	50	05/14/24	21	-	-	93.9	-	-	-	-	-	-	760	-	-	352	1035	15.7	6.38	48.00	539
	51	10/23/24	25	27.1	135	98.1	1.08	1.07	2.12	<0.3	13.2	0.42	780	<0.2	54	365	991	16.00	6.23	49.70	539

ANNUAL

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9507
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field umhos/cm	Temperature Field C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	40	28	150	35	4.6	5.5	18.5	<2	55.5	6.73	1000	<5	29.9	629	842	17.3	5.61	47.32	538.6
	2	01/06/98	42	24	138	37	3.4	6.3	14.1	3	45.8	4.42	993	<5	30.1	586	868	17.2	5.59	47.38	539.5
	3	05/22/98	44	29	141	30	<1	3.3	16.8	2	49	5.15	1080	<5	29.2	583	499	17.4	5.61	46.63	538.8
	4	07/21/98	46	24	162	28	10.9	16.2	17.5	<2	51.8	5.55	1060	<5	29.9	618	1236	17.8	5.64	46.77	539
	5	10/21/98	50	23	153	30	<1	3.1	17	<2	51.5	5.14	1050	<5	26.3	610	1209	17.2	5.57	47.8	539
	6	01/13/99	46	24	152	26	1.7	6.4	17.3	3	52.9	4.8	1070	<5	27.8	632	1214	16.7	5.16	47.98	539.5
	7	04/21/99	41	24	157	30	5	7.8	19.2	2	52.8	5.21	1130	<5	27.3	672	931	16.9	6.18	46.36	541
	8	07/27/99	38	22	156	29	9.6	6.6	22.5	<2	53.8	5.91	1110	<5	27.2	637	1306	19.4	5.3	47.15	540
	95% Tol	Upper	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1214	N/A	N/A	713	1895	N/A	N/A	N/A	N/A
	95% Tol	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL	1	10/13/99	39	20	147	33	2.5	1.8	18.6	<2	49.5	4.93	954	<5	27.6	579	1226	17.2	5.36	47.86	538.5
	2	05/04/00	37	19	131	46	1.5	0.5	12.9	<2	43.4	3.72	981	<5	26.1	518	1182	16.9	5.07	48.35	538
	3	10/19/00	33	18	130	26	3.7	1.3	15.6	<2	45.3	4.34	919	<5	24.7	531	1138	16.82	5.28	48.69	538.8
	4	04/25/01	32	–	–	–	–	–	–	–	–	–	967	–	–	536	1309	17.26	5.68	48.17	539
	5	10/04/01	27	20	128	–	0.7	1.7	13.6	<2	41.8	3.57	860	<5	25.6	485	1267	17.75	6.91	48.99	538
	6	06/05/02	25	–	–	34	–	–	–	–	–	–	1110	–	–	563	1124	16.90	5.62	48.00	538
	7	10/31/02	24	24	122	41	0.7	1.9	18.6	<2	41.1	4.32	853	<5	24.6	530	1051	16.70	5.75	48.60	538.4
	8	04/08/03	22	–	–	–	–	–	–	–	–	–	843	–	–	505	1051	16.65	5.67	46.40	540.7
	9	10/09/03	22	21	118	45	0.8	2.6	18.6	<2	38.9	4.06	820	<5	22.9	479	1048	16.49	5.95	48.10	538
	10	05/05/04	22	–	–	–	–	–	–	–	–	–	941	–	–	515	1112	16.56	5.79	46.80	540
	11	10/21/04	21	19	123	34	0.8	2.5	26.4	<2	39.2	5.28	810	<5	24.3	514	1074	16.90	5.67	48.35	540
	12	04/26/05	22	–	–	–	–	–	–	–	–	–	782	–	–	463	1053	16.70	5.62	45.40	542
	13	10/19/05	20	13	96	39	0.7	1.2	17	<2	31.4	3.12	707	<5	25.3	400	981	17.10	5.71	48.35	539
	14	04/18/06	20	–	–	–	–	–	–	–	–	–	755	–	–	448	976	16.90	5.66	48.15	539
	15	10/19/06	20	15	103	36.9	0.7	0.9	27.5	<10	32.7	4.71	724	<20	21.2	445	1015	17.20	5.52	47.28	541
	16	04/27/07	22	–	–	–	–	–	–	–	–	–	808	–	–	463	1072	16.30	5.73	46.64	539
	17	11/05/07	25	17	100	–	2	3	31.4	<5	31.2	5.59	810	<0.5	23.2	396	996	16.50	5.62	48.15	539
	18	04/22/08	31	–	–	–	–	–	–	–	–	–	1120	–	–	649	1121	17.68	6.29	57.67	539
	19	11/04/08	26	22	232	36.6	-0.21	0.84	8.31	<0.05	31.5	1.89	1040	<0.5	16.2	592	894	17.49	6.22	52.49	539
	20	04/23/09	28	–	–	41.5	–	–	–	–	–	–	997	–	–	560	1200	16.30	7.01	47.22	539
	21	10/21/09	28	<20	144	40.5	2.6	0	8.44	<10	18.8	1.65	827	0.5	14.1	492	1060	17.20	5.86	48.80	538.7
	22	04/20/10	24	–	–	–	–	–	–	–	–	–	698	–	–	408	1022	17.00	6.93	47.40	539
	23	10/15/10	21.2	21	122	51.6	0.6	0	5.19	<10	14.2	0.937	593	<0.5	13.6	382	770	16.60	6.08	48.10	539
	24	06/07/11	26.7	–	–	–	–	–	–	–	–	–	627	–	–	319	858	16.80	7.07	46.85	538.8
	25	10/19/11	20.2	<20	77.8	40.9	3.1	4.7	1.26	<10	8.66	0.395	433	<0.5	10.6	212	543	15.80	5.81	48.02	538.9
	26	04/25/12	17	–	–	43.7	–	–	–	–	–	–	489	–	–	207	604	16.50	6.10	48.42	538.7
	27	10/09/12	14	21.3	85.4	49	1.4	2.6	0.64	0.03	8.18	0.211	433	<0.1	11.4	171	577	15.60	5.66	48.97	538.5
	28	04/24/13	15	–	–	48.8	–	–	–	–	–	–	402	–	–	168	557	16.40	6.33	48.78	538.1
	29	10/24/13	14.2	24.8	73.7	50.1	0	3.5	1.26	0.09	7.47	0.392	349	<0.2	11.3	142	517	15.40	6.74	49.10	538.5
	30	04/17/14	14.6	–	–	–	–	–	–	–	–	–	393	–	–	135	537	16.10	6.19	48.10	540
	31	10/28/14	25	25.2	60.7	50.8	0	4.7	0.13	0.02	6.46	0.277	343	<0.1	11.5	128	520	16.60	6.56	49.10	538
	32	05/21/15	26.5	–	–	56	–	–	–	–	–	–	353	–	–	136	546	15.90	6.26	48.00	538.1
	33	10/29/15	13.2	26.4	60.8	56.3	0.5	13.1	1.02	0.02	6.17	0.264	348	<0.03	12.8	130	484	16.30	6.13	48.70	539
	34	04/21/16	14.3	–	–	53.9	–	–	–	–	–	–	320	–	–	121	443	16.50	6.01	48.60	539
	35	10/13/16	14.8	29.3	61.6	54.6	0	0	1.22	0.03	6.73	0.382	339	0.04	16.2	133	510	16.40	6.02	49.60	538.9
	36	04/27/17	93.1	-	-	46.5	-	-	-	-	-	-	724	-	-	360	1054	16.50	6.95	46.90	540.2
	37	10/17/17	93.9	25.3	146	46	1.4	3.7	2.61	0.01	21.1	1.79	651	<0.03	13.6	346	970	16.70	6.93	48.70	539.1
	38	06/06/18	102	-	-	49.6	-	-	-	-	-	-	694	-	-	343	1089	16.60	6.93	47.10	540.3
	39	10/18/18	93.8	27.1	141	55.3	4.6	1.2	2.4	<0.02	19.2	1.65	662	<0.03	12.4	319	1121	15.90	6.99	47.80	539.8
	40	04/22/19	87.1	-	-	64.4	-	-	-	-	-	-	825	-	-	383	1230	16.00	6.59	45.50	541.3
	41	10/29/19	89.2	38.4	173	65.6	1.24	1.48	3.36	<0.05	25.1	2.64	911	<>0.03	28	462	1231	16.60	6.99	48.90	540.8
	42	06/12/20	75.5	-	-	71.6	-	-	-	-	-	-	1050	-	-	537	1280	18.10	6.74	47.50	536.2
	43	10/23/20	100	31.3	207	63.5	-0.43	1.16	2.98	<0.05	26.8	2.44	945	<0.03	23.3	479	1350	16.50	6.99	49.10	538.9
	44	04/28/21	87.9	-	-	74.7	-	-	-	-	-	-	1080	-	-	566	1474	15.80	6.99	48.50	539.2
	45	10/19/21	92	32.1	222	73.8	0.45	0.7	3.11	<0.3	29.7	3.08	1120	<0.5	35.3	592	1537	17.80	7.02	49.20	539
	46	04/22/22	91	-	-	90.1	-	-	-	-	-	-	1380	-	-	814	1662	16.60	7.06	47.20	540.9
	47	10/25/22	83	32.5	249	87.6	0	1.16	3.05	<0.05	31.6	3.14	1340	<0.09	55.6	777	1615	17.00	6.96	49.60	537.1
	48	05/24/23	58	-	-	102	-	-	-	-	-	-	1430	-	-	827	1068	16.40	6.92	49.20	537.3
	49	10/19/23	67	31	271	101	1.23	0.93	3.84	<0.05	33.2	3.26	1560	<0.04	73.7	876	1714	16.00	7.01	49.10	539
	50	05/14/24	68	-	-	117	-	-	-	-	-	-	1750	-	-	982	2146	15.90	6.95	48.20	539.3
	51	10/23/24	64	29.1	311	122	1.07	2.03	2.44	<0.3	37	3.69	1770	<0.2	91	963	2004	16.30	6.89	49.70	539.1

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9508
SAMPLING RESULTS

	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/c	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
BACKGROUND DATA	1	10/14/97	237	99	132	21	5.6	8.6	1.07	<2	20	1.24	558	<5	14.7	190	512	15	6.94	23.5	539
	2	01/06/98	244	90	124	21	5.5	9.1	1.17	2	17.1	0.92	568	<5	15.3	196	588	14.9	6.85	23.4	540
	3	05/22/98	236	99	133	22	2.5	4.7	2.15	<2	19.6	0.88	607	<5	15.7	203	840	15.1	6.91	22.7	539
	4	07/21/98	230	98	146	21	3.1	3.8	2.35	<2	20.7	0.97	598	<5	15.8	208	805	15.4	6.81	22.8	539
	5	10/21/98	210	101	144	23	3.3	3.9	2.32	<2	20	0.89	621	<5	14.9	245	819	15.1	6.83	23.5	539
	6	01/13/99	233	98	136	21	3.5	5.2	2.28	2	19.7	0.86	600	<5	15.3	221	824	14.9	6.4	23.6	540
	7	04/21/99	224	101	138	20	5	5.7	1.99	<2	19.2	0.78	608	<5	15.5	230	975	16.1	6.33	22.4	541
	8	07/27/99	228	102	151	23	1.2	3.4	2.08	<2	20.7	0.79	659	<5	16.2	235	893	16.5	6.44	23.2	540
	95% Tol.	Upper	263	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	702	N/A	N/A	279	1275	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEMI ANNUAL	1	10/13/99	228	104	155	23	2.6	3.2	2.22	<2	20.8	0.78	631	<5	16.7	247	904	15.3	6.56	23.7	539
	2	05/04/00	221	104	158	32	0	2.3	2.29	<2	21.2	0.79	660	<5	16.8	247	969	15.3	5.93	23.9	538
	3	10/19/00	238	108	156	23	5.9	4	2.08	<2	21.8	0.94	645	<5	16.5	253	980	15.33	5.96	24.03	539
	4	04/25/01	229	–	–	–	–	–	–	–	–	–	691	–	–	264	729	15.14	5.97	23.58	539
	5	10/04/01	244	111	171	–	4	4.4	2.58	<2	22.6	1.1	681	<5	16.9	273	974	15.34	6.96	24.27	538
	6	06/05/02	233	–	–	24	–	–	–	–	–	–	754	–	–	283	962	15.25	6.98	23.46	538
	7	10/31/02	233	116	172	26	3.4	6.7	2.95	<2	24.4	0.95	736	<5	18.1	315	1002	14.79	7.01	24.31	538
	8	04/08/03	224	–	–	–	–	–	–	–	–	–	807	–	–	357	1087	14.81	6.89	24.80	541
	9	10/09/03	227	99	193	24	1.3	4.2	3.23	<2	27.2	1.04	827	<5	19.8	370	996	15.10	7.24	24.30	538
	10	05/05/04	228	–	–	–	–	–	–	–	–	–	896	–	–	380	1157	14.78	7.14	22.40	540
	11	10/21/04	227	78	216	13	3.3	5	4.08	<2	27.2	1.09	841	<5	20.9	372	1148	15.00	6.93	24.00	540
	12	04/26/05	229	–	–	–	–	–	–	–	–	–	803	–	–	351	1103	15.00	6.91	21.00	542
	13	10/19/05	231	60	171	22	1.9	3.3	4.02	<2	24.3	0.98	778	<5	20.5	320	1064	15.10	6.96	23.77	539
	14	04/18/06	228	–	–	–	–	–	–	–	–	–	761	–	–	332	1056	15.30	6.89	23.52	539
	15	10/19/06	226	68	194	23.4	0	0.5	3.94	<10	25.6	0.95	759	<20	18.1	325	1050	15.30	6.88	22.04	541
	16	04/27/07	231	–	–	–	–	–	–	–	–	–	795	–	–	314	1134	14.30	6.99	22.25	539
	17	11/05/07	164	65	178	–	2	0.5	3.82	<5	24.8	1.09	882	<0.5	20.9	326	1112	14.40	6.93	23.68	539
	18	04/22/08	207	–	–	–	–	–	–	–	–	–	794	–	–	320	852	14.80	7.16	25.83	539
	19	11/04/08	199	74	200	23.3	2.99	1.2	4.24	<0.05	28.5	1.43	820	<0.5	20.5	337	751	15.30	7.11	24.49	539
	20	04/23/09	231	–	–	30.2	–	–	–	–	–	–	806	–	–	334	1078	14.10	7.49	22.68	539
	21	10/21/09	229	68	165	27.4	0.7	3.2	4.2	<10	24.4	0.94	774	<0.5	24.8	326	1083	15.20	6.96	24.00	539
	22	04/20/10	230	–	–	–	–	–	–	–	–	–	815	–	–	340	1005	14.90	7.02	23.20	539
	23	10/15/10	235	71	169	29.2	0	2.1	4.59	<10	26.3	1	742	<0.5	20.9	395	970	15.00	6.93	23.60	539
	24	06/07/11	241	–	–	–	–	–	–	–	–	–	738	–	–	288	1019	14.90	7.36	22.37	539
	25	10/19/11	234	71	165	27.4	3.1	5	4.2	<10	25.4	0.98	796	<0.5	21.6	336	1037	14.20	6.75	23.01	539
	26	04/25/12	242	–	–	26.5	–	–	–	–	–	–	834	–	–	330	1020	15.00	6.89	23.70	539
	27	10/09/12	229	75.5	194	27.3	3.5	3.5	5.33	0.04	29.9	1.06	838	<0.1	25	336	1112	14.20	6.72	23.91	539
	28	04/24/13	237	–	–	27.7	–	–	–	–	–	–	825	–	–	399	1161	15.40	7.09	23.90	538
	29	10/24/13	223	70.9	189	29.8	1	2.3	5.41	0.08	27.1	1	830	<0.2	21.7	346	1109	14.80	6.59	23.70	539
	30	04/17/14	225	–	–	–	–	–	–	–	–	–	844	–	–	346	1131	15.10	7.04	23.20	540
	31	10/28/14	223	64.7	178	28.7	2.3	4.1	5.34	0.01	25.7	1.04	836	<0.1	21.3	364	1195	16.00	6.65	23.90	538
	32	05/21/15	216	–	–	–	–	–	–	–	–	–	847	–	–	394	1231	15.30	6.76	22.10	538
	33	10/29/15	213	67	208	32.7	1.9	2.5	6.5	0.02	30.5	1.3	800	<0.03	25.4	384	1184	15.80	6.71	23.50	539
	34	04/21/16	215	–	–	30.7	–	–	–	–	–	–	868	–	–	391	1106	16.50	6.85	23.80	539
	35	10/13/16	234	67	192	31.8	2.5	2	5.95	0.01	27.6	1.31	866	<0.03	21.9	420	1296	16.20	6.84	24.30	539
	36	04/27/17	210	-	-	31.9	-	-	-	-	-	-	834	-	-	381	1188	16.45	6.75	22.30	540
	37	10/17/17	237	57.1	176	30.4	3	0.4	5.79	0.01	26.2	1.19	788	<0.03	20.4	370	1135	17.30	6.83	24.00	539
	38	06/06/18	225	-	-	30.7	-	-	-	-	-	-	777	-	-	342	1122	16.00	6.85	22.70	540
	39	10/18/18	237	55.9	162	29.7	3.4	1.4	5.32	0.06	22.7	1.19	391	<0.03	17.8	317	1208	15.70	6.84	22.90	540
	40	04/22/19	215	-	-	31	-	-	-	-	-	-	810	-	-	352	1163	16.90	6.96	20.30	541
	41	10/29/19	208	65.2	164	33	-0.66	2.83	6.51	<0.05	25.5	1.46	838	0.03	19.9	362	1061	17.40	6.82	23.90	541
	42	06/12/20	228	-	-	31.1	-	-	-	-	-	-	793	-	-	338	1071	18.10	7.00	22.70	536
	43	10/23/20	221	61.4	168	29.5	0.84	2.56	6.49	<0.05	24.2	1.73	783	<0.03	17.7	311	1198	17.60	6.98	23.80	539
	44	04/28/21	208	-	-	30.7	-	-	-	-	-	-	735	-	-	297	1050	16.90	6.89	23.30	539
	45	10/19/21	217	56	149	30.3	0.39	1.67	5.74	<0.3	21.9	1.68	680	<0.5	17.6	283	1068	17.60	6.90	24.10	539
	46	04/22/22	224	-	-	31.8	-	-	-	-	-	-	670	-	-	295	1216	17.00	7.12	22.40	541
	47	10/25/22	213	63.1	134	33.6	-0.13	0.44	5.55	<0.05	21.3	1.81	690	<0.09	16	284	966	16.40	6.83	24.40	537
	48	05/24/23	208	-	-	33.2	-	-	-	-	-	-	680	-	-	272	606	16.90	6.98	24.30	537
	49	10/19/23	203	61.7	147	32.5	1.04	0.89	2.83	<0.05	21.8	1.59	660	<0.04	16.7	266	863	16.80	7.02	49.10	539
	50	05/14/24	232	-	-	31	-	-	-	-	-	-	640	-	-	221	954	16.10	7.05	23.30	539
	51	10/23/24	209	58.2	147	31.5	0.62	0.55	4.66	<0.3	22.2	1.84	670	<0.2	15.2	229	954	17.80	7.05	24.40	539

OHIO VALLEY ELECTRIC CORPORATION
KYGER CREEK FLY ASH POND CLOSURE PROJECT
MONITORING WELL KC-9509
SAMPLING RESULTS

BACKGROUND	Round	Date	Alkalinity (total) mg/l	Barium (diss) ug/l	Calcium (diss) mg/l	Chloride mg/l	Gross Alpha pCi/l	Gross Beta pCi/l	Iron (diss) mg/l	Lead (diss) ug/l	Magnesium (diss) mg/l	Manganese (diss) mg/l	Residue, Filterable, TDS mg/l	Selenium (diss) ug/l	Sodium (diss) mg/l	Sulfate mg/l	Conductivity Field mhos/c	Temperature Field °C	pH Field S.U.	Well Elev. ft.	River Elev. ft.
	1	10/14/97	195	51	133	18	<1	2.7	2.65	<2	22.4	0.87	603	<5	17.2	241	485	14.9	6.62	23.8	539
	2	01/06/98	201	45	122	24	1.5	3.1	1.58	2	19.3	0.48	605	<5	17.4	235	597	14.9	6.59	23.7	540
	3	05/22/98	210	47	128	21	<1	2.2	2.41	<2	20.4	0.58	642	<5	16.4	225	832	15.1	6.65	23	539
	4	07/21/98	201	47	143	21	<1	2.8	2.6	<2	22.3	0.63	621	<5	17.2	245	814	15.4	6.36	23.1	539
	5	10/21/98	230	45	141	23	1.6	3	2.19	<2	21.4	0.59	618	<5	15.7	220	820	15	6.48	23.8	539
	6	01/13/99	206	48	135	21	<1	2.5	2.39	<2	21.2	0.56	624	<5	16.6	261	827	14.9	5.87	24	540
	7	04/21/99	212	45	133	24	3.2	2.4	1.56	4	19.7	0.44	589	<5	15.6	235	857	15.3	6.14	22.8	541
	8	07/27/99	207	45	144	16	4.3	4.1	1.76	<2	21.3	0.47	646	<5	16.1	244	869	16.1	6.14	23.6	540
	95% Tol.	Upper	241	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	680	N/A	N/A	279	1213	N/A	N/A	N/A	N/A
	95% Tol.	Lower	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	10/13/99	204	48	147	21	0.5	2	3.3	<2	21.9	0.62	622	<5	17.5	255	885	15.2	6.27	23.9	539
	2	05/04/00	197	59	152	30	0	0.3	4.75	2	22.3	0.81	694	<5	18.2	278	959	15.3	5.65	23.6	538
	3	10/19/00	201	55	168	15	2.2	1.8	2.34	<2	25.2	0.62	736	<5	18.9	326	1017	15.21	5.76	24.45	539
	4	04/25/01	200	–	–	–	–	–	–	–	–	–	831	–	–	383	787	15.14	5.50	23.83	539
	5	10/04/01	206	63	175	–	2.3	3.3	2.48	<2	25	0.68	734	<5	19.1	324	1027	15.32	6.75	24.62	538
	6	06/05/02	190	–	–	23	–	–	–	–	–	–	793	–	–	348	992	15.21	6.69	23.75	538
	7	10/31/02	162	74	164	24	0	2.1	4.35	<2	27.7	1.08	803	<5	23.3	395	1040	14.75	6.56	24.70	538
	8	04/08/03	151	–	–	–	–	–	–	–	–	–	894	–	–	457	1136	14.85	6.40	22.10	541
	9	10/09/03	149	59	178	25	1.3	4.6	1.32	<2	30.1	1.07	864	<5	22	443	1020	15.05	6.78	24.60	538
	10	05/05/04	151	–	–	–	–	–	–	–	–	–	876	–	–	426	1101	14.89	6.58	22.68	540
	11	10/21/04	149	65	184	18	1.6	4.3	4.14	<2	28.3	2.48	849	<5	22.1	436	1127	14.90	6.21	23.23	540
	12	04/26/05	162	–	–	–	–	–	–	–	–	–	863	–	–	420	1129	15.00	6.31	21.90	542
	13	10/19/05	152	49	165	22	1.5	4.3	2.45	3	28.2	5.36	846	<5	24.1	430	1093	15.10	6.48	24.15	539
	14	04/18/06	165	–	–	–	–	–	–	–	–	–	841	–	–	410	1050	15.40	6.52	24.05	539
	15	10/19/06	155	53	172	25.1	0.7	3.9	1.83	<10	25.1	8.99	761	<20	17.9	394	1023	15.20	6.47	22.36	541
	16	04/27/07	158	–	–	–	–	–	–	–	–	–	830	–	–	381	1131	14.40	6.71	22.60	539
	17	11/05/07	180	51	170	–	3	5.6	2.52	<5	26.6	8.58	896	<0.5	22.5	398	1173	14.40	6.61	24.00	539
	18	04/22/08	164	–	–	–	–	–	–	–	–	–	745	–	–	328	794	14.95	6.63	26.16	539
	19	11/04/08	167	59	145	21.8	1.67	1.61	3.61	<0.05	23.3	9	664	<0.5	18.4	263	622	15.26	6.84	23.94	539
	20	04/23/09	167	–	–	25.5	–	–	–	–	–	–	693	–	–	304	921	14.09	7.51	22.98	539
	21	10/21/09	162	54	127	25.1	1.2	3.7	5.24	<10	22.6	10.2	742	<0.5	19.8	351	994	15.20	6.44	24.50	539
	22	04/20/10	170										781			349	1069	15.00	6.59	23.49	539
	23	10/15/10	177	58	162	34.1	4.9	2.9	2.82	<10	28.7	10.1	825	<0.5	22.8	451	1032	15.00	6.66	24.18	539
	24	06/07/11	184	–	–	–	–	–	–	–	–	–	834	–	–	361	1058	14.80	7.11	22.85	539
	25	10/19/11	177	44	156	27.8	4.4	6.2	2.29	<10	27	10	868	<0.5	23	432	1069	14.20	6.38	23.60	539
	26	04/25/12	207	–	–	27	–	–	–	–	–	–	861	–	–	391	1013	14.80	6.47	23.25	539
	27	10/09/12	147	63.1	63.6	25.3	3	3.1	3.16	0.1	20.2	14.8	923	<0.1	25.3	430	1160	14.20	6.22	24.42	539
	28	04/24/13	176	–	–	26.5	–	–	–	–	–	–	900	–	–	471	1188	15.40	6.71	24.35	538
	29	10/24/13	137	72.6	158	26.5	2.3	0	6.76	0.51	27.8	22.5	832	<0.2	22.8	401	1069	15.00	6.22	24.90	539
	30	04/17/14	131	–	–	–	–	–	–	–	–	–	922	–	–	454	1173	15.40	6.59	23.70	540
	31	10/28/14	118	63.6	155	29.4	2.2	0	2.21	0.01	28.2	29.1	915	<0.1	24.7	473	1260	16.10	6.44	24.30	538
	32	05/21/15	143	–	–	31.7	–	–	–	–	–	–	918	–	–	478	1262	15.40	6.63	23.40	538
	33	10/29/15	112	49.6	166	32	6.1	0	2.55	0.02	31.1	33.8	886	<0.03	26.5	497	1204	15.70	6.13	23.80	539
	34	04/21/16	109	–	–	31.9	–	–	–	–	–	–	877	–	–	499	950	16.60	6.15	24.20	539
	35	10/13/16	113	62	134	29.2	3.1	2.7	7.04	0.01	26	36.2	779	<0.03	23.5	460	1126	16.50	6.11	24.69	539
	36	04/27/17	110	-	-	32.2	-	-	-	-	-	-	854	-	-	463	1155	16.44	6.19	22.80	540
	37	10/17/17	134	41.8	157	31.3	2.8	0	1.72	0.01	29	30.6	828	<0.03	23.7	464	1043	17.30	6.83	24.00	539
	38	06/06/18	168	-	-	32.7	-	-	-	-	-	-	824	-	-	414	1119	16.00	6.50	23.10	540
	39	10/18/18	150	49.5	147	33.4	1.5	5.1	2.38	0.21	25.7	26.2	828	<0.03	20.9	405	1212	16.10	6.43	23.30	540
	40	04/22/19	162	-	-	33	-	-	-	-	-	-	812	-	-	375	1103	17.20	6.68	20.70	541
	41	10/29/19	126	49.4	132	40.1	0.93	2.53	1.95	<0.05	26.1	30.1	804	<0.03	21.9	402	1045	17.10	6.70	24.90	541
	42	06/12/20	126	-	-	38.3	-	-	-	-	-	-	768	-	-	373	1068	17.20	6.93	23.20	536
	43	10/23/20	136	54.9	132	37.3	-0.19	1.53	3.53	<0.05	23.6	26.7	783	<0.03	18.8	330	1172	16.70	6.70	24.20	539
	44	04/28/21	158	-	-	35.6	-	-	-	-	-	-	720	-	-	324	1034	16.40	6.80	23.70	539
	45	10/19/21	148	62.2	117	40.8	0	0.86	6.45	<0.3	21.2	23.7	660	<0.5	18.9	296	1063	16.90	6.73	24.60	539
	46	04/22/22	144	-	-	44	-	-	-	-	-	-	670	-	-	325	980	16.60	6.82	22.90	541
	47	10/25/22	144	67.5	119	45.8	0.6	1.02	3.45	<0.05	22	19	680	<0.09	17.6	324	952	17.40	6.51	24.80	537
	48	05/24/23	150	-	-	39.8	-	-	-	-	-	-	690	-	-	310	600	16.50	6.62	24.30	537
	49	10/19/23	150	49.4	122	41.4	0.91	0.84	2.46	<0.05	21.1	16.7	700	<0.04	16.6	305	868	16.30	6.62	24.60	539
	50	05/14/24	164	-	-	44.0	-	-	-	-	-	-	680	-	-	293	979	16.20	6.64	23.40	539
	51	10/23/24	170	58.8	123	42.4	1.6	1.47	5.48	<0.3	22.2	11.1	680	<0.2	17.5	266	988	16.80	6.73	24.80	539

APPENDIX B 1998 AND 2017 OEPA INTEROFFICE MEMORANDUM

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George V. Voinovich
Governor

To: Dan Messerly through Bruce Goff, DSW-SEDO

From: David Hunt through Mike Preston, DDAGW-SEDO

Subject: Ohio Valley Electric Corporation - Ground Water Quality Results for May 1998
(DDAGW #: 07/22/98-04-3-05-0 3757)

Date: August 28, 1998

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Introduction

The Ohio Valley Electric Corporation (OVEC) site is located in Gallia County, Ohio on State Route 7 approximately five miles north of Gallipolis, Ohio. There are two fly ash ponds at the OVEC site: the north and the south ponds. The PTI for closure plan is only for the closure of the north pond, while the south pond will continue to be used for fly ash disposal. The PTI was approved without OVEC having to address DDAGW's comments on the proposed ground water monitoring plan. The geology of interest beneath the OVEC site consists of unconsolidated sand and gravel formations of the Ohio River Valley Aquifer. There are two industrial, nonpotable well fields up river and down river of the north and south ponds. The industrial well fields and the Ohio River are the major influence of the ground water flow patterns at the OVEC site.

There are ten ground water monitoring wells at the closure site (KC-9501 through KC-9510) However, only wells KC-9501, KC-9502, KC-9504, KC-9507, KC-9508 and KC-9509 have been selected by OVEC for ground water monitoring purposes. Dedicated bladder pumps have been installed in these six wells for sampling purposes. The ground water monitoring package submitted on July 10, 1998 included ground water data for these six wells. The package also included water level data for fourteen wells present at the site. The six wells are proposed to be sampled quarterly for two years. No up gradient well was sampled, which is necessary to determine if an intrawell statistical approach is appropriate. DDAGW has commented on this before, but OVEC maintains that they will implement the ground water monitoring program in the approved PTI, which does not include a background well being monitored.

In a previous IOC to DSW, DDAGW outlined that based upon a comparison of shallow wells verses deep wells it appears that the water quality at the OVEC site is being impacted. Please refer to the January 1998 IOC for further information on the November sampling results.

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The following are DDAGW's comments on the ground water monitoring data results in the July 1998 submittal for the OVEC site.

Observations

1. Since no background well was sampled, DDAGW has made several comparisons with the ground water quality results to evaluate whether the north fly ash pond has impacted ground water. These comparisons include shallow wells to deep wells, the wells on site to two ambient stations within the Ohio River Valley Aquifer, and the two well clusters monitoring the north fly ash pond to the cluster on the southern side of the south fly ash pond. The following are several observations about the water quality.

   a. The shallow wells tend to have lower pH and alkalinity than the deeper wells at two of the three locations. The shallow wells KC-9502 and KC-9507 show pH ranging between 5.61 to 5.75, while the deeper well at the respective clusters, KC-9501 and KC-9504, showed pH near 7.0. Alkalinity in the deeper well 9501 was 181 ug/l, while the shallower well 9502 was at 19 ug/l.

   b. Shallow wells 9502 and 9507 have higher concentrations of manganese, and iron verses the deep wells 9501 and 9504. Well 9501 has a manganese concentration of 0.64 mg/l while the shallow well at the same cluster has a manganese concentration of 12.6 mg/l. Iron is 1.03 mg/l in the deep well (9504) but is 16.8 mg/l in shallow well (9507).

   c. In addition to the iron and manganese, 9507 (shallow well) has slightly higher concentrations of magnesium (Mg), TDS and sulfate (SO4) when compared to the deep well, 9504.

   d. The water quality for the cluster 9508 and 9509 was very similar for all parameters.

   e. There has been fairly good consistency in water quality between the three ground water sampling events that have been performed to date, with the following exceptions: well 9502 is showing an increasing trend of iron (3.79 in 10/97 to 6.67 in 5/98); conductivity in well 9507 dropped from 850 in 10/97 and 868 in 1/98 down to 499 in 5/98; 9508 is showing a slight increase in iron between the three events while manganese is slightly decreasing.

   f. Shallow wells 9502 and 9507 are close to being directly down gradient of the north fly ash pond while 9508 is located side gradient, or southward, of the south fly ash pond. Since there is no real difference between the deep and shallow wells at the 9508/09 location it stands to reason that the differences in water quality between shallow and deep at the other two locations may be related to a release from the north fly ash pond. Alkalinity, barium, calcium and pH are higher in the shallow well 9508 than found in 9502 and 9507. Iron and manganese are much

higher in 9502 and 9507 verses 9508. TDS, sulfate, and magnesium are higher in 9507 than found at 9508.

g. DDAGW maintains two ground water ambient stations within the Ohio River Valley Aquifer near the OVEC site. The Middleport Well #4 and the Gallia Rural Water #4 stations are located near the OVEC site. Water quality from July 1998 at these two ambient locations was compared to the water quality being found at the OVEC site. Magnesium, barium, sodium, calcium and chloride are all similar in concentration in the ambient wells as found at the OVEC site. However, iron and manganese levels are much higher (1 to 2 orders of magnitude higher) in all of the wells (shallow and deep) at the OVEC site when compared to the ambient water quality. Interestingly, the OVEC deep wells show very similar alkalinity to the ambient wells.

Comments

1. No water level map was submitted with the three water quality reports. A potentiometric map should be submitted with the water quality data report.

2. In the June 25, 1997 memo on the ground water quality SAP, DDAGW recommended the inclusion of the background well KC-9506 in the initial two year sampling. As noted, this is particularly important in determining if an intrawell statistical approach is the best method for evaluating whether a release has occurred. Given the water quality from the first tbree quarters of monitoring, it appears that there are differences in water quality between the shallow and deep wells in two of the three clusters. Other differences in water quality were also evaluated above. These differences in water quality may be reflective of a release to ground water from the north pond. If a release has occurred at the OVEC site, then intrawell statistics cannot be used to evaluate a release. In order for OVEC to effectively demonstrate that no release has occurred and that intrawell comparison is appropriate, DDAGW continues to recommend that KC-9506 be included in the sampling effort.

3. Based on the water quality data and the submitted water level depth data, DDAGW continues to recommend tbat another monitoring well cluster be installed between the clusters 9501/9502 and 9504/9507 on the east side of the north fly ash pond. OVEC declined to install this well cluster in 1997 given that OEPA approved the PTI without this well as a component of the proposed ground water monitoring program. If OVEC will not install this monitoring well as part of detection monitoring program, then the cluster would likely be installed during assessment activities. Based on the review of the water quality data it is likely that assessment activities will be necessary.

Conclusion

DDAGW has completed its review of the July 1998 Ground Water Quality Report for the North Pond closure at the OVEC site in Gallia County. DDAGW made several ohservations

concerning the water quality data generated to date. Based on the water quality data it appears that there is a difference in water quality between the shallow and deep portions of the Ohio River Valley Aquifer on the down gradient side of the site. This may be an indication of a release from the north or south ponds. Should you have any further questions regarding this review or the site in general, please contact me.

cc: Scott Sutliffe, DDAGW-CO

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DDAGW #: 07/22/98-04-3-05-0 3757

Gallia Co, OIB00005*DD Ohio Valley Electric Corp Kyger Creek

Ohio Environmental Protection Agency

Interoffice Memo

To: Marco Deshaies DSW, SEDO.

From: Steve Lowry through Steve Williams DDAGW, SEDO.

Date: February 7, 2017

RE: Ohio Valley Electric Corporation (OVEC), Kyger Creek Station, North Fly Ash Pond Closure Project, Internal Technical Review, Ground Water Program, Gallia County, OIB00005*PD

Subject: Review of the December 2015, May 2016 and December 2016 North Fly Ash Pond Closure Project Semi-annual groundwater sampling results.

INTRODUCTION

The DDAGW has reviewed the December 14, 2015, May 25, 2016 and the December 2, 2016 dated submittals containing the semiannual groundwater sampling and statistical analysis results from the North Fly Ash Pond Closure Project. These reports include data from the corresponding October 2015, April 2016 and October 2016 sampling events.

Groundwater monitoring of the North Fly Ash Pond is required as part of a January 15, 1997 PTI. Groundwater monitoring at the site began in October of 1997. The North Pond is closed and located immediately north of the adjacent and open South Fly Ash Pond. The North Fly Ash Pond was first used in the 1950's.

The statistical evaluations of groundwater quality contained in the above noted submittals indicate that the upper tolerance limits for the following parameters were exceeded at the following wells:

Alkalinity at wells KC-9501 and KC-9502, exceeded during all three sampling events.

Sulfate at wells KC-9508 and KC-9509, exceeded during all three sampling events, and at well KC-9502 during both 2016 events and KC-9504 during the October 2015 event.

TDS at wells KC-9508 and KC-9509, exceeded during all three sampling events.

Conductivity at well KC-9508 exceeded during the October 2016 sampling event.

Statistical exceedances have been declared by the facility for at least one parameter per sampling event since the beginning of the statistical evaluations, in October of 1999. As with past submittals, OVEC contends that "these statistical exceedances are due to natural variation and not associated with the North Fly Ash Closure Project".

The PTI does not include any provisions for further investigations related to the statistical increases, or for an assessment of the groundwater quality.

BACKGROUND

The facility has been conducting semi-annual groundwater monitoring at the North Fly Ash Pond since 1997. The PTI "Groundwater Sampling and Analysis Plan" is a rather brief document. The plan outlines sampling protocols and parameters and requires a statistical analysis of the four indicator parameters and a requirement to notify Ohio EPA of any statistically significant increases within 15 days of receipt of the analysis. As noted above, the plan does not contain any requirements for additional investigations or for the implementation of a groundwater assessment.

Per the PTI, during the spring sampling event, the statistical parameters of Alkalinity, Specific Conductance, Sulfate and TDS are collected and analyzed. During each fall sampling event, the above four parameters and an additional 12 water quality parameters are collected. The above three noted submittals contain the field parameters for the six sampled wells, total water depth measurements, river stage measurements, the laboratory data sheets for the sampled parameters, and a table that shows the sampling results for each parameter and the intra-well 95% confidence interval value for each of the statistical parameters.

Groundwater flow maps were not included in the submitted documents. The groundwater flow direction at the site is difficult to accurately determine due to the limited number of water level measurements included in the submittals. The lack of a submitted water level from an upgradient well also hinders evaluation of groundwater flow directions. Additionally, clarification may be necessary as water level data appears to be reported as a depth to water, from the top of the monitoring well inner casing, as opposed to mean sea level.

The North Fly Ash Pond is monitored by six wells which represent three well clusters, each monitoring two separate units. These wells are screened in sand and gravel deposits associated with the Ohio River. The wells range in depth from approximately 34 feet to 94 feet below grade. The well screens of each well cluster are separated by a distance of approximately two to five feet. The well clusters (shallow listed first) are grouped as follows: KC-9502/KC-9501, KC-9507/KC-9504, and KC-9509/KC-9508. Groundwater monitoring was not initiated at the North Fly Ash Pond until approximately 40 years after waste placement was initiated.

Wells KC-9509/KC-9508 are located primarily downgradient of the South Fly Ash Pond. These wells show the most significant impact to groundwater. The shallow well KC-9509 is showing statistically significant increases in conductivity, TDS and sulfate. Conductivity has increased from 485 umohs/cm in 1997 to 1,126 umoh/cm in 2016. TDS has increased from 603 mg/l to 779 mg/l and sulfate has increased from 241 mg/l to 460 mg/l over the same time period. The deeper well KC-9508 is showing

statistically significant increases in TDS and sulfate along with a visually increasing trend in conductivity since 2010. TDS in well KC-9508 has increased from 558 mg/l in 1997 to 866 mg/l in 2016, sulfate has increased from 190 mg/l in 2010 to 420 mg/l in 2016 and conductivity has increased from 512 umohs/cm in 1997 to 1,296 umoh/cm over the same time period.

Wells KC-9501/9502, located at the northernmost portion of the North Fly Ash Pond, has shown a statistically significant increase in alkalinity in both wells. Alkalinity in well KC-9501 has increased from 169 mg/l to 260 mg/l, and well KC-9502 from 19 mg/l to 45.7 mg/l over the 1997 to 2016 time period.

Wells KC 9507/9504 located downgradient of the North Fly Ash Pond reveals mostly decreasing trends in all statistically evaluated parameters, with the exception of deep well KC-9504, which has a statistically increasing trend for sulfate. The sulfate concentration in well KC-9504 started out at a concentration of 327 mg/l in 1997 and is currently at 423 mg/l. The sulfate concentration in this well was as high as 820 mg/l in 2008. The trend for sulfate in this well has been decreasing since 2008. TDS in this well is currently at a concentration of 757 mg/l with a past high of 1480 mg/l in 2008.

For comparison purposes, un-impacted groundwater from Ohio River sand and gravel deposits, from the Proctorville Wellfield (Lawrence County), reveal the following average concentrations: Alkalinity 58.2 mg/l, Conductivity 320.1 umhos/cm, TDS 195.7 mg/l and Sulfate 46.1 mg/l.

The sampling of additional existing groundwater monitoring wells, such as background well KC-9506 and possibly the KC-9505/9503 cluster may provide additional information regarding groundwater quality, flow directions and the extent of impacted ground water in the area of the North Fly Ash Pond. The installation of additional appropriately placed downgradient wells would also allow for a more meaningful evaluation of groundwater quality and flow directions in the area of the North Fly Ash Pond.

As shown in the December 14, 2015, the May 25, 2016 and the December 2, 2016 dated submittals titled "North Fly Ash Pond Closure Project, Groundwater Semiannual Data Analysis" the drinking water health standard was exceeded in all six monitoring wells for the parameter manganese. DDAGW will conduct a detailed review of potential receptors in the area. However, a preliminary review shows no private wells or public well fields immediately down gradient of the Kyger Creek Station, North Fly Ash Pond Closure Project.

RECOMMENDATIONS

1. The DDAGW has reviewed the December 14, 2015, the May 25, 2016 and the December 2, 2016 dated submittals titled "North Fly Ash Pond Closure Project,

Groundwater Semiannual Data Analysis". In these documents OVEC has presented the results of a statistical analysis of groundwater and concluded that the nine statistical exceedances are due to "natural variation and not associated with the North Fly Ash Pond Closure Project". The DDAGW does not concur with OVEC's statement that "these statistical exceedances are due to natural variation and are not associated with the North Fly Ash Closure Project". OVEC has not undertaken any known field activities to demonstrate that the statistically elevated concentrations of sulfate, TDS, Conductivity or Alkalinity are not the result of the operation of the North Fly Ash Pond. The DDAGW recommends that an assessment of groundwater quality be conducted at the North Fly Ash Pond.

To better evaluate the declared statistical exceedances, the DDAGW recommends that OVEC make improvements to the groundwater monitoring system for the North Fly Ash Pond and then conduct as assessment of groundwater quality as outlined in Attachment "G" of Guidance Document GD0303.010 titled "Ground Water Monitoring Program Plan Requirements for Wastewater Facilities".

2. The DDAGW recommends the following improvements be made to the groundwater monitoring network at the North Fly Ash Pond:

    a. That water level measurements and groundwater sampling results from background well KC-9506 be included in all future submittals. This sampling data point would represent background water quality for the North Fly Ash Pond and allow for a more meaningful evaluation of groundwater quality.

    b. That water level measurements from well KC-9510, KC-9503 and KC-9505 also be included in all future submittals.

    c. That OVEC evaluate the usefulness of including wells KC9503 and KC-9505 into the groundwater monitoring network.

    d. That the 10 groundwater monitoring wells installed in the area of the North Fly Ash Pond (KC-9501 to KC-9510) be resurveyed to ensure that the collected water level measurements accurately reflect site conditions.

    e. That future submittals include ground water flow maps derived from the above noted monitoring wells and that the water level measurements are recorded in reference to mean sea level.

    f. That upon determining current groundwater flow directions in the area of the North Fly Ash Pond, OVEC evaluate the adequacy of the current groundwater monitoring network. At this time the installation of an additional shallow groundwater monitoring well between existing wells KC9502 and KC-9507 appears to be appropriate.

Conclusion

The DDAGW has reviewed the December 14, 2015, May 25, 2016 and the December 2, 2016 dated submittals titled North Fly Ash Pond Closure Project submittals. The DDAGW has recommended that OVEC make improvements to the groundwater monitoring network at the North Fly Ash Pond and that an assessment of groundwater quality be conducted.

44711, 44712, 44713



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APPENDIX E ANALYTICAL DATA SUMMARY

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01
	Date	2016-08-26	2016-10-03	2016-11-28	2017-02-07	2017-03-28	2017-05-03	2017-06-13	2017-07-14	2018-02-28	2018-05-16	2018-09-18	2019-03-16	2019-09-19	2020-03-11
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L			222	214						240	210	200 B	190	200
Aluminum	mg/L					0.49	0.045 J	0.05 U	0.05 U						
Antimony	mg/L	2E-05 J	2E-05 J	1E-05 J	2E-05 J	0.002 B	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.00078	0.00042	0.0004	0.00106	0.0022 J	0.005 U	0.005 U	0.005 U	0.0011 J	0.00089 J	0.005 U	0.005 U	0.005 U	0.005 U
Barium	mg/L	0.0725	0.0611	0.0641	0.0625	0.075 B	0.063	0.064	0.062	0.069	0.072	0.066	0.064	0.059	0.06
Beryllium	mg/L	1E-05 J	2E-05 U	2E-05 U	9E-06 J	0.001 U	0.001 U	0.001 U	0.001 U	0.00035 J	0.001 U	0.001 U^+	0.001 U	0.001 U^-	0.001 U^-
Bicarbonate Alkalinity as CaCO3	mg/L									220	240	210	200 B	190	200
Boron	mg/L	0.104	0.095	0.11	0.162	0.11 J	0.12	0.13 J	0.13 JB	0.12	0.12	0.12	0.11	0.096 J	0.11
Bromide	mg/L			0.1 J	0.1 J	0.19 J	0.16 J	0.15 J	0.16 J						
Cadmium	mg/L	2E-05 J	2E-05 J	2E-05 J	2E-05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	113	105	114	107	110 JB	100	110	110	110	100	100	100	96	100
Carbonate Alkalinity as CaCO3	mg/L									5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	20.4	21.5	22.2	23.4	23	22	22	23	23	19	25	27	21	27
Chromium	mg/L	0.0004	0.0002	0.000207	0.000312	0.0013 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.00052	0.000168	0.000164	0.000439	0.00095 J	0.0002 J	0.001 U	0.001 U	0.00046 J	0.0006 J	0.00031 J	0.00025 J	0.001 U	0.00019 J
Conductivity, Field	uS/cm	645	646	661	644						621				633
Copper	mg/L					0.0014 JB	0.002 U	0.002 U	0.002 U						
Dissolved Oxygen, Field	mg/L	0.76	0.16	0.78	0.76						0.17				
Dissolved Solids, Total	mg/L	434	402	380	360	420	400	420 J	420 J	410	380	410	390	350	380
Fluoride	mg/L	0.1 J	0.1 J	0.1 J	0.1 J	0.14	0.14	0.14	0.14	0.12	0.13 F2	0.12	0.12	0.12	0.13
Iron	mg/L					1.4 B	0.16	0.085 J	0.1 U						
Lead	mg/L	0.00244	0.000255	0.000283	0.00058	0.001 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001	0.001 U	0.00079 J	0.001 U	0.001 U
Lithium	mg/L	0.008	0.0009 J	0.006	0.004	0.0034 J	0.0024 J	0.0035 J	0.0038 J	0.002 J	0.008 U	0.0031 J*+^+	0.002 J	0.002 J	0.008 U^-
Magnesium	mg/L			13.4	12.8	12 B	13	14	13	12	12	12	13	12	13
Manganese	mg/L					0.19 JB	0.1	0.048	0.049						
Mercury	mg/L	5E-06 U	5E-06 U	5E-06 U	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U						
Molybdenum	mg/L	0.00037	0.00071	0.00055	0.00147	0.0014 J	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L					0.0018 JB	0.002 U	0.002 U	0.002 U						
Oxidation-Reduction Potential, Field	mV														
pH, Field	pH units	6.82	6.83	6.85	6.75	6.82	6.79	6.76	6.67		6.83	6.86	6.93	6.94	6.96
Potassium	mg/L			1.57	1.74	1.6 B	1.4	1.4	1.4	1.6	1.5	1.4	1.6	1.4	1.5
Radium-226	pCi/L	0.244	0.323	0.186	0.173	0.0827 U	0.0201 U	0.418	0.0636 U						
Radium-226/228	pCi/L	0.549	0.526	1.114	0.449	0.316	0.0267 U	0.559	0.195 U						
Radium-228	pCi/L	0.305	0.203	0.928	0.276	0.233 U	0.00664 U	0.141 U	0.131 U						
Redox Potential, Field	mV	148.6	166.8	93	135.6										
Selenium	mg/L	0.0002	0.0002	0.0001	0.0001 J	0.0011 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L					9.6E-05 J	0.001 U	0.001 U	0.001 U						
Sodium	mg/L			11.6	10.8	10 JB	11 B	11	11 J	11	11	11	11	9.6	11
Strontium	mg/L			0.19	0.174	0.18 B	0.16 B	0.17 B	0.17						
Sulfate	mg/L	112	105	111	95.3	92	92	95	95	91	84 F1	98	110	110	92
Temperature, Field	deg C	16.2	13.9	13.8	14.4						14.5				14
Thallium	mg/L	1E-05 J	8.4E-05	2E-05 J	1E-05 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	9.2	5.1	6.1	13.6	18.3	2.1	1.8	0.5		15.3	4.23		8	2
Vanadium	mg/L					0.0012 J									
Zinc	mg/L					0.02 U	0.02 U	0.02 U	0.02 U						

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01	BAC-01
	Date	2020-09-09	2021-03-13	2021-09-18	2022-03-31	2022-04-27	2022-06-28	2022-10-11	2022-10-11	2022-12-13	2022-12-13	2023-03-01	2023-04-10	2023-10-02	2023-10-02
	Sample Type	N	N	N	N	N	N	FD	N	FD	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	190	200	190	210	210	220	210	210	210	210	200	220 J		210
Aluminum	mg/L				0.047 J										
Antimony	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U
Arsenic	mg/L	0.0022 J	0.00099 J	0.005 U	0.002 U	0.005 U	0.0082		0.0018 J	0.0045 J	0.0046 J	0.0036 J	0.004 J		0.00083 J
Barium	mg/L	0.071	0.067	0.061	0.065	0.058	0.15		0.064	0.097	0.094	0.09	0.084		0.059
Beryllium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	190	200	190	210	210	220	210	210	210	210	200	220 J		210
Boron	mg/L	0.15 J	0.093 J	0.1	0.2 U			0.098 J	0.098 J				0.11		0.13
Bromide	mg/L														
Cadmium	mg/L	0.001 U	0.001 U	0.001 U	0.0001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U
Calcium	mg/L	96	100	100	110			100	100				91		96
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U
Chloride	mg/L	29	32	34	21			28	28				27		26
Chromium	mg/L	0.002 U	0.001 J	0.005 U	0.005 U	0.005 U	0.005		0.005 U	0.0028 J	0.0026 J	0.005 U	0.0019 J		0.005 U
Cobalt	mg/L	0.001	0.00067 J	0.00038 J	0.00023 J	0.001 U	0.0043		0.00071 J	0.0023	0.0023	0.0021	0.0018		0.00037 J
Conductivity, Field	uS/cm	612	622	618	610	605.4		632	632	623	623	638	591	570	
Copper	mg/L				0.005 U										
Dissolved Oxygen, Field	mg/L				0.33	1.02		0.9	0.9	0.52	0.52	0.39	0.59	1.2	
Dissolved Solids, Total	mg/L	360	440	420	360 J			400	390				400		350
Fluoride	mg/L	0.046 J	0.096	0.13	0.14	0.13	0.12	0.13	0.13	0.13	0.13	0.13	0.12		0.13
Iron	mg/L				0.11										
Lead	mg/L	0.001	0.00058 J	0.001 U	0.0006 J	0.001 U	0.0056		0.00072 J	0.0031	0.0028	0.0023	0.0023		0.00072 J
Lithium	mg/L	0.004 J	0.0033 J	0.0026 J	0.0029 J	0.0024 J	0.0064 J		0.0038 J	0.0051 J	0.0045 J	0.0052 J	0.0062 J		0.0045 J
Magnesium	mg/L	13	13	13	12	12	13	13	13	13	13	13	11		12
Manganese	mg/L				0.12										
Mercury	mg/L				0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00014 JB	0.00014 JB	0.0002 U	0.0002 U		0.0002 U
Molybdenum	mg/L	0.005 U	0.005 U	0.005 U	0.002 U	0.005 U	0.0013 J		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U
Nickel	mg/L				0.005 U										
Oxidation-Reduction Potential, Field	mV				83.6			97.7	97.7	15.5	15.5	210.5	181	127.3	
pH, Field	pH units	6.97	6.82	6.81	6.82	6.82		6.79	6.79	7.03	7.03	6.7	6.54	6.84	
Potassium	mg/L	1.6	1.5	1.4	1.5 J	1.4	2.3	1.6	1.6	1.9	1.9	1.7	1.6		1.4
Radium-226	pCi/L				0.0525 U	0.0643 U	0.19 U	0.194 U	0.11 U	0.089 U	0.07 U	0.123 U	0.207 U		-0.033 U
Radium-226/228	pCi/L				-0.0522 U	0.371 U	1.56	1.22 U	1.33 U	1.24 U	1.35 U	0.976	0.259 U		1.15
Radium-228	pCi/L				-0.105 U	0.307 U	1.37	1.03 U	1.22 U	1.15 U G	1.28 U G	0.853 U	0.0517 U		1.19
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U
Silver	mg/L				0.001 U										
Sodium	mg/L	11	11	13	13	11	12	12	12	13	13	12	11		12
Strontium	mg/L				0.18										
Sulfate	mg/L	100	95	94	80			88	88				91		89
Temperature, Field	deg C	14	13	14	15	13.7		13.6	13.6	13.5	13.5	14.9	13.8	14.6	
Thallium	mg/L	0.00021 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.00087 J	0.001 U		0.001 U
Turbidity, Field	NTU	26.5	10.4	5.38	20.1	2.51		45.73	45.73	91.76	91.76	54.26	51.35	10.96	
Vanadium	mg/L														
Zinc	mg/L				0.02 U										

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-01	BAC-01	BAC-01	BAC-01	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02
	Date	2024-03-19	2024-03-19	2024-10-04	2024-10-04	2016-08-25	2016-10-03	2016-11-28	2017-02-07	2017-03-28	2017-05-03	2017-06-13	2017-06-13	2017-07-19	2018-02-28
	Sample Type	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		220		220			285	273						
Aluminum	mg/L									0.15	0.078	0.041 J	0.035 J	0.1	
Antimony	mg/L		0.002 U		0.002	6E-05	3E-05 J	4E-05 J	2E-05 J	0.00035 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L		0.0018 J		0.0011	0.00159	0.00124	0.00146	0.00067	0.00072 J	0.00075 J	0.005 U	0.00075 J	0.00078 J	0.005 U
Barium	mg/L		0.072		0.072	0.0515	0.0489	0.0492	0.0358	0.05 B	0.048	0.049	0.051	0.052	0.035
Beryllium	mg/L		0.001 U		0.001	3.5E-05	2.3E-05	2.6E-05	7E-06 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		220		220										260
Boron	mg/L		0.11		0.12	1.72	1.92	2.17	2.08	2.5 J	2.4	2.6 J	2.7 J	2.7 JB	2
Bromide	mg/L							0.624	0.483	0.73	0.12 J	0.74	0.74	0.77	
Cadmium	mg/L		0.001 U		0.001	0.0003	0.00031	0.0003	0.00025	0.00035 J	0.00032 J	0.00043 J	0.00041 J	0.00036 J	0.00034 J
Calcium	mg/L		99		100	149	156	168	161	170 JB	180	180	180	190	160
Carbonate Alkalinity as CaCO3	mg/L		5 U		5										5 U
Chloride	mg/L		27		24	82.8	91.8	95	97.3	100	21	110	110	110	97
Chromium	mg/L		0.005 U		0.005	0.0013	0.0008	0.00129	0.00432	0.0012 JB	0.0015 J	0.0016 J	0.002 U	0.0011 J	0.014
Cobalt	mg/L		0.00097 J		0.00061	0.00333	0.00257	0.00266	0.00178	0.0019	0.0018	0.0018	0.0017	0.0025	0.0018
Conductivity, Field	uS/cm	664		637		1279	1355	1436	1434						
Copper	mg/L									0.0014 JB	0.002 U	0.002 U	0.002 U	0.002 U	
Dissolved Oxygen, Field	mg/L	1.72		0.86		0.63	0.39	0.94	1.18						
Dissolved Solids, Total	mg/L		380		370	824	858	896	860	1000	1000	1100 J	1000 J	1100 J	900
Fluoride	mg/L		0.11		0.12	0.19	0.1 J	0.08 J	0.17	0.17	0.032 J	0.17	0.17	0.16	0.16
Iron	mg/L									0.39 B	0.27	0.15	0.11	0.39	
Lead	mg/L		0.0011		0.0011	0.00284	0.00184	0.00158	0.000589	0.0008 J	0.00068 J	0.0006 J	0.00068 J	0.00089 J	0.001 U
Lithium	mg/L		0.0047 J		0.0039	0.01	0.004	0.005	0.001 U	0.0022 J	0.008 U	0.008 U	0.008 U	0.0025 J	0.008 U
Magnesium	mg/L		12		12			43.9	43.9	46 B	51	51	52	49	41
Manganese	mg/L									4.1 JB	4.3	4.4	4.5	4.7	
Mercury	mg/L		0.0002 U		0.0002	3E-06 J	7E-06	5E-06 U	3E-06 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Molybdenum	mg/L		0.005 U		0.005	0.00109	0.00044	0.00081	0.00201	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U
Nickel	mg/L									0.022 B	0.022	0.02	0.021	0.024	
Oxidation-Reduction Potential, Field	mV	230		121.9											
pH, Field	pH units	6.84		6.75		6.2	6.19	6.14	6.1	6.18	6.13		6.08	6.02	
Potassium	mg/L		1.5		1.6			3.66	3.43	3.6 B	3.7	3.6	3.6	4	3.8
Radium-226	pCi/L		-0.106 U		0.0131 U	0.934	0.233	0.12	0.204	0.0599 U	0.0438 U	0.113	0.072 U	0.0813 U	
Radium-226/228	pCi/L		-0.568 U		0.162 U	1.073	0.855	0.0347	0.1452	0.298 U	0.375 U	0.29 U	0.305 U	-0.104 U	
Radium-228	pCi/L		-0.462 U		0.149 U	0.139	0.622	-0.0853	-0.0588	0.238 U	0.331 U	0.177 U	0.233 U	-0.186 U	
Redox Potential, Field	mV					112.3	164.6	115.3	143.3						
Selenium	mg/L		0.005 U		0.005	0.0003	0.0002	0.0002	6E-05 J	0.00048 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Sodium	mg/L		12		13			67.3	64.6	68 JB	74 B	73	74	73 JB	63
Strontium	mg/L							0.499	0.479	0.55 B	0.56 B	0.51 B	0.53 B	0.63	
Sulfate	mg/L		87		83	288	341	359	346	410	80	430	420	440	360
Temperature, Field	deg C	13.5		16.4		19.9	17.2	16	16.2						
Thallium	mg/L		0.001 U		0.001	0.000128	3E-05 J	9.3E-05	3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	23.14		23.29		8.1	9.6	9.3	5.4	2.2	2.5		2	7.4	
Vanadium	mg/L									0.005 U					
Zinc	mg/L									0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02
	Date	2018-05-15	2018-05-15	2018-09-18	2018-09-18	2019-03-16	2019-09-18	2020-03-11	2020-09-09	2021-03-13	2021-09-18	2022-03-31	2022-04-27	2022-06-28	2022-10-17
	Sample Type	FD	N	FD	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	300	310	280	280	290 B	250	280	240	250	230	260	260	270	13
Aluminum	mg/L											0.05 U			
Antimony	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.005 U	0.017	0.0063
Barium	mg/L	0.043	0.046	0.044	0.042	0.038	0.031	0.036	0.027	0.031	0.031	0.036	0.035	0.32	0.13
Beryllium	mg/L	0.00043 J	0.00073 J	0.001 U^+	0.001 U^+	0.001 U	0.001 U	0.001 U^-	0.001 U	0.001 U^-	0.001 U	0.001 U	0.001 U	0.00069 J	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	300	310	280	280	290 B	250	280	240	250	230	260	260	270	13
Boron	mg/L	2.3	2.4	2.5	2.5	2.3	1.4	1.9	1.3	1.7	1.4	1.9 J			1.3
Bromide	mg/L														
Cadmium	mg/L	0.00045 J	0.00055 J	0.00038 J	0.00037 J	0.00034 J	0.00026 J	0.00025 J	0.001 U	0.001 U	0.001 U	0.00028	0.00026 J	0.00047 J	0.0003 J
Calcium	mg/L	160	170	170	160	150	130	140	110	130	130	170			130
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	110	110	100	100	96	68	82	62	76	69	78			69
Chromium	mg/L	0.002 U	0.0012 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.022	0.0087
Cobalt	mg/L	0.0018	0.0021	0.0015	0.0015	0.0011	0.00069 J	0.00078 J	0.00058 J	0.00067 J	0.00082 J	0.00079	0.0008 J	0.01	0.0044
Conductivity, Field	uS/cm		1469					1361	1091	1292	1177	1431	1383		1345
Copper	mg/L											0.005 U			
Dissolved Oxygen, Field	mg/L		0.26									0.35	0.72		0.76
Dissolved Solids, Total	mg/L	950	980	970	980	920	580	880	690	930	860	900 J			940 J
Fluoride	mg/L	0.16	0.16	0.16	0.2	0.15	0.15	0.18	0.12	0.14	0.19	0.19	0.19	0.23	0.15
Iron	mg/L											0.1 U			
Lead	mg/L	0.00085 J	0.0014	0.001 U	0.001 U	0.00053 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U	0.017	0.0064
Lithium	mg/L	0.008 U	0.008 U	0.0023 J*+^+	0.0025 J*+^+	0.008 U	0.008 U	0.008 U^-	0.008 U	0.008 U	0.008 U	0.01 U	0.0022 J	0.012	0.0063 J
Magnesium	mg/L	44	47	44	45	44	36	43	33	36	37	42	44	42	37
Manganese	mg/L											3.9			
Mercury	mg/L											0.0002 U	0.0002 U	0.00017 J	0.0002 U
Molybdenum	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0012 J	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.005 U	0.0016 J	0.005 U
Nickel	mg/L											0.014			
Oxidation-Reduction Potential, Field	mV											78.9	63.7		93.3
pH, Field	pH units		6.18		6.2	6.33	6.43	6.43	6.5	6.3	6.48	6.25	6.33		6.59
Potassium	mg/L	3.8	3.9	3.6	3.6	3.8	2.6	3.5	2.6	2.6	2.8	3.5	3.5	4.8	3.2
Radium-226	pCi/L											0.168 U	0.0517 U	0.453	0.68
Radium-226/228	pCi/L											0.175 U	0.374 U	0.319 U	1.46
Radium-228	pCi/L											0.00741 U	0.323 U	-0.134 U	0.776 U
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.00099 J	0.005 U	0.00093 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0011 J
Silver	mg/L											0.001 U			
Sodium	mg/L	66	70	68	68	69	56	70	58	63	65	78	80	72	66
Strontium	mg/L											0.53			
Sulfate	mg/L	390	390	390	400	370	310	340	260	360	340	400			340
Temperature, Field	deg C		17.5					15	17	16	17	16	16.1		15.5
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00022 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU		17.3		2.02		5	1	0.6	10.6	0.4	7	0.19		260.27
Vanadium	mg/L														
Zinc	mg/L											0.02 U			

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-02	BAC-03	BAC-03	BAC-03	BAC-03
	Date	2022-12-07	2023-03-02	2023-04-10	2023-09-27	2023-09-27	2023-09-27	2024-03-20	2024-03-20	2024-10-08	2024-10-08	2016-08-26	2016-10-03	2016-11-28	2017-02-07
	Sample Type	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	260	260	290 J	260		250		290		290			96.6	88.2
Aluminum	mg/L														
Antimony	mg/L	0.002 U	0.002 U	0.00099 J	0.002 U		0.002 U		0.002 U		0.002	5E-05	2E-05 J	2E-05 J	3E-05 J
Arsenic	mg/L	0.01	0.008	0.0045 J	0.0041 J		0.0043 J		0.0049 J		0.0023	0.00027	0.00024	0.00016	0.00031
Barium	mg/L	0.18	0.17	0.091	0.091		0.13		0.11 J		0.067	0.0469	0.045	0.0422	0.0426
Beryllium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U		0.001 U		0.001	1E-05 J	2E-05 U	2E-05 U	8E-06 J
Bicarbonate Alkalinity as CaCO3	mg/L	260	260	290 J	260		250		290		290				
Boron	mg/L			1.6	1.3		1.1		1.5		1.5	2.14	2.06	2.07	2.24
Bromide	mg/L													0.151	0.1 J
Cadmium	mg/L	0.00048 J	0.00079 J	0.00067 J	0.00036 J		0.00032 J		0.00034 J		0.00023	0.00015	9E-05	8E-05	8E-05
Calcium	mg/L			140	140		130		140		140	97.8	93.7	90.4	95.7
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U		5 U		5 U		5 U		5				
Chloride	mg/L			76 J	62		63		77		69	52.1	52.8	48.2	52.2
Chromium	mg/L	0.013	0.013	0.0068	0.0055		0.0057		0.006		0.0025	0.0007	0.0006	0.000458	0.00115
Cobalt	mg/L	0.0075	0.0063	0.0033	0.0032		0.0032		0.0037		0.0018	0.000468	0.00026	0.000169	0.000317
Conductivity, Field	uS/cm	1389	1364	1352		1202		1415		1367		767	752	749	762
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.06	0.59	0.99		0.94		1.44		0.78		1.1	0.2	0.68	0.83
Dissolved Solids, Total	mg/L			890 J	800		690		900		810	528	476	416	514
Fluoride	mg/L	0.17	0.17	0.16 J	0.22		0.23		0.18		0.17	0.07 J	0.09 J	0.07 J	0.07 J
Iron	mg/L														
Lead	mg/L	0.0089	0.0095	0.0041	0.0049		0.0048		0.0049		0.002	0.00184	0.000641	0.00048	0.00168
Lithium	mg/L	0.0077 J	0.0082	0.0067 J	0.0047 J		0.0041 J		0.0058 J		0.0044	0.009	0.006	0.007	0.006
Magnesium	mg/L	42	40	38	39		36		40		38			16.2	17.6
Manganese	mg/L														
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002	5E-06 U	1.6E-05	5E-06 U	5E-06 U
Molybdenum	mg/L	0.0011 J	0.005 U	0.0015 J	0.005 U		0.005 U		0.005 U		0.005	0.00031	0.00138	0.0005	0.0006
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	43.3	198.1	202		60.7		46.5		56.6					
pH, Field	pH units	6.58	6.17	6.23		6.64		6.59		6.69		6.12	6.03	6.04	6.05
Potassium	mg/L	4.3	3.7	3.2	3.2		3.1		3.5		3.4			1.9	2.12
Radium-226	pCi/L	0.288	0.613 U	0.113 U	0.414 U		0.194 U		0.0498 U		0.0949 U	0.0989	0.13	0.0518	0.281
Radium-226/228	pCi/L	0.772 U	4.12	2.62	1.98		1.9		1.73		-0.239 U	0.2129	-0.14	0.3818	0.17
Radium-228	pCi/L	0.484 U G	3.51	2.51	1.56		1.7		1.68		-0.334 U G *	0.114	-0.27	0.33	-0.111
Redox Potential, Field	mV											213.7	236.8	192.3	248.5
Selenium	mg/L	0.005 U	0.005 U	0.0012 J	0.005 U		0.005 U		0.005 U		0.005	7E-05 J	6E-05 J	0.0001 U	4E-05 J
Silver	mg/L														
Sodium	mg/L	71	70	68	71		71		74		83			30.5	31.2
Strontium	mg/L													0.211	0.222
Sulfate	mg/L			390 J	310		310		380		320	211	204	200	196
Temperature, Field	deg C	15.7	15.4	15.8		16.6		15.9		18.6		18.6	15.4	14.5	14.8
Thallium	mg/L	0.001 U	0.001 U	0.00061 J	0.001 U		0.001 U		0.001 U		0.001	3E-05 J	2E-05 J	1E-05 J	3E-05 J
Turbidity, Field	NTU	203.14	283.04	119.14		110.51		113.07		51.93		3.9	8.1	7.6	5.1
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03
	Date	2017-03-28	2017-05-02	2017-05-02	2017-06-13	2017-07-14	2018-02-28	2018-05-15	2018-09-18	2019-03-16	2019-09-19	2020-03-12	2020-03-12	2020-09-10	2021-03-13
	Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L							100	93	91 B	85	100	100	86	89
Aluminum	mg/L	0.059	0.049 J	0.042 J	0.05 U	0.05 U									
Antimony	mg/L	0.00048 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Barium	mg/L	0.05 B	0.048	0.048	0.045	0.044	0.047	0.045	0.042	0.044	0.04	0.046	0.045	0.037	0.045
Beryllium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U^+	0.001 U	0.001 U	0.001 U^-	0.001 U^-	0.001 U	0.001 U^-
Bicarbonate Alkalinity as CaCO3	mg/L						90	100	93	91 B	85	100	100	86	89
Boron	mg/L	2.3 J	2.1	2.1	2 J	2 JB	2.3	2.5	2.2	2.2	2	1.6	1.6	1.7	1.9
Bromide	mg/L	0.17 J	0.15 J	0.15 J		0.16 J									
Cadmium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	97 JB	96	96	89	88	95	96	92	91	87	100	100	73	83
Carbonate Alkalinity as CaCO3	mg/L						5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	68	72	72	62	61	62	56	57	59	52	78	78	63	79
Chromium	mg/L	0.00054 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.001 J	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.00027 J	0.00024 J	0.00025 J	0.001 U	0.001 U	0.001 U	0.0002 J	0.00024 J	0.0003 J	0.001 U	0.001 U	0.001 U	0.0003 J	0.00052 J
Conductivity, Field	uS/cm							731				819	819	684	750
Copper	mg/L	0.0031 B	0.002 B	0.0019 JB	0.0017 JB	0.002 U									
Dissolved Oxygen, Field	mg/L							0.15							
Dissolved Solids, Total	mg/L	520	510	510	500 J	500 J	500	540	500	480	480	560	550	420	560
Fluoride	mg/L	0.071	0.071	0.071	0.071	0.07	0.072	0.085	0.073	0.12	0.062	0.068	0.081	0.037 J	0.045 J
Iron	mg/L	0.14 B	0.13	0.1	0.1 U	0.1 U									
Lead	mg/L	0.00093 J	0.00096 J	0.00083 J	0.00055 J	0.001 U	0.001 U	0.0017	0.00067 J	0.0027	0.00049 J	0.00081 J	0.00073 J	0.0016	0.0025
Lithium	mg/L	0.0056 J	0.0049 J	0.0049 J	0.0033 J	0.0067 J	0.0043 J	0.0031 J	0.0053 J*+^+	0.0043 J	0.0046 J	0.0021 J^-	0.0023 J^-	0.0059 J	0.0057 J
Magnesium	mg/L	17 B	18	18	17	17	17	17	16	18	16	20	19	15	16
Manganese	mg/L	0.24 JB	0.23	0.22	0.19	0.15									
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U									
Molybdenum	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0041 J	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L	0.0044 B	0.0042	0.048	0.0035	0.0035									
Oxidation-Reduction Potential, Field	mV														
pH, Field	pH units	6.07		6.05	5.89	5.93		6.16	6.12	6.26	6.19	6.19	6.19	6.27	6.05
Potassium	mg/L	1.9 B	1.9	1.9	1.8	1.8	1.8	1.7	1.8	2	1.7	2	2	1.8	1.8
Radium-226	pCi/L	0.0181 U	0.065 U	-0.0333 U	0.0442 U	0.235									
Radium-226/228	pCi/L	0.102 U	0.345	0.271 U	0.0882 U	0.506									
Radium-228	pCi/L	0.0838 U	0.28 U	0.304 U	0.044 U	0.272									
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.0011 JB	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	3.3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U									
Sodium	mg/L	31 JB	34 B	34 B	33	34 J	31	30	31	32	29	35	34	37	32
Strontium	mg/L	0.22 B	0.22 B	0.22 B	0.2 B	0.21									
Sulfate	mg/L	180	180	180	190	190 J	210	200	200	200	210	200	200	170	180
Temperature, Field	deg C							16.5				15	15	16	15
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00054 J	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	2.1		4.2	2.3	1.9		1.03	1.36		2	0.9	0.9	2.9	8
Vanadium	mg/L	0.005 U													
Zinc	mg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U									

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03
		Date	2021-09-18	2021-09-18	2022-04-01	2022-04-28	2022-06-21	2022-10-13	2022-12-14	2023-03-03	2023-04-07	2023-10-02	2023-10-02	2024-03-21	2024-03-21	2024-11-01
		Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L		85	86	81	84	96	86	89	82	95		81		90	88
Aluminum	mg/L				0.04 J											
Antimony	mg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U		0.002 U	0.002
Arsenic	mg/L		0.005 U	0.005 U	0.002 U	0.005 U	0.005 U	0.011	0.0071	0.0011 J	0.0013 J		0.00081 J		0.00076 J	0.0012
Barium	mg/L		0.042	0.041	0.042	0.039	0.038	0.18	0.13	0.052	0.054		0.043		0.048	0.052
Beryllium	mg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00064 J	0.001 U	0.001 U	0.001 U		0.001 U		0.001 U	0.001
Bicarbonate Alkalinity as CaCO3	mg/L		85	86	81	84	96	86	89	82	95		81		90	88
Boron	mg/L		1.8	1.8	2.3			1.8			1.8		2.1		1.9	2.1
Bromide	mg/L															
Cadmium	mg/L		0.001 U	0.001 U	0.0001 U	0.001 U	0.001 U	0.00022 J	0.001 U	0.001 U	0.001 U		0.001 U		0.001 U	9.7E-05
Calcium	mg/L		84	84	88			81			75		85		79	87
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U		5 U	5
Chloride	mg/L		64	64	51			57			54		55		61	61
Chromium	mg/L		0.005 U	0.005 U	0.0012 J	0.005 U	0.005 U	0.016	0.012	0.005 U	0.0023 J		0.005 U		0.0013 J	0.0024
Cobalt	mg/L		0.00031 J	0.00029 J	0.00022 J	0.001 U	0.001 U	0.014	0.0093	0.0016	0.0018		0.00063 J		0.0012	0.0016
Conductivity, Field	uS/cm		681	681	730	684		695	648	724	653	745		749		705
Copper	mg/L				0.0025 J											
Dissolved Oxygen, Field	mg/L				0.27	0.39		1.46	0.69	0.22	1.34	1.02		1.6		0.97
Dissolved Solids, Total	mg/L		510	470	440			460 J			460		440		430	530
Fluoride	mg/L		0.066	0.065	0.063	0.064	0.054	0.058	0.047 J	0.062	0.05 U		0.064		0.046 J	0.061
Iron	mg/L				0.1											
Lead	mg/L		0.001	0.00096 J	0.00097	0.001 U	0.00052 J	0.026	0.024	0.0037	0.0045		0.0027		0.0034	0.0035
Lithium	mg/L		0.0055 J	0.0062 J	0.0068 J	0.0067 J	0.0031 J	0.013	0.012	0.0064 J	0.0079 J		0.0079 J		0.0078 J	0.0079
Magnesium	mg/L		17	16	16	16	17	17	17	16	15		17		16	18
Manganese	mg/L				0.12											
Mercury	mg/L				0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00014 JB	0.0002 U	0.0002 U		0.0002 U		0.0002 U	0.0002
Molybdenum	mg/L		0.005 U	0.005 U	0.002 U	0.005 U	0.005 U	0.0011 J	0.005 U	0.005 U	0.005 U		0.005 U		0.005 U	0.005
Nickel	mg/L				0.0024 J											
Oxidation-Reduction Potential, Field	mV				118.5	81.1		129.7	142.5	204.4	165.6	127		95.3		178.9
pH, Field	pH units		6.09	6.09	5.97	6.04		6	5.99	5.89	5.99	6.07		6.04		5.87
Potassium	mg/L		1.9	1.9	1.8	1.8	1.9	4.3	3.1	2	2		2		2	2.3
Radium-226	pCi/L				0.0737 U	0.0646 U	0.0577 U	0.586 U	0.41 U	0.197	0.0535 U		0.0328 U		0.158 U	
Radium-226/228	pCi/L				0.244 U	0.275 U	0.711	2.44 U	4.61	0.954 U	0.555 U		0.719 U		1.09	
Radium-228	pCi/L				0.171 U	0.21 U	0.653	1.85 U	4.2 G	0.758 U	0.501 U		0.686 U		0.932	
Redox Potential, Field	mV															
Selenium	mg/L		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U		0.005 U	0.005
Silver	mg/L				0.001 U											
Sodium	mg/L		34	34	29	28	30	29	30	30	29		33		30	31
Strontium	mg/L				0.23											
Sulfate	mg/L		180	180	190			190			190		200		180	180
Temperature, Field	deg C		17	17	14	15.2		15.2	13.5	14.2	14.5	16.1		14.7		14.8
Thallium	mg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0002 J	0.001 U	0.001 U	0.001 U		0.001 U		0.001 U	0.001
Turbidity, Field	NTU		2.4	2.4	6.7	1.1		632.99	254.9	53.77	50.14	17.9		33.83		42.05
Vanadium	mg/L															
Zinc	mg/L				0.01 J											

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04
	Date	2016-08-26	2016-10-03	2016-11-28	2017-02-07	2017-03-28	2017-05-02	2017-06-13	2017-07-19	2018-03-01	2018-03-01	2018-05-15	2018-09-18	2019-03-16	2019-03-16
	Sample Type	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L			107	111					92	91	96	91	100 B	100 B
Aluminum	mg/L					0.041 J	0.76	0.63	1.6						
Antimony	mg/L	9E-05	7E-05	4E-05 J	7E-05	0.00046 JB	0.002 U	0.00071 J	0.002 U	0.002 U	0.0013 J	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.00183	0.00134	0.00212	0.0017	0.002 J	0.0033 J	0.0045 J	0.0086	0.00089 J	0.0018 J	0.0036 J	0.0034 J	0.0014 J	0.0021 J
Barium	mg/L	0.0624	0.0583	0.059	0.0597	0.06 B	0.07	0.065	0.077	0.041	0.04	0.052	0.049	0.041	0.042
Beryllium	mg/L	2E-05 J	6E-06 J	9E-06 J	2.1E-05	0.001 U	0.001 U	0.00059 J	0.001 U	0.001 U	0.0004 J	0.001 U	0.001 U^+	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L									92	91	96	91	100 B	100 B
Boron	mg/L	2.56	2.53	2.61	2.7	2.7 J	2.5	2.7 J	2.5 JB	2.8	2.8	2.9	2.8	3	2.9
Bromide	mg/L			0.1 J	0.1 J		0.17 J	0.16 J	0.17 J						
Cadmium	mg/L	0.00011	4E-05	2E-05	9E-05	0.001 U	0.001 U	0.00036 J	0.00022 J	0.00028 J	0.0004 J	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	99.1	98.2	96.7	99.6	94 JB	94	83	86	94	94	95	92	95	96
Carbonate Alkalinity as CaCO3	mg/L									5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	42.6	44.5	40.9	40		48	47	49	52	52	49	40	41	41
Chromium	mg/L	0.0006	0.0009	0.000238	0.00081	0.00034 JB	0.005	0.0029	0.0039	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.00807	0.00627	0.00577	0.00553	0.0066	0.0083	0.0087	0.0095	0.0018	0.0018	0.0044	0.0043	0.0018	0.0017
Conductivity, Field	uS/cm	696	761	751	765							721			
Copper	mg/L					0.00037 JB	0.0088 B	0.0055 B	0.0064						
Dissolved Oxygen, Field	mg/L	0.77	0.4	0.67	0.98							0.93			
Dissolved Solids, Total	mg/L	516	488	448	498		530	520 J	520 J	500	490	540	490	520	520
Fluoride	mg/L	0.08 J	0.09 J	0.08 J	0.09 J		0.11	0.079	0.077	0.087	0.084	0.085	0.082	0.082	0.078
Iron	mg/L					1.8 B	3.8	4.6	8.7						
Lead	mg/L	0.00106	0.000367	0.000277	0.00102	0.00037 J	0.0035	0.0037	0.0064	0.001 U	0.001 U	0.0012	0.001 U	0.001 U	0.001 U
Lithium	mg/L	0.007	0.006	0.01	0.006	0.0067 J	0.0068 J	0.0048 J	0.0082	0.0048 J	0.0058 J	0.0046 J	0.0085 *+^+	0.0049 J	0.005 J
Magnesium	mg/L			17.7	18	18 B	19	18	17	18	18	18	17	18	18
Manganese	mg/L					1.4 JB	2	1.4	1.4						
Mercury	mg/L	5E-06 U	1.9E-05	5E-06 U	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U						
Molybdenum	mg/L	0.00057	0.00465	0.00037	0.00365	0.00061 J	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L					0.012 B	0.013	0.0088	0.012						
Oxidation-Reduction Potential, Field	mV														
pH, Field	pH units	6.41	6.17	6.19	6.23	6.18	6.2	6.04	5.94			6.17	6.24		6.46
Potassium	mg/L			1.95	2	1.9 B	2	1.8	2.1	1.8	1.8	1.8	1.8	1.9	2
Radium-226	pCi/L	0.764	0.226	0.235	0.19		0.17	0.152	0.274						
Radium-226/228	pCi/L	0.8152	0.467	0.34	0.017		0.641	0.178 U	0.576						
Radium-228	pCi/L	0.0512	0.241	0.105	-0.173		0.47	0.0263 U	0.302 U						
Redox Potential, Field	mV	330.2	59.6	24	24.3										
Selenium	mg/L	0.0001	6E-05 J	8E-05 J	0.0001 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00089 J	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L					0.00011 J	0.002	0.00026 J	0.00042 J						
Sodium	mg/L			28.7	27.9	27 JB	29 B	27	27 JB	29	28	28	27	28	28
Strontium	mg/L			0.218	0.218	0.21 B	0.21 B	0.16 B	0.19						
Sulfate	mg/L	215	214	209	200		220 J	230	220	210	220	220	220	220	220
Temperature, Field	deg C	19.35	16.6	15.1	15							19.6			
Thallium	mg/L	7.2E-05	4E-05 J	3E-05 J	5.3E-05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	9.1	5	9	9.2	0.8	44.7	58.9	108.1			33.2	21.5		
Vanadium	mg/L														
Zinc	mg/L					0.02 U	0.016 J	0.02 U	0.016 J						

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04
	Date	2019-09-18	2019-09-18	2020-03-12	2020-09-10	2021-03-13	2021-09-18	2022-04-01	2022-04-01	2022-04-28	2022-06-21	2022-10-12	2022-12-09	2023-03-02	2023-04-07
	Sample Type	FD	N	N	N	N	N	FD	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	96	96	100	89	96	94	98	96	97	100	96		100	110
Aluminum	mg/L							0.038 J	0.05 U						
Antimony	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00057 J	0.002 U	0.002 U
Arsenic	mg/L	0.0023 J	0.0029 J	0.0041 J	0.0079	0.0049 J	0.0034 J	0.002 U	0.0012 J	0.0016 J	0.0038 J	0.0013 J	0.0015 J	0.0013 J	0.0015 J
Barium	mg/L	0.043	0.044	0.043	0.044	0.04	0.041	0.038	0.038	0.035	0.047	0.038	0.042 F1F2	0.042	0.041
Beryllium	mg/L	0.001 U^-	0.001 U^-	0.001 U^-	0.001 U	0.001 U^-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	96	96	100	89	96	94	98	96	97	100	96		100	110
Boron	mg/L	2.7	2.6	2.4	2.4	2.4	2.4	2.9 J	2.8 J			2.3			2.3
Bromide	mg/L														
Cadmium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	5.6E-05 J	0.0001 U	0.001 U	0.00023 J	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	90	91	92	89	79	92	86	93			88			83
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U
Chloride	mg/L	37	37	45	48	41	42	44	44			44			42
Chromium	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.027	0.005 U	0.005 U	0.005 U	0.005 U	0.0016 J
Cobalt	mg/L	0.0026	0.0025	0.0021	0.0027	0.0023	0.002	0.00022 J	0.0013 J	0.0016	0.0026	0.0016	0.002	0.0022	0.0021
Conductivity, Field	uS/cm			736	730	705	693	743	743	691		750	721	739	738
Copper	mg/L							0.005 U	0.005 U						
Dissolved Oxygen, Field	mg/L							0.71	0.71	0.84		0.57	0.71	0.3	0.69
Dissolved Solids, Total	mg/L	470	480	490	490	550	560	460 J	430 J			490 J			480
Fluoride	mg/L	0.082	0.08	0.087	0.04 J	0.061	0.087	0.077	0.078	0.082	0.07	0.07	0.086	0.083	0.032 J
Iron	mg/L							0.096 J	0.78 J						
Lead	mg/L	0.001 U	0.001 U	0.00048 J	0.0017	0.00083 J	0.001 U	0.00094 J	0.0005 UJ	0.001 U	0.0027	0.001 U	0.00054 J	0.00098 J	0.001 U
Lithium	mg/L	0.0045 J	0.0052 J	0.0024 J^-	0.0071 J	0.0055 J	0.0065 J	0.005 J	0.0052 J	0.0059 J	0.0042 J	0.0067 J	0.0068 J	0.0059 J	0.0074 J
Magnesium	mg/L	17	17	18	19	17	19	18	14	16	19	20	20	19	18
Manganese	mg/L							0.11 J	0.26 J						
Mercury	mg/L							0.0002 U	0.0002 U	0.00023	0.00013 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L							0.0026 J	0.0036 J						
Oxidation-Reduction Potential, Field	mV							41.6	41.6	74.9		-4.5	-47.7	18.5	-30.1
pH, Field	pH units		6.39	6.37	6.39	6.2	6.26	6.16	6.16	6.18		6.07	6.04	6.05	6.23
Potassium	mg/L	1.7	1.8	1.8	1.8	1.7	1.8	1.7	1.6	1.6	2	1.8	2	1.9	1.7
Radium-226	pCi/L							0.168 U	0.113 U	0.0871 U	0.0773 U	0.133 U	0.042 U	0.144 U	0.151 U
Radium-226/228	pCi/L							0.423 U	0.629	0.346 U	0.00318 U	0.582 U		0.641 U	0.692 U
Radium-228	pCi/L							0.256 U	0.517 U	0.259 U	-0.0742 U	0.449 U	0.418 U	0.497 U	0.541 U
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0011 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L							0.001 U	0.00091 J						
Sodium	mg/L	26	27	28	28	25	26	26	26	23	27	27	28	26	25
Strontium	mg/L							0.22	0.22						
Sulfate	mg/L	230	230	210	230	220	230	210	210			230 J			210
Temperature, Field	deg C			15	19	15	18	14	14	15.4		17	14.8	15.3	14.6
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00047 J	0.001 U	0.001 U	0.001 U	0.00034 J	0.001 U	0.001 U
Turbidity, Field	NTU		28	34.8	32	30	10	10	10	8.31		5.15	8.54	12.8	6.64
Vanadium	mg/L														
Zinc	mg/L							0.02 U	0.02 U						

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-04	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05
	Date	2023-10-03	2023-10-03	2024-03-21	2024-03-21	2024-10-09	2024-10-09	2016-08-26	2016-10-03	2016-11-28	2017-02-07	2017-03-28	2017-05-03	2017-06-13	2017-07-19
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		100		110		110			144	105				
Aluminum	mg/L											0.11	0.17	0.43	0.43
Antimony	mg/L		0.002 U		0.002 U		0.002	0.00023	7E-05	9E-05	3E-05 J	0.00048 JB	0.00057 J	0.002 U	0.002 U
Arsenic	mg/L		0.0019 J		0.005 U		0.00087	0.00298	0.00143	0.00177	0.00065	0.00086 J	0.00097 J	0.0013 J	0.00084 J
Barium	mg/L		0.042		0.04		0.042	0.0585	0.0478	0.0459	0.0495	0.04 B	0.052	0.039	0.041
Beryllium	mg/L		0.001 U		0.00066 J		0.001	0.000118	4.7E-05	5.9E-05	1E-05 J	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		100		110		110								
Boron	mg/L		2.5		2.5		2.3	3.32	3.72	3.99	2.78	4.5 J	3.2	4.5 J	4.3 JB
Bromide	mg/L									0.09 J	0.1 J	0.13 J	0.14 J	0.1 J	0.1 J
Cadmium	mg/L		0.001 U		0.001 U		0.001	0.00033	9E-05	5E-05	8E-05	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L		96		95		96	93.4	90.8	97.7	89	94 JB	100	90	87
Carbonate Alkalinity as CaCO3	mg/L		5 U		5 U		5								
Chloride	mg/L		39		37		40	31.6	28.5	24.6	36.2	24	34	21	21
Chromium	mg/L		0.005 U		0.005 U		0.005	0.0048	0.0018	0.00208	0.000652	0.0016 JB	0.0013 J	0.0027	0.0092
Cobalt	mg/L		0.0018		0.0017		0.0011	0.0111	0.00814	0.00536	0.00852	0.004	0.0078	0.0042	0.0037
Conductivity, Field	uS/cm	727		797		828		730	706	702	751				
Copper	mg/L											0.0013 JB	0.002 U	0.0023 B	0.0042
Dissolved Oxygen, Field	mg/L	1.02		1.79		0.74		3.43	1.19	0.59	0.86				
Dissolved Solids, Total	mg/L		470		510		500	522	468	452	494	480	540	460 J	460 J
Fluoride	mg/L		0.084		0.065		0.082	0.1 J	0.15	0.17	0.1 J	0.21	0.17	0.22	0.21
Iron	mg/L											0.63 B	0.78	1.7	1.4
Lead	mg/L		0.001 U		0.00054 J		0.001	0.0066	0.00248	0.0021	0.000631	0.0008 J	0.0012	0.0019	0.0015
Lithium	mg/L		0.0064 J		0.0091		0.0071	0.015	0.007	0.01	0.006	0.0042 J	0.0048 J	0.0021 J	0.0045 J
Magnesium	mg/L		21		20		20			16.9	17.9	16 B	20	16	15
Manganese	mg/L											3.4 JB	7.7	3	2
Mercury	mg/L		0.0002 U		0.0002 U		0.0002	3E-06 J	1.4E-05	3E-06 J	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L		0.005 U		0.005 U		0.005	0.00147	0.00118	0.00139	0.00237	0.0011 J	0.01 U	0.01 U	0.01 U
Nickel	mg/L											0.0095 B	0.02	0.008	0.012
Oxidation-Reduction Potential, Field	mV	29.9		30.3		11.1									
pH, Field	pH units	6.14		6.09		6.06		6.58	6.63	6.64	6.2	6.72	6.47	6.63	6.53
Potassium	mg/L		1.8		1.8		1.8			1.7	1.7	1.4 B	1.6	1.4	1.5
Radium-226	pCi/L		0.0597 U		0.172 U		0.102 U	0.41	1.12	0.378	0.0928	0.123	-0.0279 U	0.0494 U	0.0901 U
Radium-226/228	pCi/L		0.851 J		0.696		0.87	0.127	2.056	0.554	0.2258	0.241 U	0.253 U	0.0636 U	0.13 U
Radium-228	pCi/L		0.791 J		0.524 U		0.768	-0.283	0.936	0.176	0.133	0.118 U	0.281 U	0.0142 U	0.0398 U
Redox Potential, Field	mV							9.9	111.5	14	68.6				
Selenium	mg/L		0.005 U		0.005 U		0.005	0.0004	0.0002	0.0002	4E-05 J	0.005 U	0.0011 J	0.005 U	0.005 U
Silver	mg/L											0.0011	5.7E-05 J	0.00011 J	0.00013 J
Sodium	mg/L		28		26		27			22.9	28.3	21 JB	28 B	22	21 JB
Strontium	mg/L									0.16	0.162	0.15 B	0.17 B	0.13 B	0.13
Sulfate	mg/L		210		240		250	200	190	184	216	170	220 J	170	160
Temperature, Field	deg C	17.4		14.6		18		20.4	18.5	15.4	15.5				
Thallium	mg/L		0.0002 J		0.00063 J		0.001	7.3E-05	5E-05 J	4E-05 J	5.4E-05	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	3.83		4.63		2.68		96.7	72.3	50.1	7.8	6.2	5.3	26.6	25.1
Vanadium	mg/L											0.005 U			
Zinc	mg/L											0.015 J	0.02 U	0.015 J	0.031

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05
		Date	2018-03-01	2018-05-16	2018-06-20	2018-09-18	2019-03-16	2019-09-18	2020-03-11	2020-09-10	2021-03-13	2021-09-18	2022-04-01	2022-04-28	2022-06-21	2022-10-12
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L		160	90	65	79	64 B	84	88	61	93	140	82	66	64	110
Aluminum	mg/L												0.049 J			
Antimony	mg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L		0.0013 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00081 J	0.002 U	0.005 U	0.005 U	0.005 U
Barium	mg/L		0.038	0.057	0.053	0.053	0.048	0.04	0.04	0.039	0.031	0.031	0.034	0.031	0.041	0.032
Beryllium	mg/L		0.001 U	0.001 U	0.001 U^+	0.001 U^+	0.001 U	0.001 U	0.001 U^-	0.001 U	0.001 U^-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		160	90	65	79	64 B	84	88	61	93	140	82	66	64	110
Boron	mg/L		3.9	2.9	2.8	2.8	2.5	2.5	2.8	2.5	2.9	3	2.8 J			2.7
Bromide	mg/L															
Cadmium	mg/L		0.001 U	0.00031 J	0.00029 J	0.00044 J	0.00041 J	0.00023 J	0.00038 J	0.00038 J	0.001 U	0.001 U	0.00025	0.00025 J	0.00046 J	0.00023 J
Calcium	mg/L		84	74	70	76	70	69	79	68	73	100	80			80
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L		21	32	31	37	37	32	29	38	29	22	22			26
Chromium	mg/L		0.0034	0.0013 J	0.0022	0.002 U	0.0011 J	0.002 U	0.0015 J	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L		0.0031	0.013	0.01	0.012	0.0092	0.0076	0.0056	0.0071	0.0038	0.0028	0.0045	0.005	0.0074	0.006
Conductivity, Field	uS/cm			673					694	709	674	699	667	651		720
Copper	mg/L												0.005 U			
Dissolved Oxygen, Field	mg/L			0.5									0.55	0.57		0.57
Dissolved Solids, Total	mg/L		420	470	470	480	470	450	440	480	540	520	420 J			470 J
Fluoride	mg/L		0.22	0.11	0.091	0.092	0.084	0.094	0.13	0.041 J	0.1	0.2	0.12	0.1	0.087	0.12
Iron	mg/L												0.91			
Lead	mg/L		0.002	0.0011	0.0013	0.00058 J	0.001 U	0.00064 J	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.001 U
Lithium	mg/L		0.0033 J	0.0072 J	0.011	0.0095 *+^+	0.0084	0.0066 J	0.0029 J^-	0.0091	0.0055 J	0.0036 J	0.0056 J	0.0072 J	0.0072 J	0.0078 J
Magnesium	mg/L		16	18	19	19	20	19	19	20	17	21	17	15	22	21
Manganese	mg/L												7.2			
Mercury	mg/L												0.0002 U	0.00021	0.0002 U	0.0002 U
Molybdenum	mg/L		0.0012 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L												0.029			
Oxidation-Reduction Potential, Field	mV												99.1	89.2		44.2
pH, Field	pH units			6.06		6.09	6.1	6.31	6.33	6.15	6.26	6.69	5.98	5.98		6.14
Potassium	mg/L		1.4	1.6	1.7	1.6	1.8	1.4	1.6	1.5	1.2	1.4	1.3	1.3	1.6	1.4
Radium-226	pCi/L												0.05 U	0.125	0.0585 U	0.126 U
Radium-226/228	pCi/L												0.276 U	0.255 U	1.01	0.495 U
Radium-228	pCi/L												0.226 U	0.131 U	0.953	0.369 U
Redox Potential, Field	mV															
Selenium	mg/L		0.005 U	0.005 U	0.00091 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L												0.001 U			
Sodium	mg/L		21	25	25	25	26	23	24	26	21	21	20	19	26	20
Strontium	mg/L												0.15			
Sulfate	mg/L		150	220	210	230	240	230	220	250	240	210	220			230 J
Temperature, Field	deg C			16.6					15	16	15	17	14	14.9		16
Thallium	mg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU			21.3		16.1		37	9.6	7.5	7.2	10.2	6.7	3.84		14.23
Vanadium	mg/L															
Zinc	mg/L												0.02 U			

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06
	Date	2022-12-09	2023-03-02	2023-04-07	2023-10-03	2023-10-03	2024-03-21	2024-03-21	2024-10-09	2024-10-09	2020-09-10	2021-03-13	2021-09-18	2022-03-31	2022-04-28
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		57	79		61		89		70	180	140	170	180	180
Aluminum	mg/L													0.05 U	
Antimony	mg/L	0.002 U	0.002 U	0.002 U		0.002 U		0.002 U		0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.0013 J	0.001 J	0.00083 J		0.00098 J		0.005 U		0.005	0.00091 J	0.00091 J	0.00093 J	0.0008 J	0.005 U
Barium	mg/L	0.036	0.045	0.041		0.037		0.032		0.031	0.09	0.084	0.097	0.12	0.11
Beryllium	mg/L	0.001 U	0.001 U	0.001 U		0.001 U		0.001 U		0.0003	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		57	79		61		89		70	180	140	170	180	180
Boron	mg/L			2.3		2.4		2.7		2.5	1.7	1.4	1.7	1.9 J	1.6
Bromide	mg/L														
Cadmium	mg/L	0.00025 J	0.00048 J	0.00032 J		0.00052 J		0.00029 J		0.00045	0.001 U	0.001 U	0.001 U	0.0001 U	0.001 U
Calcium	mg/L			74		79		92		80	100	84	120	120	120
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U		5 U		5 U		5	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L			35		38		31		35	25	26	25	26	25
Chromium	mg/L	0.005 U	0.005 U	0.002 J		0.005 U		0.005 U		0.005	0.0017 J	0.002 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L	0.0044	0.0081	0.0081		0.0079		0.0057		0.0066	0.0054	0.0043	0.0047	0.0034	0.0035
Conductivity, Field	uS/cm	691	794	697	766		812		830		772	747	768	803	789
Copper	mg/L													0.005 U	
Dissolved Oxygen, Field	mg/L	0.85	0.3	1.39	1.29		1.97		1.22					0.6	0.49
Dissolved Solids, Total	mg/L			520		520		580		520	510	560	570	520 J	500
Fluoride	mg/L	0.17	0.11	0.048 J		0.11		0.098		0.1	0.048 J	0.067	0.11	0.093	0.093
Iron	mg/L													7.5	
Lead	mg/L	0.0014	0.0015	0.0016		0.00062 J		0.001 U		0.001	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U
Lithium	mg/L	0.0068 J	0.01	0.011		0.013 J		0.0088		0.011	0.007 J	0.0049 J	0.006 J	0.0055 J	0.0055 J
Magnesium	mg/L	21	23	20		24		21		22	25	20	28	24	26
Manganese	mg/L													2.1	
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002				0.0002 U	0.0002 U
Molybdenum	mg/L	0.005 U	0.005 U	0.005 U		0.005 U		0.005 U		0.005	0.0012 J	0.005 U	0.005 U	0.002 U	0.005 U
Nickel	mg/L													0.0039 J	
Oxidation-Reduction Potential, Field	mV	85.9	102.8	65	146		121.1		116.2					-98.9	-30.2
pH, Field	pH units	6.28	5.8	6.07	5.89		6.04		5.83		6.81	6.66	6.76	6.58	6.7
Potassium	mg/L	1.7	1.7	1.6		1.6		1.6		1.5	1.5	1.5	1.5	1.3 J	1.4
Radium-226	pCi/L	0.127 U	0.234 U	0.0139 U		0.123 U		0.137 U		0.135				0.179 U	0.265
Radium-226/228	pCi/L		-0.862 U	0.0549 U		1.11 J		1.08		0.377 U				0.599	0.533 U
Radium-228	pCi/L	0.492 U	-1.1 U	0.041 U		0.986 J		0.942		0.242 U *				0.42 U	0.268 U
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U	0.005 U		0.005 U		0.005 U		0.0014	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L													0.001 U	
Sodium	mg/L	21	28	25		29		26		29	15	13	17	16	16
Strontium	mg/L													0.14	
Sulfate	mg/L			270		270		270		310	200	190	220	210	220
Temperature, Field	deg C	14.6	15.1	14.5	16		14.5		15.5		16	14	15	15	14.6
Thallium	mg/L	0.001 U	0.00069 J	0.001 U		0.001 U		0.00039 J		0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	29.71	27.17	41.53	13.45		15.62		3.03		15	7.4	3.5	8.5	2.97
Vanadium	mg/L														
Zinc	mg/L													0.02 U	

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06
	Date	2022-06-28	2022-10-17	2022-12-07	2022-12-07	2022-12-07	2022-12-07	2023-03-02	2023-03-02	2023-04-12	2023-04-12	2023-04-12	2023-04-12	2023-06-13	2023-06-13
	Sample Type	N	N	FD	FD	N	N	N	N	FD	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	190		190	180	190	200	190	190	190	190	110 U	110 U		200
Aluminum	mg/L														
Antimony	mg/L	0.002 U	0.002 U		0.002 U		0.002 U	0.002 U		0.002 U	0.002 U		0.002 U		0.002 U
Arsenic	mg/L	0.005 U	0.005 U		0.00092 J		0.0009 J	0.005 U		0.005 U	0.00095 J		0.00085 J		0.005 U
Barium	mg/L	0.11	0.076		0.1		0.097	0.09		0.096	0.097		0.094		0.072
Beryllium	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U	0.001 U		0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	190	180	190	180	190	200	190	190	190	190	110 U	110 U		200
Boron	mg/L	1.7	1.7	1.8		1.8			1.9	1.9	1.9	1.8			
Bromide	mg/L														
Cadmium	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U	0.001 U		0.001 U		0.001 U
Calcium	mg/L	110	120	120		120			120	120	120	110			
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U
Chloride	mg/L	25	24	24		24			24	24	24	24			
Chromium	mg/L	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U	0.005 U		0.005 U		0.005 U
Cobalt	mg/L	0.0037	0.0037		0.0036		0.0037	0.0031		0.0041	0.0042		0.0039		0.0032
Conductivity, Field	uS/cm		815	817		817		840			814			770	
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		0.64	0.96		0.96		0.68			0.69			1.1	
Dissolved Solids, Total	mg/L	510	560 J	550		560			560	530	540	550			
Fluoride	mg/L	0.089		0.093	0.094	0.09	0.094	0.098	0.098	0.098	0.097	0.098	0.098		0.091
Iron	mg/L														
Lead	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U	0.001 U		0.001 U		0.001 U
Lithium	mg/L	0.0051 J	0.0049 J		0.0057 J		0.006 J	0.0053 J		0.0066 J	0.0079 J		0.0076 J		0.0034 J
Magnesium	mg/L	26		27	27	27	27	25	27	26	26	26	25		22
Manganese	mg/L														
Mercury	mg/L	0.0002 U	0.0002 U		0.0002 U		0.0002 U	0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002 U
Molybdenum	mg/L	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U	0.005 U		0.005 U		0.005 U
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		-49.6	-36.3		-36.3		-46.9			-56.5			89.1	
pH, Field	pH units		6.56	6.62		6.62		6.59			6.57			6.56	
Potassium	mg/L	1.4		1.6	1.5	1.6	1.5	1.4	1.5	1.4	1.4	1.4	1.4		1.2
Radium-226	pCi/L	0.289	0.221		0.2		0.233	0.142		0.226	0.284		0.182		0.177
Radium-226/228	pCi/L	0.809	1.11		0.478 U		0.331 U	1.02		0.844	0.174 U		0.189 U		7.53
Radium-228	pCi/L	0.52	0.89		0.278 U		0.0976 U	0.875		0.618	-0.11 U		0.0079 U		7.36
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U	0.005 U		0.005 U		0.005 U
Silver	mg/L														
Sodium	mg/L	16		16	16	16	16	15	16	16	16	16	15		13
Strontium	mg/L														
Sulfate	mg/L	210		220		220			220	230	230	210			
Temperature, Field	deg C		14.4	14.6		14.6		14.2			15.4			15.3	
Thallium	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U	0.001 U		0.001 U		0.001 U
Turbidity, Field	NTU		7.59	4.01		4.01		5.09			11.02			6.83	
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-06	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07
	Date	2023-08-17	2023-08-17	2023-09-27	2023-09-27	2024-03-20	2024-03-20	2024-10-08	2024-10-08	2024-10-08	2020-09-09	2021-03-13	2021-03-13	2021-09-18	2022-03-31
	Sample Type	N	N	N	N	N	N	FD	N	N	N	FD	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		200		200		200	210		210	120	120	110	110	120
Aluminum	mg/L														0.028 J
Antimony	mg/L		0.002 U		0.002 U		0.002 U	0.002		0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L		0.001 J		0.005 U		0.00078 J	0.005		0.001	0.0018 J	0.0012 J	0.0011 J	0.001 J	0.002 U
Barium	mg/L		0.091		0.086		0.099 J	0.14		0.11	0.061	0.054	0.055	0.053	0.057
Beryllium	mg/L		0.001 U		0.001 U		0.001 U	0.001		0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		200		200		200	210		210	120	120	110	110	120
Boron	mg/L				1.8		1.6	1.6		1.6	1.3	1.1	1.1	1.1	1.4 J
Bromide	mg/L														
Cadmium	mg/L		0.001 U		0.001 U		0.001 U	0.001		0.001	0.001 U	0.001 U	0.001 U	0.001 U	7E-05 J
Calcium	mg/L				110		110	120		120	85	75	76	87	100
Carbonate Alkalinity as CaCO3	mg/L		5 U		5 U		5 U	5		5	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L				24		26	26		26	27	26	26	27	25
Chromium	mg/L		0.005 U		0.005 U		0.005 U	0.005		0.005	0.0012 J	0.002 U	0.002 U	0.005 U	0.005 U
Cobalt	mg/L		0.0041		0.0033		0.0033	0.0028		0.0026	0.013	0.0046	0.0046	0.0026	0.002
Conductivity, Field	uS/cm	807		792		832			817		654	632	632	619	681
Copper	mg/L														0.005 U
Dissolved Oxygen, Field	mg/L	1.15		1.1		2.15			0.82						1.01
Dissolved Solids, Total	mg/L				560		540	510		500	450	490	460	510	450 J
Fluoride	mg/L		0.092		0.1		0.072	0.093		0.096	0.05 U	0.049 J	0.044 J	0.082	0.081
Iron	mg/L														0.31
Lead	mg/L		0.001 U		0.001 U		0.001 U	0.001		0.001	0.0012	0.001 U	0.001 U	0.001 U	0.0005 U
Lithium	mg/L		0.0079 J		0.008 U		0.007 J	0.0067		0.0068	0.0084	0.0052 J	0.0055 J	0.0063 J	0.0057 J
Magnesium	mg/L		27		26		24	25		25	21	18	18	20	20
Manganese	mg/L														0.21
Mercury	mg/L		0.0002 U		0.0002 U		0.0002 U	0.0002		0.0002					0.0002 U
Molybdenum	mg/L		0.005 U		0.005 U		0.005 U	0.005		0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U
Nickel	mg/L														0.0028 J
Oxidation-Reduction Potential, Field	mV	61.1		16.7		-73.6			-92.2						92.4
pH, Field	pH units	6.56		6.62		6.65			6.61		6.51	6.17	6.17	6.32	6.23
Potassium	mg/L		1.5		1.4		1.3	1.5		1.5	1.4	1.4	1.4	1.3	1.4 J
Radium-226	pCi/L		0.111 U		0.304		0.28	0.428		0.235					0.167 U
Radium-226/228	pCi/L		0.768		0.695		1.02	0.669		0.457 U					0.314 U
Radium-228	pCi/L		0.657		0.391 U		0.738	0.241 U		0.222 U					0.147 U
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U		0.005 U		0.005 U	0.005		0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L														0.001 U
Sodium	mg/L		17		16		16	21		17	16	14	14	16	15
Strontium	mg/L														0.12
Sulfate	mg/L				230		220	210		210	200	190	190	180	190
Temperature, Field	deg C	16		15.2		14.4			15.3		17	14	14	15	15
Thallium	mg/L		0.0013		0.001 U		0.001 U	0.001		0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Turbidity, Field	NTU	7.32		6.71		7.04			16.04		23.8	2.3	2.3	2.6	6.4
Vanadium	mg/L														
Zinc	mg/L														0.02 U

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07
	Date	2022-04-28	2022-06-28	2022-10-14	2022-10-14	2022-12-07	2022-12-07	2023-03-02	2023-03-02	2023-03-02	2023-03-02	2023-04-12	2023-04-12	2023-04-12	2023-06-13
	Sample Type	N	N	FD	N	N	N	FD	FD	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	130	140	130	140	140	140	130	130	130	130	130	5 U	140 U	
Aluminum	mg/L														
Antimony	mg/L	0.002 U	0.002 U		0.00081 J		0.002 U	0.002 U		0.002 U		0.002 U		0.002 U	
Arsenic	mg/L	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U	
Barium	mg/L	0.056	0.049		0.047		0.047	0.047		0.048		0.045		0.045	
Beryllium	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	130	140	130	140	140	140	130	130	130	130	130	5 U	140 U	
Boron	mg/L	1.2	1.2	0.96		1			1.1		1.1	1.2	1.1		
Bromide	mg/L														
Cadmium	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U	
Calcium	mg/L	90	82	86		89			94		95	90	91		
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chloride	mg/L	25	25	24		26			25		25	26	26		
Chromium	mg/L	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U	
Cobalt	mg/L	0.0019	0.0017		0.0015		0.0013	0.0015		0.0015		0.0017		0.0017	
Conductivity, Field	uS/cm	649		634	634	680				689		616			601
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	0.54		2.99	2.99	2.34				1.65		0.76			1.15
Dissolved Solids, Total	mg/L	780	370	440 J	420 J	450			450		440	440	440		
Fluoride	mg/L	0.082	0.073	0.076	0.076	0.076	0.077	0.081	0.083	0.08	0.079	0.076	0.075	0.084	
Iron	mg/L														
Lead	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U	
Lithium	mg/L	0.006 J	0.0053 J		0.0049 J		0.0056 J	0.0062 J		0.0062 J		0.0077 J		0.007 J	
Magnesium	mg/L	21	19	19	20	20	20	21	22	21	22	20	20	20	
Manganese	mg/L														
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002 U	
Molybdenum	mg/L	0.005 U	0.005 U		0.0018 J		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	71.6		81.6	81.6	155.7				205.9		164.6			37.3
pH, Field	pH units	6.29		6.29	6.29	6.3				6.22		6.15			6.21
Potassium	mg/L	1.3	1.2	1.3		1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	
Radium-226	pCi/L	0.0366 U	0.0744 U	0.064 U	0.101 U		0.00268 U	0.124		0.0841 U		0.0649 U		0.0631 U	
Radium-226/228	pCi/L	0.252 U	0.56	0.436 U	-0.028 U		-0.174 U	1.12		0.498 U		0.174 U		0.158 U	
Radium-228	pCi/L	0.215 U	0.486	0.372 U	-0.129 U		-0.177 U	0.992		0.414 U		0.109 U		0.0948 U	
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U	
Silver	mg/L														
Sodium	mg/L	15	15	14		15	15	16	16	16	16	16	16	16	
Strontium	mg/L														
Sulfate	mg/L	190	180	170	170	190			190		190	200	190		
Temperature, Field	deg C	14.3		14.6	14.6	14.4				14		14.7			14.9
Thallium	mg/L	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U	
Turbidity, Field	NTU	1.27		4.97	4.97	3.64				6.7		2.47			2.31
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-07	BAC-08	BAC-08	BAC-08	BAC-08
	Date	2023-06-13	2023-08-17	2023-08-17	2023-09-27	2023-09-27	2024-03-20	2024-03-20	2024-03-20	2024-10-07	2024-10-07	2022-10-12	2022-12-07	2022-12-07	2023-03-01
	Sample Type	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	120		130		130	140		140		120	200	190	180	190
Aluminum	mg/L														
Antimony	mg/L	0.00079 J		0.002 U		0.002 U	0.002 U		0.002 U		0.002	0.002 U		0.002 U	0.002 U
Arsenic	mg/L	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005	0.0028 J		0.0018 J	0.0041 J
Barium	mg/L	0.037		0.04		0.037 J	0.045		0.042		0.037	0.14		0.12	0.16
Beryllium	mg/L	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	120		130		130	140		140		120	200	190	180	190
Boron	mg/L					1.1	1.1		1.1		1.1	0.098 J	0.13		
Bromide	mg/L														
Cadmium	mg/L	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Calcium	mg/L					82	89		81		84	86	88		
Carbonate Alkalinity as CaCO3	mg/L	5 U		5 U		5 U	5 U		5 U		5	5 U	5 U	5 U	5 U
Chloride	mg/L					25	26		26		27	19	20		
Chromium	mg/L	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005	0.005 U		0.005 U	0.005 U
Cobalt	mg/L	0.0015		0.0016		0.0013	0.0014		0.0013		0.00098	0.0028		0.0042	0.0025
Conductivity, Field	uS/cm		576		586			676		670		580	570		600
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		1.37		1.17			2.2		1.29		0.5	0.54		1.13
Dissolved Solids, Total	mg/L					410	440		450		400	370	360		
Fluoride	mg/L	0.11		0.069		0.078	0.055		0.067		0.082	0.14	0.11	0.15	0.15
Iron	mg/L														
Lead	mg/L	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Lithium	mg/L	0.0044 J		0.0063 J		0.006 J	0.0074 J		0.0067 J		0.0068	0.0046 J		0.003 J	0.0045 J
Magnesium	mg/L	18		20		20	20		19		19	12	14	14	12
Manganese	mg/L														
Mercury	mg/L	0.0002 U		0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002	0.0002 U		0.0002 U	0.0002 U
Molybdenum	mg/L	0.0015 J		0.005 U		0.005 U	0.005 U		0.005 U		0.005	0.0031 J		0.0022 J	0.002 J
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		171.6		174.3			193.4		113.4		-127.8	-190.3		-72.1
pH, Field	pH units		6.14		6.19			6.23		6.1		6.68	6.83		6.53
Potassium	mg/L	1.2		1.3		1.3	1.3		1.2		1.3	1.2	1.3	1.3	1.4
Radium-226	pCi/L	0.00868 U		0.0279 U		-0.0123 U	0.043 UJ		-0.0168 UJ		0.253	0.256 U		0.053 U	0.161
Radium-226/228	pCi/L	1.59		1.61		0.393 U	-0.12 UJ		0.0466 UJ		0.362 U	0.537 U		0.427 U	0.125 U
Radium-228	pCi/L	1.58		1.59		0.406 U	-0.164 UJ		0.0634 UJ		0.109 U	0.281 U		0.374 U	-0.0363 U
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005	0.005 U		0.005 U	0.005 U
Silver	mg/L														
Sodium	mg/L	14		16		16	15		14		16	11	16	15	13
Strontium	mg/L														
Sulfate	mg/L					170	180		180		180	79	100		
Temperature, Field	deg C		15.6		15.1			13.9		17.3		15.7	14.4		15.9
Thallium	mg/L	0.00042 J		0.001 U		0.001 U	0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Turbidity, Field	NTU		2.6		1.73			2.23		7.51		15.25	5.59		2.45
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08
	Date	2023-03-01	2023-04-11	2023-04-11	2023-04-11	2023-06-12	2023-06-12	2023-08-17	2023-08-17	2023-09-28	2023-09-28	2023-10-10	2023-10-10	2023-12-12	2023-12-12
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	FD	FD
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	200	210	240 J	210	210	210	190	200		190	190	190	180	180
Aluminum	mg/L														
Antimony	mg/L		0.002 U		0.002 U		0.002 U		0.002 U		0.002 U		0.002 U		0.002 U
Arsenic	mg/L		0.0033 J		0.0036 J		0.0022 J		0.0023 J		0.001 J		0.0014 J		0.00087 J
Barium	mg/L		0.18		0.18		0.14		0.13		0.11		0.11		0.085
Beryllium	mg/L		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	200	210	240 J	210	210	210	190	200		190	190	190	180	180
Boron	mg/L	0.12	0.11	0.11		0.11		0.11			0.1	0.11		0.11	
Bromide	mg/L														
Cadmium	mg/L		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U
Calcium	mg/L	91	93	93		96		99			90	92		85	79
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	21	24	22		23		24			23	24		23	
Chromium	mg/L		0.005 U		0.005 U		0.005 U		0.0013 J		0.005 U		0.005 U		0.005 U
Cobalt	mg/L		0.0026		0.0026		0.0021		0.002		0.0014		0.0016		0.0016
Conductivity, Field	uS/cm		555			533		540		488.3		568			
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		0.78			0.92		1.59		1.01		1.33			
Dissolved Solids, Total	mg/L	350	350	350		350		350			350	390		330	
Fluoride	mg/L	0.12	0.19	0.13	0.13	0.12	0.12	0.12	0.12		0.09	0.14	0.11	0.1	0.1
Iron	mg/L														
Lead	mg/L		0.001 U		0.001 U		0.001 U		0.00047 J		0.001 U		0.001 U		0.001 U
Lithium	mg/L		0.0056 J		0.0051 J		0.0022 J		0.005 J		0.0021 J		0.0049 J		0.0048 JB
Magnesium	mg/L	13	12	12	12	13	12	13	13		13	12	12	13	12
Manganese	mg/L														
Mercury	mg/L		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U
Molybdenum	mg/L		0.0023 J		0.0018 J		0.0021 J		0.0013 J		0.005 U		0.005 U		0.005 U
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		-72.1			27		137.6		-2.4		-8.7			
pH, Field	pH units		6.77			6.6		6.62		6.61		6.65			
Potassium	mg/L	1.4	1.3	1.3	1.2	1.6	1.5	1.5	1.5		1.4	1.5	1.4	1.1	1.2
Radium-226	pCi/L		0.0283 U		0.0642 U		0.0425 U		0.205		0.203 U		0.139 U		0 U
Radium-226/228	pCi/L		-0.135 U		0.195 U		0.338 U		0.487 U		0.471 U		0.515 U		0.759 U
Radium-228	pCi/L		-0.164 U		0.131 U		0.296 U		0.282 U		0.268 U		0.375 U		0.759 U
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U
Silver	mg/L														
Sodium	mg/L	13	12	12	12	13	13	12	13		13	12	12	12	12 B
Strontium	mg/L														
Sulfate	mg/L	83	89	86		80		82			78	83		77	
Temperature, Field	deg C		14.5			14.5		15.2		15.4		15			
Thallium	mg/L		0.00029 J		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U
Turbidity, Field	NTU		2.54			9.58		6.81		9.94		15.49			
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-08	BAC-09	BAC-09	BAC-09	BAC-09	BAC-09	BAC-09	BAC-09
	Date	2023-12-12	2023-12-12	2023-12-12	2024-03-22	2024-03-22	2024-10-07	2024-10-07	2022-10-11	2022-12-13	2022-12-13	2023-04-06	2023-04-06	2023-10-02	2023-10-02
	Sample Type	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		180	180		190		180	73	45	51	120	120		170
Aluminum	mg/L														
Antimony	mg/L			0.002 U		0.002 U		0.002	0.001 J	0.00072 J		0.004 U	0.004 U		0.002 U
Arsenic	mg/L			0.005 U		0.005 U		0.005	0.0015 J	0.0012 J		0.0022 J	0.0023 J		0.0016 J
Barium	mg/L			0.087		0.086		0.074	5.7	16		2.3	2.1		2.6
Beryllium	mg/L			0.001 U		0.001 U		0.00027	0.001 U	0.001 U		0.002 U	0.002 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		180	180		190		180	73	45	51	120	120		170
Boron	mg/L		0.11			0.12		0.1	0.26		0.23	0.25	0.25		0.25
Bromide	mg/L														
Cadmium	mg/L			0.001 U		0.001 U		8E-05	0.001 U	0.001 U		0.002 U	0.002 U		0.001 U
Calcium	mg/L		85	81		84		74	760		980	450	440		260
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U		5 U		5	5 U	5 U	5 U	5 U	5 U		5 U
Chloride	mg/L		22			21		15	6700			4600	4700		1600
Chromium	mg/L			0.005 U		0.005 U		0.0012	0.0065	0.0073		0.006 J	0.0076 J		0.0063
Cobalt	mg/L			0.0017		0.0017		0.00096	0.0022	0.0024		0.0024	0.0023		0.0019
Conductivity, Field	uS/cm	581			572		536		18188	20063			109.33	4430	
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.54			1.8		2.2		1.7	0.37			0.69	1.63	
Dissolved Solids, Total	mg/L		340			320		340	9500		11000	6800	6900		2900 J
Fluoride	mg/L		0.1	0.1		0.12		0.15	0.73	0.46		0.87	0.85		1.6
Iron	mg/L														
Lead	mg/L			0.001 U		0.001 U		0.001	0.0017	0.002		0.0021	0.0022		0.0024
Lithium	mg/L			0.0054 JB		0.004 J		0.0041	0.11	0.11		0.1	0.098		0.06
Magnesium	mg/L		13	13		12		12	180	230	230	110	100		63
Manganese	mg/L														
Mercury	mg/L			0.0002 U		0.0002 U		0.0002	0.0002 U	0.00013 JB		0.0002 U	0.0002 U		0.0002 U
Molybdenum	mg/L			0.005 U		0.0011 J		0.005	0.052	0.014		0.086	0.085		0.068
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	157.1			44.6		118.5		-55.4	-129.4			-166.5	-143.3	
pH, Field	pH units	6.55			6.58		6.41		7.31	7.14			7.79	7.72	
Potassium	mg/L		1.2	1.2		1.2		1.1	10	11	11	6.8	6.6		4.9
Radium-226	pCi/L			0.276 U		0.177 U		0.074 U	3.68 J	7.53		2.1	11.9		2.46
Radium-226/228	pCi/L			0.583 U		0.783		0.303 U	9.36 J	16.2		3.7	13.3		7.14
Radium-228	pCi/L			0.307 U		0.606 U		0.229 U G	5.69 J	8.68 G		1.6	1.42		4.68
Redox Potential, Field	mV														
Selenium	mg/L			0.005 U		0.005 U		0.005	0.005 U	0.005 U		0.01 U	0.01 U		0.005 U
Silver	mg/L														
Sodium	mg/L		13	12 B		12		12	2300	2800	2800 F2	1600	1500		1200
Strontium	mg/L														
Sulfate	mg/L		77			78		78	42			64	62		74
Temperature, Field	deg C	13.2			13.9		15.6		14.8	12.8			13.1	14.8	
Thallium	mg/L			0.00032 J		0.00042 J		0.001	0.001 U	0.001 U		0.002 U	0.002 U		0.001 U
Turbidity, Field	NTU	12.29			8.72		15.11		101.41	124.81			82.52	88.03	
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-09	BAC-09	BAC-09	BAC-09	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10
	Date	2024-03-19	2024-03-19	2024-10-04	2024-10-04	2022-10-13	2022-12-14	2022-12-14	2023-02-27	2023-02-27	2023-04-11	2023-04-11	2023-04-11	2023-04-11	2023-04-11
	Sample Type	N	N	N	N	N	N	N	N	N	FD	FD	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		210		150	230	230	240	220	220	240 J	240 J	240	5 U	240
Aluminum	mg/L														
Antimony	mg/L		0.002 U		0.002	0.00057 J	0.002 U			0.002 U		0.002 U	0.0007 J		0.00074 J
Arsenic	mg/L		0.0029 J		0.0016	0.0078	0.0048 J			0.003 J		0.0052	0.0047 J		0.0047 J
Barium	mg/L		0.86		5.4	0.11	0.079			0.057		0.078	0.078		0.075
Beryllium	mg/L		0.001 U		0.001	0.0018	0.001 U			0.001 U		0.001 U	0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		210		150	230	230	240	220	220	240 J	240 J	240	5 U	240
Boron	mg/L		0.16		0.21	0.67		0.79	0.71		0.73		0.75	0.73	
Bromide	mg/L														
Cadmium	mg/L		0.001 U		0.001	0.00038 J	0.00024 J			0.00059 J		0.00024 J	0.00031 J		0.00026 J
Calcium	mg/L		55		400	110		120	110		120		120	120	
Carbonate Alkalinity as CaCO3	mg/L		5 U		5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L		460		3300	51			45		52		51	51	
Chromium	mg/L		0.018		0.003	0.0092	0.0072			0.0033 J		0.0061	0.0063		0.0058
Cobalt	mg/L		0.0068		0.0012	0.01	0.0056			0.0031		0.0052	0.0051		0.005
Conductivity, Field	uS/cm	1537		10241		1010	1023		1010				1022		
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.43		0.46		1.18	1.04		0.15				0.97		
Dissolved Solids, Total	mg/L		1700		6100	650 J		640	640		690		680	700	
Fluoride	mg/L		0.99		0.44	0.16	0.12		0.16	0.14	0.22	0.22	0.13	0.21	0.23
Iron	mg/L														
Lead	mg/L		0.0069		0.0011	0.0069	0.0046			0.0024		0.0037	0.0035		0.0035
Lithium	mg/L		0.044		0.075	0.0089	0.0074 J			0.0039 J		0.0067 J	0.0072 J		0.0068 J
Magnesium	mg/L		16		97	26	32	32	27	28	29	30	30	30	29
Manganese	mg/L														
Mercury	mg/L		0.0002 U		0.0002	0.0002 U	0.00015 JB			0.0002 U		0.0002 U	0.0002 U		0.0002 U
Molybdenum	mg/L		0.041		0.014	0.0014 J	0.005 U			0.005 U		0.005 U	0.0017 J		0.0016 J
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	-11		-186.8		-2	57.5		70.5				135.4		
pH, Field	pH units	8.55		7.67		6.37	6.35		6.26				6.41		
Potassium	mg/L		4		5.8	2.3	2.8	2.8	2.2	2.3	2.6	2.5	2.6	2.7	2.4
Radium-226	pCi/L		1.43		3.58	0.738	0.215 U			0.155 U		0.288 U	0.345 U		0.263 U
Radium-226/228	pCi/L		3.42		9.5	4.79 J	2.3			1.93 U		1.25 U	-0.269 U		0.0376 U
Radium-228	pCi/L		1.99 U		5.93 G	4.05 J	2.08 U G			1.78 U		0.963 U	-0.614 U		-0.225 U
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U		0.005	0.0019 J	0.005 U			0.005 U		0.005 U	0.005 U		0.005 U
Silver	mg/L														
Sodium	mg/L		460		1600	52	61	61	52	54	55	56	57	56	55
Strontium	mg/L														
Sulfate	mg/L		100		54	240			230		270		310	270	
Temperature, Field	deg C	13.3		17.5		16	14.8		15.3				15.2		
Thallium	mg/L		0.001 U		0.001	0.0017	0.001 U			0.001 U		0.001 U	0.00062 J		0.00053 J
Turbidity, Field	NTU	290.15		59.47		131.31	143.22		66.46				99.16		
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10	BAC-10
		Date	2023-06-14	2023-06-14	2023-08-15	2023-08-15	2023-08-15	2023-08-15	2023-09-26	2023-09-26	2023-10-11	2023-10-11	2023-12-11	2023-12-11	2023-12-11	2024-03-18
		Sample Type	N	N	FD	FD	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	200	210	220	220	220	220		220	220	220		240	4.4 J		
Aluminum	mg/L															
Antimony	mg/L		0.002 U		0.002 U		0.00069 J		0.002 U		0.002 U			0.002 U		
Arsenic	mg/L		0.002 J		0.0035 J		0.0043 J		0.0012 J		0.0014 J			0.005 U		
Barium	mg/L		0.041		0.052		0.055		0.042 J		0.039			0.005 U		
Beryllium	mg/L		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U			0.001 U		
Bicarbonate Alkalinity as CaCO3	mg/L	200	210	220	220	220	220		220	220	220		240	4.4 J		
Boron	mg/L	0.45		0.51		0.49			0.55	0.51			1			
Bromide	mg/L															
Cadmium	mg/L		0.001 U		0.001 U		0.00028 J		0.001 U		0.001 U			0.001 U		
Calcium	mg/L	100		110		100			110	110			130	1 U		
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U	5 U		5 U	5 U		
Chloride	mg/L	41		47		47			48	48			55			
Chromium	mg/L		0.0028 J		0.0045 J		0.0053		0.0023 J		0.0015 J			0.005 U		
Cobalt	mg/L		0.0021		0.0032		0.0037		0.0015		0.0014			0.001 U		
Conductivity, Field	uS/cm	700				892		895		792		1167				1274
Copper	mg/L															
Dissolved Oxygen, Field	mg/L	1.58				1.72		1.87		1.88		1.87				2.32
Dissolved Solids, Total	mg/L	510		580		560			580	580			780			
Fluoride	mg/L	0.15	0.15	0.15	0.15	0.15	0.15		0.097	0.17	0.15		0.11	0.05 U		
Iron	mg/L															
Lead	mg/L		0.0018		0.0033		0.0035		0.0015		0.0012			0.001 U		
Lithium	mg/L		0.0031 J		0.0065 J		0.0073 J		0.008 U		0.0059 J			0.008 U		
Magnesium	mg/L	25	24	28	27	27	27		29	27	26		33	1 U		
Manganese	mg/L															
Mercury	mg/L		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U			0.0002 U		
Molybdenum	mg/L		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U			0.005 U		
Nickel	mg/L															
Oxidation-Reduction Potential, Field	mV	134.5				134.9		155.2		143.8		195.4				111.8
pH, Field	pH units	6.35				6.64		6.42		6.4		6.33				6.36
Potassium	mg/L	1.8	1.7	2	1.9	1.9	1.9		1.8	1.6	1.6		3.1	1 U		
Radium-226	pCi/L		0.0864 U		0.292 U		0.325		0.18 U		0.0435 U			0.0258 U		
Radium-226/228	pCi/L		0.952 U		1 U		-0.916 U		0.905		0.652			1.3		
Radium-228	pCi/L		0.866 U		0.708 U		-1.24 U		0.725 U		0.608 U			1.28		
Redox Potential, Field	mV															
Selenium	mg/L		0.005 U		0.005 U		0.0009 J		0.005 U		0.005 U			0.005 U		
Silver	mg/L															
Sodium	mg/L	43	41	49	48	47	47		50	47	45		62	1 U		
Strontium	mg/L															
Sulfate	mg/L	170		220 J		120 J			200	210			290			
Temperature, Field	deg C	15.5				16.9		16.4		16.3		14.7				14.3
Thallium	mg/L		0.00022 J		0.001 U		0.0015		0.001 U		0.001 U			0.00056 J		
Turbidity, Field	NTU	49.77				66.2		29.94		34.81		84.81				42.23
Vanadium	mg/L															
Zinc	mg/L															

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-10	BAC-10	BAC-10	BAC-10	BAC-11	BAC-11	BAC-11	BAC-11	BAC-11	BAC-11	BAC-11	BAC-11	BAC-11	BAC-11
	Date	2024-03-18	2024-10-08	2024-10-08	2024-10-08	2022-10-17	2022-12-07	2022-12-07	2022-12-16	2022-12-16	2023-04-06	2023-09-27	2023-09-27	2024-03-20	2024-03-20
	Sample Type	N	FD	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	260	260		260	190	16	15	23	25	39		32		28 J
Aluminum	mg/L														
Antimony	mg/L	0.002 U	0.002		0.002	0.002 U		0.002 U		0.00078 J^1+	0.02 U		0.002 U		0.002 U
Arsenic	mg/L	0.0021 J	0.00096		0.0008	0.005 U		0.001 J		0.005 U	0.05 U		0.005 U		0.005 U
Barium	mg/L	0.06	0.049		0.052	130		170		140	140		160		150
Beryllium	mg/L	0.001 U	0.001		0.001	0.001 U		0.001 U		0.001 U	0.01 U		0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	260	260		260	190	16	15	23	25	39		32		28 J
Boron	mg/L	0.9	0.79		0.81	0.25	0.29		0.28		0.38		0.4		0.4
Bromide	mg/L														
Cadmium	mg/L	0.001 U	0.00015		0.00014	0.001 U		0.001 U		0.001 U	0.01 U		0.001 U		0.001 U
Calcium	mg/L	130	130		130	2900	2400		2500		2200		2600		2500
Carbonate Alkalinity as CaCO3	mg/L	5 U	5		5	5 U	5 U	5 U	5 U	5 U	5 U		5 U		5 U
Chloride	mg/L	64	59		59	27000	27000		26000		23000		33000		25000
Chromium	mg/L	0.0024 J	0.005		0.005	0.011		0.0095		0.005 U	0.05 U		0.0037 J		0.0016 J
Cobalt	mg/L	0.0022	0.00093		0.00088	0.0027		0.0032		0.00083 J	0.0027 J		0.0012		0.00082 J
Conductivity, Field	uS/cm			1185		59168	56038				48189	39301		62435	
Copper	mg/L														
Dissolved Oxygen, Field	mg/L			1.54		0.36	0.27				0.3	0.71		1.37	
Dissolved Solids, Total	mg/L	820	730		730	41000 J	33000		32000		38000		38000		35000
Fluoride	mg/L	0.13	0.16		0.17	0.63 J	2.5 U	0.67 J	1 U	1.3 U	2.5 U		5 U		1.3 U
Iron	mg/L														
Lead	mg/L	0.0017	0.0006		0.0006	0.0028		0.0018		0.001 UF1	0.01 U		0.00091 J		0.001 U
Lithium	mg/L	0.0056 J	0.0052		0.0052	0.33		0.29		0.28	0.32		0.35		0.34
Magnesium	mg/L	33	31		31	750	720	900	770	750	660		770		740
Manganese	mg/L														
Mercury	mg/L	0.0002 U	0.0002		0.0002	0.0002 U		0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002 U
Molybdenum	mg/L	0.005 U	0.005		0.005	0.002 J		0.002 J		0.002 J	0.05 U		0.0021 J		0.002 J
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV			130.6		-439	-450				-484.7	-450.1		-332.1	
pH, Field	pH units			6.42		7.08	7.28				7.31	7.09		7.06	
Potassium	mg/L	2.5	2		2.1	25	26	25	24	23	22		25		23
Radium-226	pCi/L	0.0274 U	0.0332 U		0.0747 U	57 J		49.3		31.5	49.3 J		42.4 J		22.8 J
Radium-226/228	pCi/L	0.903	-0.0993 U		0.294 U	197 J		200		106	214 J		234 J		215 J
Radium-228	pCi/L	0.875	-0.133 U * G		0.219 U	140 J		151		74.1 *	165 J		192 J		192 J
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005		0.005	0.0018 J		0.005 U		0.005 U	0.05 U		0.0011 J		0.00098 J
Silver	mg/L														
Sodium	mg/L	68	66		67	10000	10000	12000	10000	10000	9200		11000		10000
Strontium	mg/L														
Sulfate	mg/L	340	310		300	25 U	50 U		20 U		50 U		72 J		25 U
Temperature, Field	deg C			19.1		15.5	15.7				15	17.4		15.8	
Thallium	mg/L	0.001 U	0.001		0.001	0.001 U		0.001 U		0.0002 JF1	0.01 U		0.001 U		0.001 U
Turbidity, Field	NTU			27.41		196.2	141.6				116.72	38.27		31.23	
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-11	BAC-11	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12
	Date	2024-10-08	2024-10-08	2022-10-17	2022-12-14	2022-12-14	2023-02-27	2023-02-27	2023-04-11	2023-04-11	2023-04-11	2023-06-14	2023-06-14	2023-08-18	2023-08-18
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	FD	FD
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		24	120	110	110	93	92	100	110 J	100	96	98	84	84
Aluminum	mg/L														
Antimony	mg/L		0.002	0.002 U	0.0012 J			0.002 U	0.002 U		0.002 U		0.002 U		0.002 U
Arsenic	mg/L		0.005	0.017	0.026			0.015	0.016		0.0065		0.01		0.0094
Barium	mg/L		150	0.36	0.35			0.2	0.21		0.13		0.15		0.13
Beryllium	mg/L		0.001	0.001 U	0.00069 J			0.001 U	0.001 U		0.001 U		0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		24	120	98	110	93	92	100	110 J	100	96	98	84	84
Boron	mg/L		0.34	2.3		2.3	2.2		2	2		1.9		1.9	
Bromide	mg/L														
Cadmium	mg/L		0.001	0.00034 J	0.00041 J			0.00021 J	0.00023 J		0.001 U		0.00022 J		0.001 U
Calcium	mg/L		2900	73		67	77		77	78		84		79	
Carbonate Alkalinity as CaCO3	mg/L		5	5 U	13	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L		25000	50			56		58	59		66		68	
Chromium	mg/L		0.0019	0.0082	0.015			0.0074	0.008		0.0041 J		0.0058		0.0036 J
Cobalt	mg/L		0.0009	0.033	0.039			0.02	0.022		0.0088		0.011		0.011
Conductivity, Field	uS/cm	59022		694	611		727		654			724			
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.62		0.6	0.45		0.06		0.71			0.82			
Dissolved Solids, Total	mg/L		35000 J	390 J		430	440		460	460		490		510	
Fluoride	mg/L		5	0.083	0.067		0.068	0.095	0.082	0.082	0.086 J	0.068	0.069	0.065	0.066
Iron	mg/L														
Lead	mg/L		0.00046	0.018	0.028			0.014	0.015		0.0047		0.0092		0.0065
Lithium	mg/L		0.28	0.013	0.018			0.011	0.014		0.0098		0.0093		0.011
Magnesium	mg/L		790	17	16	17	17	17	17	18	17	20	20	20	21
Manganese	mg/L														
Mercury	mg/L		0.0002	0.0002 U	0.00018 JB			0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002 U
Molybdenum	mg/L		0.0045	0.0052	0.004 J			0.0021 J	0.0024 J		0.002 J		0.0015 J		0.0012 J
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	-190.4		-22.9	8.6		26.9		32.8			61.1			
pH, Field	pH units	7.14		6.57	6.18		5.94		6.08			5.86			
Potassium	mg/L		22	3.4	3.8	4	3.3	3.3	3.2	3.2	2.7	3.1	3.3	3.1	3.2
Radium-226	pCi/L		0.567	1.43	1.03			0.7	0.406 UJ		-0.0255 U		0.363		0.33
Radium-226/228	pCi/L		85.1	3.8	13.7			3.39	-1.02 UJ		0.298 U		1.09 U		0.377 U
Radium-228	pCi/L		84.5	2.36	12.7 G			2.69 U	-1.43 UJ		0.324 U		0.729 U		0.047 U
Redox Potential, Field	mV														
Selenium	mg/L		0.00094	0.0012 J	0.005 U			0.005 U	0.005 U		0.005 U		0.005 U		0.005 U
Silver	mg/L														
Sodium	mg/L		11000	27	25	27	28	28	28	29	28	32	33	31	33
Strontium	mg/L														
Sulfate	mg/L		100	180			180		200	200		190		230	
Temperature, Field	deg C	18.8		15.2	14.4		15.3		16.1			15.6			
Thallium	mg/L		0.001	0.001 U	0.001 U			0.001 U	0.00022 J		0.001 U		0.001 U		0.001 U
Turbidity, Field	NTU	29.79		241.64	384.21		158.14		137.24			80.64			
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-12	BAC-13
	Date	2023-08-18	2023-08-18	2023-09-29	2023-09-29	2023-10-12	2023-10-12	2023-12-12	2023-12-12	2023-12-12	2024-03-18	2024-03-18	2024-10-02	2024-10-02	2022-10-12
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	85	83		83	86	86		87	85		100		89	54
Aluminum	mg/L														
Antimony	mg/L		0.002 U		0.002 U		0.002 U			0.002 U		0.002 U		0.002	0.002 U
Arsenic	mg/L		0.0095		0.0051		0.006			0.0078		0.003 J		0.0035	0.0014 J
Barium	mg/L		0.13		0.1		0.11			0.099		0.073		0.083	2.5
Beryllium	mg/L		0.001 U		0.001 U		0.001 U			0.001 U		0.001 U		0.001	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	85	83		83	86	86		87	85		100		89	54
Boron	mg/L	1.9			1.9	1.9			2.2			2.1		1.7	0.29
Bromide	mg/L														
Cadmium	mg/L		0.001 U		0.00023 J		0.00021 J			0.001 U		0.001 U		0.00024	0.001 U
Calcium	mg/L	80			82	82			82	78		76		87	170
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U		5 U	5 U	5 U		5 U	5 U		5 U		5	5 U
Chloride	mg/L	68			65	64			53			54		66	1800
Chromium	mg/L		0.0037 J		0.0024 J		0.0029 J			0.003 J		0.005 U		0.0017	0.0056
Cobalt	mg/L		0.01		0.0076		0.008			0.01		0.0053		0.0044	0.0019
Conductivity, Field	uS/cm	703		647		773		783			738		779		6188
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.02		1.44		1.07		1.21			1.6		0.62		15.77
Dissolved Solids, Total	mg/L	510			500	500 J			440			460		490	2900
Fluoride	mg/L	0.065	0.062		0.067	0.095	0.061		0.051	0.048 J		0.066		0.085	0.65
Iron	mg/L														
Lead	mg/L		0.0062		0.0038		0.0045			0.0067		0.0026		0.00088	0.00091 J
Lithium	mg/L		0.011		0.012		0.011 J			0.012 B		0.0076 J		0.0089	0.052
Magnesium	mg/L	20	20		20	20	20		20	19		17		18	37
Manganese	mg/L														
Mercury	mg/L		0.0002 U		0.0002 U		0.0002 U			0.0002 U		0.0002 U		0.0002	0.0002 U
Molybdenum	mg/L		0.0012 J		0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.02
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	63.7		51.2		43.3		32.7			22.4		-13.9		-54.8
pH, Field	pH units	5.85		5.93		5.96		6			6.12		6.07		7.45
Potassium	mg/L	3.1	3.1		2.8	3.1	3		2.8	2.7		2.2		2.5	6.9
Radium-226	pCi/L		0.358		0.266		0.245 U			0.305 U		0.315		0.132	1.85
Radium-226/228	pCi/L		1.22 U		0.921		1.15 U			0.616 U		1.6		0.0424 U	5.57 J
Radium-228	pCi/L		0.858 U		0.655 U		0.902 U			0.31 U G		1.28		-0.0896 U	3.72 J
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U		0.005 U		0.005 U			0.005 U		0.005 U		0.00098	0.005 U
Silver	mg/L														
Sodium	mg/L	32	32		32	32	32		31	30 B		27		30	840
Strontium	mg/L														
Sulfate	mg/L	240			220 J	190			210			190		200	3.1
Temperature, Field	deg C	16.1		16.4		15.8		15.1			14.3		16.9		16.6
Thallium	mg/L		0.001 U		0.00028 J		0.001 U			0.001 U		0.001 U		0.001	0.001 U
Turbidity, Field	NTU	114.23		60.78		68.54		84.33			51.18		31.28		131.79
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-13	BAC-13	BAC-13	BAC-13	BAC-13	BAC-13	BAC-13	BAC-13	BAC-13	BAC-13	BAC-14	BAC-14	BAC-14	BAC-14
		Date	2022-12-09	2022-12-09	2023-04-07	2023-10-03	2023-10-03	2023-10-03	2024-03-21	2024-03-21	2024-10-09	2024-10-09	2022-10-18	2022-12-14	2022-12-14	2023-02-27
		Sample Type	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	70		52	67		67		83		83	81	77	74	77
Aluminum	mg/L															
Antimony	mg/L		0.002 U	0.004 U	0.002 U		0.002 U		0.002 U		0.002	0.002 U	0.002 U		
Arsenic	mg/L		0.0009 J	0.0026 J	0.003 J		0.0033 J		0.0028 J		0.0027	0.0081	0.0069		
Barium	mg/L		3.6	5.1	5.6		5.8		3.6		3.1	0.12	0.12		
Beryllium	mg/L		0.001 U	0.002 U	0.001 U		0.001 U		0.001 U		0.001	0.001 U	0.001 U		
Bicarbonate Alkalinity as CaCO3	mg/L	70		52	67		67		83		83	81	77	74	77
Boron	mg/L	0.35		0.35	0.36		0.35		0.41		0.39	2.6		2.7	2.9
Bromide	mg/L														
Cadmium	mg/L		0.001 U	0.002 U	0.001 U		0.001 U		0.001 U		0.001	0.001 U	0.001 U		
Calcium	mg/L	230		300	340		350		230		180	74		73	78
Carbonate Alkalinity as CaCO3	mg/L	5 U		5 U	5 U		5 U		5 U		5	5 U	5 U	5 U	5 U
Chloride	mg/L	2600		3100	3300		3300		2300		1700	36			34
Chromium	mg/L		0.005 U	0.01 U	0.005 U		0.005 U		0.0013 J		0.005	0.0046 J	0.0041 J		
Cobalt	mg/L		0.00095 J	0.00058 J	0.00069 J		0.00076 J		0.00058 J		0.00018	0.0032	0.0029		
Conductivity, Field	uS/cm	7287		7128		6713		7129		6608		672	628		708
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	0.4		0.9		1.71		2.84		1.03		0.84	0.37		0.13
Dissolved Solids, Total	mg/L	3300		4600	4900		5000		3400		1700	430		470	440
Fluoride	mg/L	0.67	0.7	0.46	0.85		0.85		0.84		0.92	0.055	0.047 J		0.051
Iron	mg/L														
Lead	mg/L		0.001 U	0.002 U	0.001 U		0.00056 J		0.001 U		0.001	0.0031	0.0032		
Lithium	mg/L		0.056	0.063	0.068		0.064		0.056		0.049	0.0079 J	0.0079 J		
Magnesium	mg/L	50	49	63	70		72		45		38	20	22	22	21
Manganese	mg/L														
Mercury	mg/L		0.0002 U	0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002	0.0002 U	0.0002 U		
Molybdenum	mg/L		0.02	0.016	0.017		0.017		0.015		0.011	0.0023 J	0.005 U		
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	-128.9		-158.8		-149		-137.6		-154.6		-9.8	-39.1		-30.7
pH, Field	pH units	7.21		7.34		7.32		7.31		7.45		5.99	6.07		5.96
Potassium	mg/L	7.6	7.6	8	8.5		8.6		6.5		5.8	1.9	2	2	1.9
Radium-226	pCi/L		2.14	3.56	2.35		3.05		2.01		1.94	0.504	0.315		
Radium-226/228	pCi/L			7.06	4.93		6.42		4.53		3.48	1.02 U	2.2		
Radium-228	pCi/L		3.06	3.51	2.58		3.37		2.53		1.54	0.515 U	1.89 G		
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U	0.01 U	0.005 U		0.005 U		0.005 U		0.005	0.005 U	0.005 U		
Silver	mg/L														
Sodium	mg/L	1200	1100	1400	1400		1500		1000		980	21	23	23	23
Strontium	mg/L														
Sulfate	mg/L	2 U		5 U	5 U		5 U		5 U		2.1	220			210
Temperature, Field	deg C	15		14.3		16.9		14.8		18.9		14	13.4		14.4
Thallium	mg/L		0.001 U	0.002 U	0.001 U		0.001 U		0.001 U		0.001	0.001 U	0.001 U		
Turbidity, Field	NTU	5.39		5.29		3.14		9.09		2.27		78.23	63.88		28.27
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14
		Date	2023-02-27	2023-04-11	2023-04-11	2023-04-11	2023-06-14	2023-06-14	2023-06-14	2023-06-14	2023-08-18	2023-08-18	2023-09-29	2023-09-29	2023-10-12	2023-10-12
		Sample Type	N	N	N	N	FD	FD	N	N	N	N	N	N	FD	FD
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L		64	89	220 J	82	97	88	97	97	81	81		83	82	81
Aluminum	mg/L															
Antimony	mg/L		0.002 U	0.002 U		0.002 U		0.002 U		0.002 U		0.002 U		0.00085 J		0.002 U
Arsenic	mg/L		0.0045 J	0.0039 J		0.0049 J		0.0032 J		0.0033 J		0.0039 J		0.0025 J		0.0021 J
Barium	mg/L		0.11	0.11		0.11		0.1		0.1		0.096		0.099		0.1
Beryllium	mg/L		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		64	89	220 J	82	97	88	97	97	81	81		83	82	81
Boron	mg/L			2.8	2.7		2.9		2.8		2.8			2.8	2.8	
Bromide	mg/L															
Cadmium	mg/L		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.00021 J		0.001 U
Calcium	mg/L			77	74		77		76		75			77	76	
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U	5 U
Chloride	mg/L			34	34		31		31		32			33	33	
Chromium	mg/L		0.0025 J	0.0016 J		0.002 J		0.0014 J		0.0014 J		0.0015 J		0.005 U		0.0016 J
Cobalt	mg/L		0.0023	0.0021		0.0023		0.0021		0.002		0.0021		0.0019		0.002
Conductivity, Field	uS/cm			631					583		671		602			
Copper	mg/L															
Dissolved Oxygen, Field	mg/L			0.47					0.85		1.01		1.17			
Dissolved Solids, Total	mg/L			470	470		450		450		460			470	440 J	
Fluoride	mg/L		0.073	0.067	0.066	0.068	0.057	0.058	0.057	0.057	0.06	0.057		0.065	0.07	0.046 J
Iron	mg/L															
Lead	mg/L		0.002	0.00076 J		0.0011		0.0011		0.001		0.00078 J		0.00091 J		0.00099 J
Lithium	mg/L		0.007 J	0.0066 J		0.0069 J		0.0046 J		0.0044 J		0.0063 J		0.0081		0.008 U
Magnesium	mg/L		21	21	20	20	22	22	22	21	20	21		22	22	22
Manganese	mg/L															
Mercury	mg/L		0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U
Molybdenum	mg/L		0.0011 J	0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U
Nickel	mg/L															
Oxidation-Reduction Potential, Field	mV			-17.7					58.7		32.1		4.4			
pH, Field	pH units			6.08					5.97		5.91		6			
Potassium	mg/L		1.8	1.6	1.6	1.6	1.7	1.6	1.7	1.6	1.6	1.8		1.6	1.7	1.6
Radium-226	pCi/L		0.121 U	0.354		0.438		0.196		0.199 U		0.332		0.246		0.382
Radium-226/228	pCi/L		1.61 U	0.0335 U		0.507 U		0.702 U		0.54 U		1.02		1.08		1.39
Radium-228	pCi/L		1.48 U	-0.32 U		0.0693 U		0.506 U		0.341 U		0.685 U		0.836		1.01
Redox Potential, Field	mV															
Selenium	mg/L		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U
Silver	mg/L															
Sodium	mg/L		23	22	22	22	23	23	23	23	22	23		24	23	23
Strontium	mg/L															
Sulfate	mg/L			220 J	220		230		230		250			220	230	
Temperature, Field	deg C			15.1					14.3		14.8		15.2			
Thallium	mg/L		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.0011		0.001 U
Turbidity, Field	NTU			22.1					21.65		26.74		19.47			
Vanadium	mg/L															
Zinc	mg/L															

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-14	BAC-15	BAC-15	BAC-15	BAC-15	BAC-15
	Date	2023-10-12	2023-10-12	2023-12-12	2023-12-12	2023-12-12	2024-03-18	2024-03-18	2024-10-02	2024-10-02	2022-10-13	2022-12-05	2022-12-05	2023-04-06	2023-10-03
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	82	82		82	81		77		82	98	74	74	71	
Aluminum	mg/L														
Antimony	mg/L		0.002 U			0.002 U		0.002 U		0.002	0.0011 J		0.0026 F1F2	0.002 U	
Arsenic	mg/L		0.0019 J			0.0023 J		0.0024 J		0.0021	0.042		0.11 F1F2	0.0028 J	
Barium	mg/L		0.099			0.089		0.09		0.084	0.4		1.1 F1F2	0.071	
Beryllium	mg/L		0.001 U			0.001 U		0.001 U		0.001	0.0037		0.0095 F1F2	0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	82	82		82	81		77		82	98	74	74	71	
Boron	mg/L	2.7			2.8			2.6		2.7	0.44	0.43		0.39	
Bromide	mg/L														
Cadmium	mg/L		0.001 U			0.001 U		0.001 U		0.001	0.00077 J		0.0017 F1F2	0.00033 J	
Calcium	mg/L	75			76	71		74		75	42	40		31	
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U		5 U	5 U		5 U		5	5 U	5 U	5 U	5 U	
Chloride	mg/L	33			31			33		34	1.2	0.99 J		0.95 J	
Chromium	mg/L		0.0015 J			0.005 U		0.005 U		0.005	0.077		0.23 F1F2	0.0067	
Cobalt	mg/L		0.002			0.0017		0.0018		0.0016	0.046		0.12 F1F2	0.0051	
Conductivity, Field	uS/cm	624		713			723		727		387.6	375		330.9	358.3
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.18		1.36			1.66		0.6		1.26	1.57		2.04	6.37
Dissolved Solids, Total	mg/L	430 J			470			480		470	260 J	260		210	
Fluoride	mg/L	0.066	0.056 J		0.046 J	0.046 J		0.057		0.069	0.049 J	0.063	0.05	0.033 J	
Iron	mg/L														
Lead	mg/L		0.00093 J			0.001 U		0.001 U		0.001	0.069		0.19 F1F2	0.0041	
Lithium	mg/L		0.008 U			0.0076 JB		0.0065 J		0.006	0.05		0.17 F1F2	0.0068 J	
Magnesium	mg/L	22	21		22	21		21		19	16	18	38 F1F2	11	
Manganese	mg/L														
Mercury	mg/L		0.0002 U			0.0002 U		0.0002 U		0.0002	0.00022		0.0005	0.0002 U	
Molybdenum	mg/L		0.005 U			0.005 U		0.005 U		0.005	0.0075		0.017 F1F2	0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	-6		-38.1			-49.4		-23.2		112.8	177.3		147.9	150.1
pH, Field	pH units	6.03		6.05			6.14		5.98		5.82	5.79		6.09	5.83
Potassium	mg/L	1.6	1.6		1.4	1.4		1.4		1.2	4.1	6.8	22 F1	1.7	
Radium-226	pCi/L		0.25 U			0.281		-0.0201 U		0.263	0.791		4.24 G	0.593 U	
Radium-226/228	pCi/L		0.995 U			0.671 U		0.595		1.58	2.68		12 G	1.64 U	
Radium-228	pCi/L		0.745 U			0.39 U		0.615		1.32	1.89 U		7.79 U G	1.05 U	
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U			0.005 U		0.005 U		0.005	0.0039 J		0.0034 JF1F2	0.005 U	
Silver	mg/L														
Sodium	mg/L	23	22		23	22 B		22		20	12	11	11 F1F2	11	
Strontium	mg/L														
Sulfate	mg/L	220			230			220		240	98	100		89	
Temperature, Field	deg C	14.4		13.9			13.5		17.9		15.7	13.9		13.2	16.6
Thallium	mg/L		0.001 U			0.001 U		0.001 U		0.001	0.00079 J		0.002 F1F2	0.001 U	
Turbidity, Field	NTU	4.73		4.33			2.55		7.27		784.73	767.78		79.2	84.31
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-15	BAC-15	BAC-15	BAC-15	BAC-15	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16
	Date	2023-10-03	2024-03-19	2024-03-19	2024-10-02	2024-10-02	2022-10-13	2022-12-05	2022-12-05	2023-02-27	2023-02-27	2023-02-27	2023-02-27	2023-04-12	2023-04-12
	Sample Type	N	N	N	N	N	N	N	N	FD	FD	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	51		50		38	170	150	170	160	150	160	160	160	200 J
Aluminum	mg/L														
Antimony	mg/L	0.00091 J		0.002 U		0.002	0.002 U		0.0014 J		0.002 U		0.002 U	0.002 U	
Arsenic	mg/L	0.0036 J		0.005 U		0.0038	0.008		0.0071		0.0035 J		0.0035 J	0.0011 J	
Barium	mg/L	0.085		0.04		0.076	0.12		0.1		0.084		0.082	0.062	
Beryllium	mg/L	0.00075 J		0.001 U		0.00059	0.00086 J		0.001 U		0.001 U		0.001 U	0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	51		50		38	170	150	170	160	150	160	160	160	200 J
Boron	mg/L	0.51		0.35		0.49	1.4	1.3		1.5		1.5		1.5	1.5
Bromide	mg/L														
Cadmium	mg/L	0.00058 J		0.00027 J		0.00042	0.00023 J		0.00025 J		0.001 U		0.001 U	0.001 U	
Calcium	mg/L	32		28		30	92	95		100		100		100	100
Carbonate Alkalinity as CaCO3	mg/L	5 U		5 U		5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	0.92 J		0.85 J		0.88	25	26		26		26		26	27
Chromium	mg/L	0.0076		0.005 U		0.0098	0.013		0.0099		0.006		0.006	0.005 U	
Cobalt	mg/L	0.0091		0.0017		0.0087	0.0099		0.0074		0.0046		0.0048	0.0023	
Conductivity, Field	uS/cm		313.5		185.2		706	686				731		730	
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		2.89		3.03		0.8	0.54				0.11		0.43	
Dissolved Solids, Total	mg/L	190		180		240	460 J	500		470		460		490	470
Fluoride	mg/L	0.044 J		0.042 J		0.046	0.051	0.066	0.059	0.046 J	0.066	0.044 J	0.071	0.06	0.06
Iron	mg/L														
Lead	mg/L	0.0056		0.00068 J		0.0065	0.0078		0.0061		0.0036		0.0037	0.001 U	
Lithium	mg/L	0.0072 J		0.0043 J		0.0094	0.011		0.01		0.0081		0.0088	0.0069 J	
Magnesium	mg/L	12		9.5		11	20	21	23	22	22	22	23	22	21
Manganese	mg/L														
Mercury	mg/L	0.0002 U		0.0002 U		0.0002	0.0002 U		0.0002 U		0.0002 U		0.0002 U	0.0002 U	
Molybdenum	mg/L	0.0014 J		0.005 U		0.005	0.0031 J		0.0033 J		0.0012 J		0.0013 J	0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		208.4		117.5		-37.9	-41.7				-14.5		-7	
pH, Field	pH units		5.55		6.02		6.42	6.45				6.33		6.38	
Potassium	mg/L	1.8		0.75 J		2	2.6	2.6	2.6	2.5	2.3	2.3	2.4	1.6	1.6
Radium-226	pCi/L	1.4		0.105 U		0.584	0.418 U		0.307		0.213 U		0.123 U	0.0691 U	
Radium-226/228	pCi/L	4.68		0.536 U		2.28	4.37 J		1.53		1.91		1.8	0.00257 U	
Radium-228	pCi/L	3.28		0.431 U		1.7 G	3.96 J		1.22 U G		1.69		1.68	-0.0666 U	
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U		0.005 U		0.005	0.0014 J		0.005 U		0.005 U		0.005 U	0.005 U	
Silver	mg/L														
Sodium	mg/L	12		11		11	14	14	15	15	15	15	15	15	15
Strontium	mg/L														
Sulfate	mg/L	100		89		99	190	190		190		180		200	200
Temperature, Field	deg C		13.4		20		14.3	13.5				13.5		15.1	
Thallium	mg/L	0.00099 J		0.001 U		0.001	0.00027 J		0.0006 J		0.001 U		0.001 U	0.001 U	
Turbidity, Field	NTU		25.83		132.46		204.33	120.27				92.19		19.96	
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
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B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
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F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16	BAC-16
	Date	2023-04-12	2023-06-14	2023-06-14	2023-08-17	2023-08-17	2023-10-02	2023-10-02	2023-10-02	2023-10-11	2023-10-11	2023-12-12	2023-12-12	2023-12-12	2024-03-19
	Sample Type	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	200 J	160	170	160	160	160		160	160	160		170	170	
Aluminum	mg/L														
Antimony	mg/L	0.002 U		0.002 U		0.002 U	0.002 U		0.002 U		0.002 U			0.002 U	
Arsenic	mg/L	0.0017 J		0.005 U		0.0012 J	0.005 U		0.0011 J		0.0011 J			0.0018 J	
Barium	mg/L	0.063		0.051		0.051	0.045		0.043		0.046			0.053	
Beryllium	mg/L	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U			0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	200 J	160	170	160	160	160		160	160	160		170	170	
Boron	mg/L		1.6		1.4		1.5		1.5	1.5			1.5		
Bromide	mg/L														
Cadmium	mg/L	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U			0.001 U	
Calcium	mg/L		120		100		100		97	97			100	100	
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U	5 U		5 U	5 U	
Chloride	mg/L		26		28		28		28	28			26		
Chromium	mg/L	0.005 U		0.0013 J		0.0015 J	0.005 U		0.005 U		0.005 U			0.0024 J	
Cobalt	mg/L	0.0024		0.0018		0.0021	0.0012		0.0014		0.0016			0.0022	
Conductivity, Field	uS/cm		579		628			641		640		759			773
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		0.86		0.99			0.97		1.12		1.23			1.43
Dissolved Solids, Total	mg/L		480		460		480		470	560			490		
Fluoride	mg/L	0.061	0.054	0.054	0.053	0.054	0.061		0.062	0.065	0.044 J		0.045 J	0.045 J	
Iron	mg/L														
Lead	mg/L	0.001 U		0.00083 J		0.0012	0.00069 J		0.00067 J		0.0011			0.0014	
Lithium	mg/L	0.0069 J		0.0038 J		0.0083	0.0066 J		0.007 J		0.0078 J			0.0092 B	
Magnesium	mg/L	21	25	23	23	23	23		22	22	22		23	22	
Manganese	mg/L														
Mercury	mg/L	0.0002 U		0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002 U			0.0002 U	
Molybdenum	mg/L	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U			0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		68.9		129			138.8		129.8		54.8			96.2
pH, Field	pH units		6.26		6.34			6.4		6.38		6.46			6.4
Potassium	mg/L	1.6	1.9	1.7	1.8	1.7	1.6		1.5	1.8	1.6		1.8	1.8	
Radium-226	pCi/L	0.178		0.0532 U		-0.0187 U	0.0389 U		0.0636 U		0.111 U			0.239 U	
Radium-226/228	pCi/L	0.556 U		0.473 U		1.17	3.49 J		1.66 J		0.79 U			-0.0968 U	
Radium-228	pCi/L	0.377 U		0.42 U		1.19	3.45 J		1.6 J		0.679 U			-0.336 U G	
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U			0.005 U	
Silver	mg/L														
Sodium	mg/L	15	17	16	15	16	16		15	15	15		15	15 B	
Strontium	mg/L														
Sulfate	mg/L		180		190		190		190	190			180		
Temperature, Field	deg C		14.6		15.2			14.8		14.4		13.6			13.5
Thallium	mg/L	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U			0.001 U	
Turbidity, Field	NTU		6.01		42.15			9.43		41.01		43.91			17.04
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-16	BAC-16	BAC-16	BAC-17	BAC-17	BAC-17	BAC-17	BAC-17	BAC-17	BAC-17	BAC-17	BAC-17	BAC-17	BAC-18
		Date	2024-03-19	2024-10-01	2024-10-01	2022-10-13	2022-12-08	2022-12-08	2023-04-06	2023-10-02	2023-10-02	2024-03-19	2024-03-19	2024-10-01	2024-10-01	2022-10-14
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	170		140	54	48		58		39		45		27	92
Aluminum	mg/L														
Antimony	mg/L	0.002 U		0.002	0.002 U		0.00061 J	0.002 U		0.002 U		0.002 U		0.002	0.002 U
Arsenic	mg/L	0.005 U		0.005	0.0013 J		0.00085 J	0.00084 J		0.005 U		0.015		0.005	0.0018 J
Barium	mg/L	0.055		0.039	0.045		0.037	0.041		0.032		0.087		0.029	0.055
Beryllium	mg/L	0.001 U		0.001	0.0013		0.001 U	0.001 U		0.001 U		0.0049		0.00045	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	170		140	54	48		58		39		45		27	92
Boron	mg/L	1.3		1.4	4.2	4.1		3.6		4		3.2		4.1	1.4
Bromide	mg/L														
Cadmium	mg/L	0.001 U		0.0001	0.00027 J		0.00022 J	0.0002 J		0.00028 J		0.0008 J		0.00034	0.001 U
Calcium	mg/L	98		110	49	49		45		45		54		44	77
Carbonate Alkalinity as CaCO3	mg/L	5 U		5	5 U	5 U		5 U		5 U		5 U		5	5 U
Chloride	mg/L	27		26	21	21		20		21		22		22	26
Chromium	mg/L	0.005 U		0.005	0.005 U		0.005 U	0.0029 J		0.005 U		0.0055		0.005	0.0032 J
Cobalt	mg/L	0.0016		0.00081	0.041		0.037	0.034		0.044		0.04		0.064	0.0059
Conductivity, Field	uS/cm		728		613	616		614	576		654		618		618
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		0.64		1.31	0.87		1.14	1.28		1.56		0.82		0.47
Dissolved Solids, Total	mg/L	480		490	420 J	390		400		400		410		430	400 J
Fluoride	mg/L	0.049 J		0.096	0.074	0.061	0.081	0.038 J		0.056		0.084		0.073	0.042 J
Iron	mg/L														
Lead	mg/L	0.001 U		0.001	0.0015		0.00086 J	0.0013		0.00085 J		0.0027		0.001	0.0031
Lithium	mg/L	0.007 J		0.0065	0.0055 J		0.0047 J	0.0064 J		0.0058 J		0.006 J		0.0049	0.0075 J
Magnesium	mg/L	21		22	29	30	29	26		28		26		25	20
Manganese	mg/L														
Mercury	mg/L	0.0002 U		0.0002	0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002	0.0002 U
Molybdenum	mg/L	0.005 U		0.005	0.005 U		0.005 U	0.005 U		0.005 U		0.0038 J		0.005	0.0012 J
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		71.8		-1.2	13.9		1	99.1		75.6		43.5		-31.3
pH, Field	pH units		6.25		5.74	5.85		6.17	5.58		5.62		5.41		5.98
Potassium	mg/L	1.5		1.4	1.2	1.1	1.2	1.1		0.95 J		1.1		0.79	1.5
Radium-226	pCi/L	0.136 U		0.0488 U	0.247 U		0.173 U	0.291 U		0.0479 U		0.122 U		0.453	0.213 U
Radium-226/228	pCi/L	0.75 U		0.133 U	4.04 J			0.0672 U		0.559 U		0.847 U		1.63	2.48 J
Radium-228	pCi/L	0.614 U		0.0842 U	3.8 J		0.255 U	-0.224 U		0.511 U		0.725 U		1.18 G	2.27 J
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U		0.00092	0.005 U		0.005 U	0.005 U		0.005 U		0.00092 J		0.005	0.005 U
Silver	mg/L														
Sodium	mg/L	15		15	20	22	21	20		22		19		20	14
Strontium	mg/L														
Sulfate	mg/L	190		190	240	220		220		240		250		240	200
Temperature, Field	deg C		17.2		14.5	13.6		13.1	15.7		13.3		17		15.3
Thallium	mg/L	0.001 U		0.001	0.00053 J		0.00051 J	0.001 U		0.001 U		0.001 U		0.001	0.001 U
Turbidity, Field	NTU		5.91		53.14	38.13		67.13	36.11		3821.62		69.53		69.8
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18
	Date	2022-12-06	2022-12-06	2023-03-02	2023-03-02	2023-04-12	2023-04-12	2023-04-12	2023-06-13	2023-06-13	2023-08-17	2023-08-17	2023-09-27	2023-09-27	2023-10-11
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	FD
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	100	98	100	96	95	140	110 U	95	94	88	90		86	88
Aluminum	mg/L														
Antimony	mg/L		0.002 U	0.002 U		0.002 U		0.002 U		0.002 U		0.002 U		0.002 U	
Arsenic	mg/L		0.0018 J	0.0015 J		0.0012 J		0.001 J		0.005 U		0.00086 J		0.005 U	
Barium	mg/L		0.045	0.039		0.039		0.037		0.029		0.029		0.024 J	
Beryllium	mg/L		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	100	98	100	96	95	140	110 U	95	94	88	90		86	88
Boron	mg/L	1.3			1.4	1.5	1.4		1.5		1.4			1.4	1.4
Bromide	mg/L														
Cadmium	mg/L		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U	
Calcium	mg/L	76			79	81	79		83		79			72	77
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U
Chloride	mg/L	26			25	25	25		25		25			25	25
Chromium	mg/L		0.005 U	0.005 U		0.0013 J		0.005 U		0.005 U		0.005 U		0.005 U	
Cobalt	mg/L		0.0039	0.0034		0.0029		0.0027		0.0019		0.0019		0.0008 J	
Conductivity, Field	uS/cm	625		636		593			551		566		565		
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	0.45		0.06		1.29			0.83		1		1.18		
Dissolved Solids, Total	mg/L	400			420	410	410		400		400			390	380 J
Fluoride	mg/L	0.057	0.052	0.063	0.064	0.057	0.058	0.059	0.051	0.053	0.054	0.054		0.061	0.064
Iron	mg/L														
Lead	mg/L		0.0011	0.0014		0.00073 J		0.001 U		0.00057 J		0.0012		0.001 U	
Lithium	mg/L		0.0068 J	0.0066 J		0.0077 J		0.0079 J		0.0041 J		0.0076 J		0.0062 J	
Magnesium	mg/L	19	21	20	21	20	20	20	21	19	21	21		19	20
Manganese	mg/L														
Mercury	mg/L		0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U	
Molybdenum	mg/L		0.0015 J	0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	27.8		50.2		37.7			69.8		145.2		119.8		
pH, Field	pH units	6.03		5.91		6.02			5.94		5.89		5.99		
Potassium	mg/L	1.4	1.5	1.4	1.5	1.3	1.2	1.3	1.4	1.3	1.4	1.3		1.2	1.3
Radium-226	pCi/L		0.101 U	0.0983 U		0.244 U		0.109 U		0.178		0.148 U		0.0718 U	
Radium-226/228	pCi/L		0.527 U	0.791 U		0.46 U		0.349 U		-0.153 U		0.847 U		0.0479 U	
Radium-228	pCi/L		0.427 U	0.693 U		0.217 U		0.239 U		-0.331 U		0.699 U		-0.0238 U	
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U	
Silver	mg/L														
Sodium	mg/L	14	15	14	15	15	15	15	17	15	16	16		16	16
Strontium	mg/L														
Sulfate	mg/L	190			190	200	190		180		190			190	190
Temperature, Field	deg C	14.3		14.3		15.2			15.1		15.6		15.7		
Thallium	mg/L		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U	
Turbidity, Field	NTU	26.19		33.27		18.93			9.42		23.4		5.15		
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-18	BAC-19	BAC-19	BAC-19	BAC-19
	Date	2023-10-11	2023-10-11	2023-10-11	2023-12-12	2023-12-12	2023-12-12	2024-03-20	2024-03-20	2024-10-07	2024-10-07	2022-10-14	2022-12-06	2022-12-06	2023-04-05
	Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	88	87	88		86	87		100		96	140	150	140	160
Aluminum	mg/L														
Antimony	mg/L	0.002 U		0.002 U			0.002 U		0.002 U		0.002	0.0016 J		0.00074 J	0.002 U
Arsenic	mg/L	0.005 U		0.005 U			0.00077 J		0.005 U		0.005	0.005 U		0.0013 J	0.005 U
Barium	mg/L	0.024		0.026			0.029		0.027		0.024	0.42		0.57	0.59
Beryllium	mg/L	0.001 U		0.001 U			0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	88	87	88		86	87		100		96	140	150	140	160
Boron	mg/L		1.3			1.5			1.4		1.3	0.19	0.22		0.22
Bromide	mg/L														
Cadmium	mg/L	0.001 U		0.001 U			0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Calcium	mg/L		76			76 F1	76		81		76	78	80		84
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U		5 U	5 U		5 U		5	5 U	5 U	5 U	5 U
Chloride	mg/L		25			23			25		25	780	900		870
Chromium	mg/L	0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.005 U		0.005 U	0.005 U
Cobalt	mg/L	0.0011		0.0012			0.0016		0.0015		0.00054	0.00022 J		0.00038 J	0.00033 J
Conductivity, Field	uS/cm		580		610			637		645		2724	3007		3023
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		1.19		1.48			1.67		0.67		0.56	0.4		0.79
Dissolved Solids, Total	mg/L		390 J			390			420		360	930 J	1200		1500
Fluoride	mg/L	0.051	0.075	0.03 J		0.041 J	0.041 J		0.053		0.058	0.6	0.53	0.58	0.54
Iron	mg/L														
Lead	mg/L	0.001 U		0.001 U			0.001 U		0.001 U		0.001	0.001 U		0.001 U	0.001 U
Lithium	mg/L	0.0074 J		0.0082			0.008 B		0.0085		0.0068	0.024		0.028	0.027
Magnesium	mg/L	18	20	20		20	20		21		19	14	16	16	17
Manganese	mg/L														
Mercury	mg/L	0.0002 U		0.0002 U			0.0002 U		0.0002 U		0.0002	0.0002 U		0.0002 U	0.0002 U
Molybdenum	mg/L	0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.016		0.013	0.0084
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		96.6		117.1			73.8		75.4		-215.8	-153		-174.1
pH, Field	pH units		5.95		5.92			6.07		6.06		7.47	7.56		7.4
Potassium	mg/L	1.2	1.2	1.3		1.4	1.4		1.2		1.2	3	2.8	2.9	2.8
Radium-226	pCi/L	0.0855 U		-0.004 U			-0.0336 U		0.0271 U		0.114	0.346		0.767	0.717
Radium-226/228	pCi/L	0.93 U		0.438 U			0.0856 U		0.237 U		0.443 U	3.87 J		1.99	1.12
Radium-228	pCi/L	0.845 U		0.442 U			0.119 U		0.21 U		0.329 U	3.53 J		1.22	0.404 U
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.005 U		0.005 U	0.005 U
Silver	mg/L														
Sodium	mg/L	15	16	16		15	15 B		15		15	380	410	440	440
Strontium	mg/L														
Sulfate	mg/L		190			180			190		190	3.7	10		7.3
Temperature, Field	deg C		14.9		13.7			14.2		17.2		15.3	14.2		15.6
Thallium	mg/L	0.001 U		0.001 U			0.001 U		0.00045 J		0.001	0.001 U		0.001 U	0.001 U
Turbidity, Field	NTU		6.73		9.02			6.24		9.88		6.91	3.18		5.1
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-19	BAC-19	BAC-19	BAC-19	BAC-19	BAC-19	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21
	Date	2023-09-27	2023-09-27	2024-03-20	2024-03-20	2024-10-07	2024-10-07	2022-10-10	2022-12-14	2022-12-14	2023-02-24	2023-02-24	2023-04-10	2023-04-10	2023-04-10
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		150		160		170	230	240	240	230	240	250 J	250 J	250 J
Aluminum	mg/L														
Antimony	mg/L		0.002 U		0.002 U		0.002	0.002 U	0.002 U			0.002 U	0.002 U		0.002 U
Arsenic	mg/L		0.005 U		0.005 U		0.005	0.0091	0.0086			0.0038 J	0.003 J		0.0031 J
Barium	mg/L		0.57		0.58		0.62	0.18	0.18			0.16	0.15		0.15
Beryllium	mg/L		0.001 U		0.001 U		0.001	0.001 U	0.001 U			0.001 U	0.00077 J		0.00067 J
Bicarbonate Alkalinity as CaCO3	mg/L		150		160		170	230	240	240	230	240	250 J	250	250 J
Boron	mg/L		0.22		0.23		0.23	0.33		0.3	0.37		0.37	0.32	
Bromide	mg/L														
Cadmium	mg/L		0.001 U		0.001 U		0.001	0.001 U	0.001 U			0.001 U	0.001 U		0.001 U
Calcium	mg/L		91		97		100	130		120	130		120	120	
Carbonate Alkalinity as CaCO3	mg/L		5 U		5 U		5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L		920		1000		1000	72			66		74	65	
Chromium	mg/L		0.005 U		0.005 U		0.005	0.01	0.01			0.005 U	0.005 U		0.005 U
Cobalt	mg/L		0.00026 J		0.00041 J		0.00034	0.0039	0.0036			0.00094 J	0.00051 J		0.00076 J
Conductivity, Field	uS/cm	2703		3296		3502		977	796		971		936		
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.17		2.03		0.8		0.42	0.43		0.06		0.48		
Dissolved Solids, Total	mg/L		1500		1600		1300	550		530	530		560	500	
Fluoride	mg/L		0.56		0.5		0.51	0.059	0.093		0.068	0.058	0.074 J	0.096 J	0.11
Iron	mg/L														
Lead	mg/L		0.001 U		0.001 U		0.001	0.0069	0.0066			0.0015	0.0007 J		0.0007 J
Lithium	mg/L		0.03		0.032		0.032	0.011	0.01			0.006 J	0.0077 J		0.006 J
Magnesium	mg/L		19		19		20	16	16	16	15	16	14	14	14
Manganese	mg/L														
Mercury	mg/L		0.0002 U		0.0002 U		0.0002	0.0002 U	0.00013 JB			0.0002 U	0.0002 U		0.0002 U
Molybdenum	mg/L		0.0075		0.006		0.006	0.0016 J	0.0011 J			0.005 U	0.0015 J		0.0015 J
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	-71.2		-124.2		-95.8		-152	-148.3		-129.7		-141		
pH, Field	pH units	7.31		7.32		7.28		6.87	6.88		6.79		6.85		
Potassium	mg/L		2.9		2.7		3	3.3	3.2	3.5	2.4	2.5	2.1	2.1	2
Radium-226	pCi/L		0.475		0.897		0.992	1.18	0.502			0.397	0.308 U		0.239
Radium-226/228	pCi/L		1.47		1.83		2.02	2.78 J	3.4			0.871 U	0.807 U		0.34 U
Radium-228	pCi/L		0.99		0.934		1.02	1.6 J	2.9 G			0.474 U	0.499 U		0.1 U
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U		0.005 U		0.005	0.005 U	0.005 U			0.005 U	0.001 J		0.001 J
Silver	mg/L														
Sodium	mg/L		470		450		550	29	27	29	28	30	27	25	25
Strontium	mg/L														
Sulfate	mg/L		9.4		9.3		11	140			130		140	120	
Temperature, Field	deg C	15.5		13.9		16.6		15	12.9		13.1		14.1		
Thallium	mg/L		0.001 U		0.001 U		0.001	0.001 U	0.001 U			0.00026 J	0.00044 J		0.00048 J
Turbidity, Field	NTU	3.09		2.67		5.17		195.41	208.19		16.38		13.89		
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21	BAC-21
	Date	2023-06-12	2023-06-12	2023-06-12	2023-06-12	2023-08-16	2023-08-16	2023-09-28	2023-09-28	2023-10-11	2023-10-11	2023-12-13	2023-12-13	2023-12-13	2024-03-22
	Sample Type	FD	FD	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	240	240	250	250	240	240		240	240	240		230	230	
Aluminum	mg/L														
Antimony	mg/L		0.002 U		0.002 U		0.002 U		0.002 U		0.002 U			0.002 U	
Arsenic	mg/L		0.0075		0.0057		0.0075		0.005		0.006			0.0032 J	
Barium	mg/L		0.19		0.18		0.19		0.18		0.17			0.14	
Beryllium	mg/L		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U			0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	240	240	250	250	240	240		240	240	240		230	230	
Boron	mg/L	0.42		0.42		0.39			0.39	0.37			0.32		
Bromide	mg/L														
Cadmium	mg/L		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U			0.001 U	
Calcium	mg/L	140		140		140			140	130			110	110	
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U	5 U		5 U	5 U	
Chloride	mg/L	68		73		77			74	77			55		
Chromium	mg/L		0.0057		0.0047 J		0.0076		0.0042 J		0.0038 J			0.0019 J	
Cobalt	mg/L		0.0025		0.0022		0.0029		0.0016		0.0017			0.0012	
Conductivity, Field	uS/cm			899		947		722		1004		921			887
Copper	mg/L														
Dissolved Oxygen, Field	mg/L			0.81		1.06		0.89		1.25		1.37			1.74
Dissolved Solids, Total	mg/L	540		550		540			530	550			500		
Fluoride	mg/L	0.078	0.079	0.075	0.087 J	0.069	0.076		0.052	0.1	0.1		0.074	0.074	
Iron	mg/L														
Lead	mg/L		0.0042		0.0033		0.005		0.0029		0.0029			0.0011	
Lithium	mg/L		0.0059 J		0.0059 J		0.0099		0.0062 J		0.0087			0.0074 JB	
Magnesium	mg/L	16	16	16	15	17	15		16	16	15		14	14	
Manganese	mg/L														
Mercury	mg/L		0.0002 U		0.0002 U		0.0002 U		0.0002 U		0.0002 U			0.0002 U	
Molybdenum	mg/L		0.0012 J		0.0023 J		0.0012 J		0.005 U		0.005 U			0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV			-80.7		-94.4		-138.6		-134.4		-139.1			-147.3
pH, Field	pH units			6.81		6.86		6.82		6.81		6.89			6.81
Potassium	mg/L	2.9	2.7	2.7	2.6	2.8	2.8		2.6	2.8	2.4		1.8	2	
Radium-226	pCi/L		0.419 U		0.65		0.567 U		1.14		0.527			0.119 U	
Radium-226/228	pCi/L		1.89 U		2.32 U		2.05 U		1.23 U		1.84			0.313 U	
Radium-228	pCi/L		1.47 U		1.67		1.48 U		0.0899 U		1.31			0.194 U	
Redox Potential, Field	mV														
Selenium	mg/L		0.005 U		0.005 U		0.005 U		0.005 U		0.005 U			0.005 U	
Silver	mg/L														
Sodium	mg/L	31	29	30	28	32	30		32	30	27		26	26 B	
Strontium	mg/L														
Sulfate	mg/L	120		130		130			130	130			100		
Temperature, Field	deg C			13.9		14.8		14.1		13.5		13			13.4
Thallium	mg/L		0.001 U		0.001 U		0.001 U		0.001 U		0.001 U			0.001 U	
Turbidity, Field	NTU			70.7		91.81		58.11		90.87		37.73			187.49
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-21	BAC-21	BAC-21	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22
		Date	2024-03-22	2024-10-03	2024-10-03	2022-10-12	2022-12-14	2022-12-14	2023-02-24	2023-02-24	2023-04-10	2023-04-10	2023-04-10	2023-06-12	2023-06-12	2023-08-16
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	240		230	230	230	250	220 J	220 J	240 J	230 J	230 J	230	230	220
Aluminum	mg/L															
Antimony	mg/L	0.002 U		0.002	0.002 U	0.002 U			0.002 U	0.002 U		0.002 U		0.002 U	
Arsenic	mg/L	0.0066		0.0036	0.0019 J	0.0029 J			0.0024 J	0.0023 J		0.0017 J		0.0025 J	
Barium	mg/L	0.18		0.17	0.15	0.15			0.14	0.13		0.13		0.14	
Beryllium	mg/L	0.001 U		0.001	0.001 U	0.001 U			0.001 U	0.001 U		0.001 U		0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	240		230	230	230	250	220	220	240 J	230 J	230 J	230	230	220
Boron	mg/L	0.38		0.43	0.2		0.2	0.24		0.22	0.23		0.23		0.23
Bromide	mg/L														
Cadmium	mg/L	0.00028 J		0.00023	0.001 U	0.001 U			0.001 U	0.001 U		0.001 U		0.001 U	
Calcium	mg/L	120		130	140		140	150		140	150		160		160
Carbonate Alkalinity as CaCO3	mg/L	5 U		5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	65		71	49			36		36	35		33		32
Chromium	mg/L	0.0082		0.002	0.005 U	0.003 J			0.005 U	0.005 U		0.005 U		0.0019 J	
Cobalt	mg/L	0.0038		0.0011	0.00055 J	0.0015			0.00066 J	0.00073 J		0.00059 J		0.0013	
Conductivity, Field	uS/cm		935		990	933		984		950			880		776
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		0.69		0.41	0.44		0.28		0.46			0.87		1.3
Dissolved Solids, Total	mg/L	490		530	640		600	540		750	610		600		610
Fluoride	mg/L	0.069		0.084	0.077	0.068		0.079	0.076	0.084	0.25 U	0.083	0.082	0.081	0.078
Iron	mg/L														
Lead	mg/L	0.0061		0.0012	0.001 U	0.0017			0.00055 J	0.00061 J		0.0005 J		0.0014	
Lithium	mg/L	0.01		0.0075	0.0054 J	0.0059 J			0.0044 J	0.0059 J		0.0053 J		0.0036 J	
Magnesium	mg/L	14		16	18	20	19	19	19	18	19	18	19	20	20
Manganese	mg/L														
Mercury	mg/L	0.0002 U		0.0002	0.0002 U	0.00013 JB			0.0002 U	0.0002 U		0.0002 U		0.0002 U	
Molybdenum	mg/L	0.0012 J		0.0015	0.0011 J	0.005 U			0.005 U	0.005 U		0.005 U		0.005 U	
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		-141.7		-143.1	-124		-94		-126.3			-31.3		-55.9
pH, Field	pH units		6.88		6.76	6.8		6.69		6.81			6.69		6.81
Potassium	mg/L	2.8		2.7	2.5	3.1	3.1	2.8	2.9	2.6	2.9	2.6	3.1	3	3.1
Radium-226	pCi/L	0.681		0.225	0.206 U	0.251 U			0.288	0.351		0.236		0.345	
Radium-226/228	pCi/L	1.5 U		0.842	0.8 J	2.86			0.421 U	1.74		0.668		0.815 U	
Radium-228	pCi/L	0.823 U		0.616 U	0.594 J	2.61 G			0.133 U	1.39		0.432 U		0.47 U	
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U		0.0015	0.005 U	0.005 U			0.005 U	0.005 U		0.005 U		0.005 U	
Silver	mg/L														
Sodium	mg/L	28		35	21	23	22	21	21	18	19	20	21	21	20
Strontium	mg/L														
Sulfate	mg/L	120		140	220			230		290	260		230		240
Temperature, Field	deg C		16.3		13.5	12.6		13.4		14.1			13.7		14.3
Thallium	mg/L	0.001 U		0.001	0.00032 J	0.001 U			0.001 U	0.001 U		0.001 U		0.001 U	
Turbidity, Field	NTU		111.59		13.03	60.34		7.7		20.39			27.03		62.11
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22	BAC-22
		Date	2023-08-16	2023-09-28	2023-09-28	2023-10-11	2023-10-11	2023-12-13	2023-12-13	2023-12-13	2023-12-13	2023-12-13	2024-03-22	2024-03-22	2024-10-03	2024-10-03
		Sample Type	N	N	N	N	N	FD	FD	N	N	N	N	N	FD	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	220		220	230	230	230	220		230	220		230	230		
Aluminum	mg/L															
Antimony	mg/L	0.002 U		0.002 U		0.002 U		0.002 U			0.002 U		0.002 U	0.002		
Arsenic	mg/L	0.0029 J		0.004 J		0.0023 J		0.0022 J			0.0019 J		0.0013 J	0.0017		
Barium	mg/L	0.13		0.19		0.14		0.13			0.13		0.13	0.14		
Beryllium	mg/L	0.001 U		0.001 U		0.001 U		0.001 U			0.001 U		0.001 U	0.001		
Bicarbonate Alkalinity as CaCO3	mg/L	220		220	230	230	230	220		230	220		230	230		
Boron	mg/L			0.28	0.22		0.23			0.22			0.22	0.21		
Bromide	mg/L															
Cadmium	mg/L	0.001 U		0.001 U		0.001 U		0.001 U			0.001 U		0.001 U	0.001		
Calcium	mg/L			210	150		160	150		160	160		150	150		
Carbonate Alkalinity as CaCO3	mg/L	5 U		5 U	5 U	5 U	5 U	5 U		5 U	5 U		5 U	5		
Chloride	mg/L			35	38		37			37			39	38		
Chromium	mg/L	0.0031 J		0.0033 J		0.0013 J		0.005 U			0.005 U		0.005 U	0.005		
Cobalt	mg/L	0.0022		0.0022		0.0012		0.0007 J			0.00067 J		0.00068 J	0.00089		
Conductivity, Field	uS/cm		689		963				1030			986			994	
Copper	mg/L															
Dissolved Oxygen, Field	mg/L		1.12		1.2				1.35			1.76			0.58	
Dissolved Solids, Total	mg/L			630	580		610			590			600	610		
Fluoride	mg/L	0.076		0.061	0.09	0.07	0.061	0.06		0.058	0.058		0.066	0.092		
Iron	mg/L															
Lead	mg/L	0.0025		0.0025		0.0014		0.001 U			0.001 U		0.001 U	0.001		
Lithium	mg/L	0.0068 J		0.0066 J		0.0068 J		0.0061 JB			0.0061 JB		0.0059 J	0.0051		
Magnesium	mg/L	18		26	19	19	20	19		20	20		19	19		
Manganese	mg/L															
Mercury	mg/L	0.0002 U		0.0002 U		0.0002 U		0.0002 U			0.0002 U		0.0002 U	0.0002		
Molybdenum	mg/L	0.005 U		0.005 U		0.005 U		0.005 U			0.005 U		0.005 U	0.005		
Nickel	mg/L															
Oxidation-Reduction Potential, Field	mV		-103.1		-107.6				-115.7			-117.8			-119.5	
pH, Field	pH units		6.77		6.79				6.84			6.75			6.86	
Potassium	mg/L	2.8		3.9	2.9	2.8	2.7	2.6		2.7	2.7		2.6	2.8		
Radium-226	pCi/L	0.243		0.648		0.176 U		0.283 U			0.287 U		0.388	0.277		
Radium-226/228	pCi/L	0.404 U		1.4		1.23		0.938			0.771 U		0.949	1.12		
Radium-228	pCi/L	0.161 U		0.749		1.05		0.655 U			0.484 U		0.561 U	0.847		
Redox Potential, Field	mV															
Selenium	mg/L	0.005 U		0.005 U		0.005 U		0.005 U			0.005 U		0.005 U	0.005		
Silver	mg/L															
Sodium	mg/L	19		26	19	19	21	19 B		20	20 B		18	20		
Strontium	mg/L															
Sulfate	mg/L			240	240		240			240			240	250		
Temperature, Field	deg C		14		13.8				13			13.3			16.3	
Thallium	mg/L	0.001 U		0.001 U		0.001 U		0.001 U			0.001 U		0.001 U	0.001		
Turbidity, Field	NTU		36.12		28.35				8.05			11.83			20.91	
Vanadium	mg/L															
Zinc	mg/L															

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-22	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23
	Date	2024-10-03	2022-10-11	2022-12-13	2022-12-13	2023-03-01	2023-03-01	2023-04-11	2023-04-11	2023-04-11	2023-04-11	2023-06-12	2023-06-12	2023-08-16	2023-08-16
	Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	230	220	220	230	220	220	230	230	240 J	240 J	240	230	230	230
Aluminum	mg/L														
Antimony	mg/L	0.002	0.002 U	0.002 U		0.002 U		0.00075 J	0.002 U		0.002 U		0.002 U		0.002 U
Arsenic	mg/L	0.0019	0.0017 J	0.0024 J		0.0018 J		0.0019 J	0.0017 J		0.002 J		0.0014 J		0.0018 J
Barium	mg/L	0.13	0.12	0.13		0.14		0.14	0.14		0.13		0.12		0.13
Beryllium	mg/L	0.001	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L	230	220	220	230	220	220	230	230	240 J	240 J	240	230	230	230
Boron	mg/L	0.21	0.25		0.24		0.28	0.29	0.28	0.28		0.27		0.27	
Bromide	mg/L														
Cadmium	mg/L	8.7E-05	0.001 U	0.001 U		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U
Calcium	mg/L	150	120		130		130	130	130	130		130		130	
Carbonate Alkalinity as CaCO3	mg/L	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	38	44				46	44	43	44		43		44	
Chromium	mg/L	0.005	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U
Cobalt	mg/L	0.00083	0.0013	0.0016		0.0011		0.0011	0.001		0.001		0.0009 J		0.0011
Conductivity, Field	uS/cm		846	766		824			795			755		670	
Copper	mg/L														
Dissolved Oxygen, Field	mg/L		0.4	1.28		0.15			0.6			0.95		1.24	
Dissolved Solids, Total	mg/L	600	490		520		500	500	490	500		500		470	
Fluoride	mg/L	0.092	0.13	0.15		0.14	0.11	0.14	0.14	0.14	0.14	0.13	0.13	0.13	0.13
Iron	mg/L														
Lead	mg/L	0.001	0.001 U	0.00085 J		0.001 U		0.001 U	0.001 U		0.001 U		0.001 U		0.001 U
Lithium	mg/L	0.0051	0.0032 J	0.0033 J		0.0026 J		0.0056 J	0.0046 J		0.0046 J		0.008 U		0.0041 J
Magnesium	mg/L	20	15	16	16	16	16	15	15	15	15	15	14	16	16
Manganese	mg/L														
Mercury	mg/L	0.0002	0.0002 U	0.0002 U		0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002 U		0.0002 U
Molybdenum	mg/L	0.005	0.005 U	0.005 U		0.005 U		0.0019 J	0.005 U		0.005 U		0.005 U		0.005 U
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV		-76	-107.7		-71.4			-55.8			21.5		14.1	
pH, Field	pH units		7.2	7.04		6.78			6.95			6.85		6.9	
Potassium	mg/L	2.8	1.8	2.1	2.1	2	2	1.9	1.9	1.9	1.8	2	1.8	2	2
Radium-226	pCi/L	0.133	0.326	0.275		0.141		0.242	0.243		0.125 U		0.227		0.166
Radium-226/228	pCi/L	0.224 U	1.05 J	1.69		0.596		0.0252 U	0.159 U		0.297 U		0.566		0.336 U
Radium-228	pCi/L	0.0915 U	0.719 J	1.42		0.455 U		-0.216 U	-0.084 U		0.172 U		0.339 U		0.17 U
Redox Potential, Field	mV														
Selenium	mg/L	0.005	0.005 U	0.005 U		0.005 U		0.005 U	0.005 U		0.005 U		0.005 U		0.005 U
Silver	mg/L														
Sodium	mg/L	20	19	19	20	19	20	19	18	19	18	19	17	20	20
Strontium	mg/L														
Sulfate	mg/L	250	140				150	150	150	150		140		140	
Temperature, Field	deg C		15	13.2		14.8			14.4			14.4		14.8	
Thallium	mg/L	0.001	0.001 U	0.001 U		0.001 U		0.00086 J	0.001 U		0.001 U		0.001 U		0.001 U
Turbidity, Field	NTU		7.79	34.88		5.79			5.25			4.77		5.15	
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	BAC-23	MW-1	MW-1	MW-1
	Date	2023-09-28	2023-09-28	2023-10-10	2023-10-10	2023-12-13	2023-12-13	2023-12-13	2024-03-21	2024-03-21	2024-10-04	2024-10-04	2016-08-25	2016-10-03	2016-11-28
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L		230	230	230		230	230		240		220			249
Aluminum	mg/L														
Antimony	mg/L		0.002 U		0.002 U			0.002 U		0.002 U		0.002	2E-05 J	2E-05 J	2E-05 J
Arsenic	mg/L		0.0012 J		0.0019 J			0.0015 J		0.00098 J		0.00087	0.00102	0.00087	0.00073
Barium	mg/L		0.12		0.13			0.13		0.14		0.13	0.0982	0.0914	0.0985
Beryllium	mg/L		0.001 U		0.001 U			0.001 U		0.001 U		0.001	2E-05 J	1E-05 J	6E-06 J
Bicarbonate Alkalinity as CaCO3	mg/L		230	230	230		230	230		240		220			
Boron	mg/L		0.24	0.27			0.28			0.3		0.26	0.053	0.044	0.058
Bromide	mg/L														0.119
Cadmium	mg/L		0.001 U		0.001 U			0.001 U		0.001 U		0.001	2E-05 J	1E-05 J	5E-06 J
Calcium	mg/L		120	130			130	130		130		130	114	113	124
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U	5 U		5 U	5 U		5 U		5			
Chloride	mg/L		42	45			41			49		40	19.4	19.9	19.5
Chromium	mg/L		0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.0007	0.0003	0.000175
Cobalt	mg/L		0.00087 J		0.00094 J			0.00086 J		0.00092 J		0.00077	0.000964	0.000769	0.000672
Conductivity, Field	uS/cm	732		736		868			868		828		714	712	717
Copper	mg/L														
Dissolved Oxygen, Field	mg/L	1.08		1.18		1.52			1.59		0.87		0.57	0.54	0.75
Dissolved Solids, Total	mg/L		520	490			510			490		480	466	440	447
Fluoride	mg/L		0.096	0.15	0.12		0.1	0.1		0.11		0.14	0.09	0.09	0.01
Iron	mg/L														
Lead	mg/L		0.001 U		0.001 U			0.001 U		0.001 U		0.001	0.000495	0.000355	0.000124
Lithium	mg/L		0.0032 J		0.0049 J			0.0046 JB		0.0038 J		0.008	0.008	0.004	0.006
Magnesium	mg/L		15	16	15		16	16		15		15			14.1
Manganese	mg/L														
Mercury	mg/L		0.0002 U		0.0002 U			0.0002 U		0.0002 U		0.0002	5E-06 U	1.3E-05	5E-06 U
Molybdenum	mg/L		0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.00045	0.00023	0.00022
Nickel	mg/L														
Oxidation-Reduction Potential, Field	mV	-54.6		-61.3		-68.3			-80.7		-68.3				
pH, Field	pH units	6.92		6.95		7.01			6.94		6.93		7.21	7.2	7.16
Potassium	mg/L		1.8	2	1.9		1.9	1.9		1.9		2			1.57
Radium-226	pCi/L		0.441		0.252			0.181 U		0.201		0.118 U	1.63	0.285	0.309
Radium-226/228	pCi/L		1.24		0.981			0.818		0.628		0.52 U	2.081	2.045	0.2551
Radium-228	pCi/L		0.801		0.729			0.637		0.427 U		0.402 U	0.451	1.76	-0.0539
Redox Potential, Field	mV												-85.8	-29.2	-37.6
Selenium	mg/L		0.005 U		0.005 U			0.005 U		0.005 U		0.005	0.0001	7E-05 J	4E-05 J
Silver	mg/L														
Sodium	mg/L		19	20	19		20	20 B		19		19			16
Strontium	mg/L														0.218
Sulfate	mg/L		140	150			130			140		150	125	126	127
Temperature, Field	deg C	14.6		14.6		13.6			13.6		18.3		15.1	13.7	12.6
Thallium	mg/L		0.001 U		0.001 U			0.001 U		0.001 U		0.001	3E-05 J	2E-05 J	1E-05 J
Turbidity, Field	NTU	5.71		3.32		2.03			3.93		4.31		8.6	7	9
Vanadium	mg/L														
Zinc	mg/L														

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
	Date	2017-02-07	2017-03-28	2017-03-28	2017-05-03	2017-06-13	2017-07-14	2017-07-14	2018-02-28	2018-05-15	2018-09-18	2019-03-16	2019-09-17	2020-03-11	2020-09-10
	Sample Type	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N
Analyte	Unit														
Alkalinity, Total as CaCO3	mg/L	245								230	220	220 B	220	220	220
Aluminum	mg/L		0.068	0.092	0.085	0.061	0.05 U	0.05 U							
Antimony	mg/L	2E-05 J	0.00063 JB	0.0006 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.0012 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.00087	0.00061 J	0.00064 J	0.005 U	0.005 U	0.005 U	0.00094 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Barium	mg/L	0.0899	0.1 B	0.1 B	0.1	0.11	0.1	0.1	0.11	0.11	0.12	0.11	0.11	0.11	0.11
Beryllium	mg/L	7E-06 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00036 J	0.00031 J	0.001 U^+	0.001 U	0.001 U	0.00036 J^-	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L								220	230	220	220 B	220	220	220
Boron	mg/L	0.048	0.074 J	0.081 J	0.06 J	0.066 J	0.067 JB	0.068 JB	0.054 J	0.054 J	0.076 J	0.054 J	0.056 J	0.066 J	0.093 J
Bromide	mg/L	0.099	0.14 J	0.14 J	0.12 J	0.13 J	0.13 J	0.13 J							
Cadmium	mg/L	8E-06 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0002 J	0.001 U
Calcium	mg/L	121	120 JB	120 JB	120	120	120	120	120	120	120	120	120	120	120
Carbonate Alkalinity as CaCO3	mg/L								5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L	20	20	20	21	22	22	22	24	25	27	30	28	37	38
Chromium	mg/L	0.000219	0.00027 JB	0.00049 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00098 J	0.001 J	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.000763	0.0007 J	0.00072 J	0.00072 J	0.0007 J	0.00069 J	0.00078 J	0.00085 J	0.00085 J	0.00084 J	0.00069 J	0.00054 J	0.00083 J	0.00059 J
Conductivity, Field	uS/cm	707								717				779	756
Copper	mg/L		0.002 U	0.00074 JB	0.002 U	0.002 U	0.002 U	0.002 U							
Dissolved Oxygen, Field	mg/L	0.75								0.12					
Dissolved Solids, Total	mg/L	455	460	470	470	490 J	470 J	480 J	470	500	490	520	510	490	470
Fluoride	mg/L	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.1	0.093	0.098	0.11	0.078
Iron	mg/L		0.24 B	0.27 B	0.3	0.24	0.093 J	0.095 J							
Lead	mg/L	0.000214	0.00031 J	0.00035 J	0.001 U	0.001 U	0.001 U	0.00076 J	0.00076 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lithium	mg/L	0.006	0.0041 J	0.004 J	0.0033 J	0.0046 J	0.0052 J	0.0051 J	0.0033 J	0.0029 J	0.0058 J*+^+	0.0035 J	0.0083 B^+	0.0025 J^-	0.0042 J
Magnesium	mg/L	14.2	13 B	13 B	14	14	14	13	14	14	14	15	15	15	14
Manganese	mg/L		0.48 JB	0.48 JB	0.5	0.51	0.49	0.47							
Mercury	mg/L	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U							
Molybdenum	mg/L	0.00042	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L		0.00053 JB	0.00068 JB	0.002 U	0.002 U	0.002 U	0.002 U							
Oxidation-Reduction Potential, Field	mV														
pH, Field	pH units	7.09		7.16	7.15	7.13		6.98		7.14	7.16	7.35	7.29	7.3	7.42
Potassium	mg/L	1.82	1.4 B	1.4 B	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.6	1.5	1.5	1.4
Radium-226	pCi/L	0.248	0.119 U	0.209	0.179	0.069 U	0.17	0.258							
Radium-226/228	pCi/L	0.918	0.567	0.537	0.527	0.525	0.342	0.518							
Radium-228	pCi/L	0.67	0.449	0.328 U	0.348 U	0.456	0.171 U	0.259 U							
Redox Potential, Field	mV	-37.5													
Selenium	mg/L	5E-05 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0012 JB	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0009 J	0.005 U
Silver	mg/L		0.00014 J	0.00025 J	0.00021 J	0.00019 J	0.001 U	0.001 U							
Sodium	mg/L	13.5	15 JB	15 JB	16 B	15	16 J	15 J	15	17	15	17	15	17	15
Strontium	mg/L	0.219	0.2 B	0.2 B	0.2 B	0.2 B	0.2	0.2							
Sulfate	mg/L	119	120	120	130	130	130	130	140	140	140	150	140	140	140
Temperature, Field	deg C	12.9								14.1				13	13
Thallium	mg/L	3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00067 J	0.001 U
Turbidity, Field	NTU	8.8		2.9	3.3	3		0.6		11.3	2.72		4	3.8	2.3
Vanadium	mg/L		0.005 U	0.005 U											
Zinc	mg/L		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U							

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
		Date	2021-03-13	2021-09-20	2022-03-31	2022-03-31	2022-04-27	2022-04-27	2022-06-21	2022-10-10	2022-12-12	2023-02-24	2023-04-07	2023-09-28	2023-09-28	2024-03-22
		Sample Type	N	N	FD	N	FD	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	230	240	230	230	230	230	230	240	230	240	250		240	
Aluminum	mg/L			0.037 J	0.026 J										
Antimony	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.0006 J	
Arsenic	mg/L	0.005 U	0.005 U	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U	
Barium	mg/L	0.11	0.12	0.13	0.13	0.12	0.11	0.12	0.093	0.12	0.12	0.12		0.13	
Beryllium	mg/L	0.001 U^-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	
Bicarbonate Alkalinity as CaCO3	mg/L	230	240	230	230	230	230	230	240	230	240	250		240	
Boron	mg/L	0.052 J	0.069 J	0.2 U	0.2 U				0.1 U			0.064 J		0.062 J	
Bromide	mg/L														
Cadmium	mg/L	0.001 U	0.001 U	0.0001 U	0.0001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0002 J	0.001 U		0.00024 J	
Calcium	mg/L	110	130	150	150				130			120		130	
Carbonate Alkalinity as CaCO3	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	
Chloride	mg/L	41	41	42	42				42			41		39	
Chromium	mg/L	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0017 J		0.005 U	
Cobalt	mg/L	0.00054 J	0.00083 J	0.00065	0.00062	0.00057 J	0.00053 J	0.0011	0.00052 J	0.00065 J	0.00074 J	0.00042 J		0.0011	
Conductivity, Field	uS/cm	767	782	794	794		789		815	844	814	706	644		797
Copper	mg/L			0.005 U	0.005 U										
Dissolved Oxygen, Field	mg/L			0.97	0.97		0.58		1.32	1.16	0.99	1.4	1.18		3.3
Dissolved Solids, Total	mg/L	590	490	470 J	500 J				570			490		480	
Fluoride	mg/L	0.082	0.11	0.11	0.11	0.1	0.11	0.1	0.1	0.11	0.11	0.073		0.078	
Iron	mg/L			0.1	0.08 J										
Lead	mg/L	0.001 U	0.001 U	0.0005 U	0.0005 U	0.001 U	0.001 U	0.0009 J	0.001 U	0.001 U	0.001 U	0.001 U		0.00083 J	
Lithium	mg/L	0.0042 J	0.0046 J	0.0045 J	0.0033 J	0.0046 J	0.004 J	0.0028 J	0.0041 J	0.0051 J	0.0041 J	0.0059 J		0.006 J	
Magnesium	mg/L	14	15	15	16	15	14	16	16	16	15	14		17	
Manganese	mg/L			0.57	0.58										
Mercury	mg/L			0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UF1	0.0002 U	0.0002 U		0.0002 U	
Molybdenum	mg/L	0.005 U	0.005 U	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.0011 J	
Nickel	mg/L			0.005 U	0.005 U										
Oxidation-Reduction Potential, Field	mV			33.4	33.4		43.9		50.5	12.3	131.2	142.2	71.1		74.7
pH, Field	pH units	7.19	7.3	6.98	6.98		7.14		7.17	7.59	7.08	7.14	7.14		7.14
Potassium	mg/L	1.2	1.5	1.5 J	1.7 J	1.5	1.4	1.6	1.5	1.5	1.5	1.4		1.7	
Radium-226	pCi/L			0.0911 U	0.0844 U	0.175	0.0509 U	0.235	0.0798 U	0.0801 U	0.0889	0.00883 U		0.181 U	
Radium-226/228	pCi/L			0.489 U	0.112 U	0.291 U	0.372 U	0.988	0.485 U	0.816	0.256 U	0.356 U		0.357 U	
Radium-228	pCi/L			0.398 U	0.0278 U	0.116 U	0.321 U	0.753	0.405 U	0.735	0.167 U	0.347 U		0.176 U	
Redox Potential, Field	mV														
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U	
Silver	mg/L			0.001 U	0.001 U										
Sodium	mg/L	14	17	18	19	16	15	17	17	18	17	16		20	
Strontium	mg/L			0.27	0.27										
Sulfate	mg/L	140	140	130	130				130			130		130	
Temperature, Field	deg C	13	13	13	13		13.1		14.7	12.3	12.6	12.9	13.4		12.4
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0004 J	0.001 U	0.00071 J	0.001 U		0.00071 J	
Turbidity, Field	NTU	1.9	4.8	6.5	6.5		0.01		2.28	6.54	1.79	2.62	6.44		3.56
Vanadium	mg/L														
Zinc	mg/L			0.02 U	0.02 U										

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	MW-1	MW-1	MW-1	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
		Date	2024-03-22	2024-10-03	2024-10-03	2016-08-26	2016-10-03	2016-11-28	2017-02-07	2017-03-28	2017-05-03	2017-06-13	2017-07-14	2018-02-28	2018-05-16	2018-09-18
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L	250		240			259	257							250	220
Aluminum	mg/L								0.05 U	0.05 U	0.05 U	0.05 U				
Antimony	mg/L	0.002 U		0.00081	2E-05 J	5E-05 U	5E-05 U	1E-05 J	0.00059 JB	0.002 U	0.002 U	0.002 U	0.0015 J	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.005 U		0.005	0.00029	0.00035	0.00031	0.00031	0.00042 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Barium	mg/L	0.12		0.12	0.148	0.138	0.141	0.123	0.15 B	0.15	0.14	0.14	0.15	0.14	0.15	0.15
Beryllium	mg/L	0.001 U		0.001	2E-05 U	2E-05 U	2E-05 U	2E-05 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00069 J	0.001 U	0.001 U	0.001 U^+
Bicarbonate Alkalinity as CaCO3	mg/L	250		240									240	250	220	
Boron	mg/L	0.085 J		0.079	0.045	0.054	0.045	0.122	0.065 J	0.06 J	0.067 J	0.064 JB	0.075 J	0.08 J	0.073 J	
Bromide	mg/L						0.107	0.3 U	0.14 J	0.12 J	0.12 J	0.12 J				
Cadmium	mg/L	0.001 U		0.0002	4E-05	3E-05	3E-05	3E-05	0.001 U	0.001 U	0.001 U	0.001 U	0.00022 J	0.001 U	0.001 U	
Calcium	mg/L	130		130	123	116	123	106	120 JB	120	120	120	120	120	120	
Carbonate Alkalinity as CaCO3	mg/L	5 U		5									5 U	5 U	5 U	
Chloride	mg/L	37		35	17.1	17.8	18	17.9	19	20	20	20	22	22	23	
Chromium	mg/L	0.005 U		0.005	0.0005	0.0001	0.000822	0.00476	0.001 JB	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
Cobalt	mg/L	0.00067 J		0.00064	0.000403	0.000377	0.000383	0.000376	0.00052 J	0.00044 J	0.00047 J	0.00053 J	0.00063 J	0.00065 J	0.00065 J	
Conductivity, Field	uS/cm		802		716	718	726	719						729		
Copper	mg/L								0.002 U	0.002 U	0.002 U	0.002 U				
Dissolved Oxygen, Field	mg/L		0.73		0.04	0.3	0.66	0.99						0.13		
Dissolved Solids, Total	mg/L	450		440	476	434	456	454	480	460	480 J	470 J	470	460	480	
Fluoride	mg/L	0.086		0.1	0.08 J	0.09 J	0.09	0.3 U	0.098	0.095	0.096	0.095	0.1	0.095	0.11	
Iron	mg/L								0.031 JB	0.1 U	0.1 U	0.1 U				
Lead	mg/L	0.001 U		0.001	3.9E-05	2E-05	2E-05 J	2.1E-05	0.00028 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Lithium	mg/L	0.0053 J		0.0054	0.007	0.003	0.005	0.006	0.0042 J	0.0033 J	0.0049 J	0.0053 J	0.0031 J	0.0021 J	0.0049 J*+^+	
Magnesium	mg/L	15		15			14.2	12.8	14 B	14	15	14	14	14	14	
Manganese	mg/L								1.3 JB	1.5	1.4	1.5				
Mercury	mg/L	0.0002 U		0.0002	5E-06 U	2E-06 J	5E-06 U	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U				
Molybdenum	mg/L	0.005 U		0.0012	0.00073	0.00069	0.00064	0.00128	0.00078 J	0.01 U	0.01 U	0.01 U	0.0017 J	0.005 U	0.005 U	
Nickel	mg/L								0.00046 JB	0.002 U	0.002 U	0.002 U				
Oxidation-Reduction Potential, Field	mV		-37.5													
pH, Field	pH units		7.17		7	7.04	7	6.96	7.03	6.96	6.95	6.89		7.01	7.03	
Potassium	mg/L	1.5		1.6			1.93	1.64	1.7 B	1.7	1.6	1.7	1.7	1.7	1.6	
Radium-226	pCi/L	0.272		0.196	0.87	0.444	0.31	0.141	0.0546 U	0.124	0.113	0.174				
Radium-226/228	pCi/L	0.602		1.09	1.663	1.32	1.032	0.249	0.283 U	0.159 U	0.665	0.259 U				
Radium-228	pCi/L	0.33 U		0.896	0.793	0.876	0.722	0.108	0.228 U	0.0352 U	0.552	0.0855 U				
Redox Potential, Field	mV				165.3	171	105.8	145.2								
Selenium	mg/L	0.005 U		0.0019	3E-05 J	0.0001 U	4E-05 J	5E-05 J	0.005 U	0.005 U	0.005 U	0.005 U	0.001 J	0.005 U	0.005 U	
Silver	mg/L								4.4E-05 J	0.001 U	0.001 U	0.001 U				
Sodium	mg/L	18		19			14.4	10.8	13 JB	13 B	13	14 J	13	13	13	
Strontium	mg/L						0.228	0.174	0.22 B	0.21 B	0.21 B	0.22				
Sulfate	mg/L	130		130	131	123	127	118	120	130	130	130	130	120	130	
Temperature, Field	deg C		14.1		17.2	14.7	13.6	13.9						14.2		
Thallium	mg/L	0.001 U		0.00066	2E-05 J	4E-05 J	2E-05 J	8.7E-05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Turbidity, Field	NTU		3.11		5.5	1.9	4	1.6	0.2	0.2	1.5	2.4		2.19	0.97	
Vanadium	mg/L								0.005 U							
Zinc	mg/L								0.02 U	0.02 U	0.02 U	0.02 U				

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

		Location	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
		Date	2019-03-16	2019-09-18	2020-03-11	2020-09-09	2020-09-09	2021-03-13	2021-09-18	2022-03-31	2022-04-27	2022-06-28	2022-06-28	2022-10-11	2022-12-13	2023-03-01
		Sample Type	N	N	N	FD	N	N	N	N	N	FD	N	N	N	N
Analyte	Unit															
Alkalinity, Total as CaCO3	mg/L		230 B	220	230	220	220	230	210	230	230	230	240	230	230	220
Aluminum	mg/L									0.05 U						
Antimony	mg/L		0.002 U	0.00071 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00085 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic	mg/L		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Barium	mg/L		0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.14	0.12	0.16	0.19	0.12	0.12	0.14
Beryllium	mg/L		0.001 U	0.001 U	0.001 U^-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bicarbonate Alkalinity as CaCO3	mg/L		230 B	220	230	220	220	230	210	230	230	230	240	230	230	220
Boron	mg/L		0.059 J	0.04 J	0.051 J	0.081 J	0.082 J	0.026 J	0.1 U	0.2 U				0.1 U		
Bromide	mg/L															
Cadmium	mg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L		120	110	110	110	110	100	110	130				110		
Carbonate Alkalinity as CaCO3	mg/L		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloride	mg/L		23	22	23	24	24	24	26	24				27		
Chromium	mg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L		0.0005 J	0.00046 J	0.00044 J	0.00049 J	0.00049 J	0.00044 J	0.00057 J	0.00046 J	0.00039 J	0.00073 J	0.00095 J	0.00041 J	0.00044 J	0.00053 J
Conductivity, Field	uS/cm				726	685	685	686	675	723	702			755	687	713
Copper	mg/L									0.005 U						
Dissolved Oxygen, Field	mg/L									0.42	1.02			0.7	1.34	0.79
Dissolved Solids, Total	mg/L		450	340	450	430	440	440	490	420 J				440		
Fluoride	mg/L		0.083	0.083	0.095	0.033 J	0.038 J	0.071	0.097	0.098	0.091	0.088	0.094	0.094	0.093	0.094
Iron	mg/L									0.1 U						
Lead	mg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.00056 J	0.001 U	0.001 U	0.001 U
Lithium	mg/L		0.0032 J	0.0035 J	0.008 U^-	0.0056 J	0.0049 J	0.0034 J	0.0031 J	0.0035 J	0.004 J	0.0044 J	0.0048 J	0.0049 J	0.0042 J	0.0061 J
Magnesium	mg/L		15	13	14	14	14	12	14	13	13	14	14	13	14	14
Manganese	mg/L									1.5						
Mercury	mg/L									0.0002 U	0.00018 J	0.0002 U	0.0002 U	0.0002 U	0.00013 JB	0.0002 U
Molybdenum	mg/L		0.005 U	0.0053	0.005 U	0.005 U	0.005 U	0.0015 J	0.005 U	0.002 U	0.005 U	0.0012 J	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	mg/L									0.005 U						
Oxidation-Reduction Potential, Field	mV									92.9				55.6	52.5	206.7
pH, Field	pH units		7.17	7.21	7.19	7.21	7.21	7	7.08	7.01	7.03			7.32	7.18	6.89
Potassium	mg/L		1.8	1.6	1.7	1.6	1.6	1.7	1.6	1.7 J	1.6	1.7	1.8	1.5	1.6	1.8
Radium-226	pCi/L									0.0507 U	0.0377 U	0.0864 U	0.152	0.0567 U	0.0985 U	0.0353 U
Radium-226/228	pCi/L									0.024 U	0.16 U	0.334 U	0.647	0.527	0.976	0.191 U
Radium-228	pCi/L									-0.0267 U	0.122 U	0.247 U	0.495	0.471 U	0.877	0.156 U
Redox Potential, Field	mV															
Selenium	mg/L		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L									0.001						
Sodium	mg/L		14	13	13	14	14	12	14	14	13	14	13	13	14	15
Strontium	mg/L									0.23						
Sulfate	mg/L		130	140	120	130	130	120	120	110				120		
Temperature, Field	deg C				13	14	14	13	15	15	13.6			15	13.6	14.6
Thallium	mg/L		0.001 U	0.00081 J	0.001 U	0.00027 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00029 J	0.001 U	0.001 U	0.001 U	0.00028 J
Turbidity, Field	NTU			4	0.3	0.3	0.3	0.6	0.3	2.9	0.15			2.7	4.19	2.84
Vanadium	mg/L															
Zinc	mg/L									0.02 U						

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

Appendix E
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Location	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
	Date	2023-04-07	2023-09-29	2023-09-29	2024-03-21	2024-03-21	2024-03-21	2024-10-04	2024-10-04
	Sample Type	N	N	N	FD	N	N	N	N
Analyte	Unit								
Alkalinity, Total as CaCO3	mg/L	240		230	250		240		240
Aluminum	mg/L								
Antimony	mg/L	0.002 U		0.002 U	0.002 U		0.002 U		0.002
Arsenic	mg/L	0.005 U		0.005 U	0.005 U		0.005 U		0.005
Barium	mg/L	0.13		0.12	0.13		0.13		0.13
Beryllium	mg/L	0.001 U		0.001 U	0.001 U		0.001 U		0.001
Bicarbonate Alkalinity as CaCO3	mg/L	240		230	250		240		240
Boron	mg/L	0.057 J		0.073 J	0.075 J		0.075 J		0.061
Bromide	mg/L								
Cadmium	mg/L	0.001 U		0.001 U	0.001 U		0.001 U		0.001
Calcium	mg/L	110		110	120		120		110
Carbonate Alkalinity as CaCO3	mg/L	5 U		5 U	5 U		5 U		5
Chloride	mg/L	25		28	26		26		28
Chromium	mg/L	0.005 U		0.005 U	0.005 U		0.005 U		0.005
Cobalt	mg/L	0.00045 J		0.00044 J	0.0005 J		0.00053 J		0.00035
Conductivity, Field	uS/cm	645	592			760		752	
Copper	mg/L								
Dissolved Oxygen, Field	mg/L	1.32	1.82			2.3		2.63	
Dissolved Solids, Total	mg/L	430		430	420		420		440
Fluoride	mg/L	0.06		0.093	0.071		0.072		0.094
Iron	mg/L								
Lead	mg/L	0.001 U		0.001 U	0.001 U		0.001 U		0.001
Lithium	mg/L	0.0052 J		0.0063 J	0.0055 J		0.0056 J		0.0052
Magnesium	mg/L	13		14	14		13		13
Manganese	mg/L								
Mercury	mg/L	0.0002 U		0.0002 U	0.0002 U		0.0002 U		0.0002
Molybdenum	mg/L	0.005 U		0.005 U	0.005 U		0.005 U		0.005
Nickel	mg/L								
Oxidation-Reduction Potential, Field	mV	167.4	109.5			104.3		51.7	
pH, Field	pH units	6.97	7.02			7.09		7.27	
Potassium	mg/L	1.6		1.6	1.7		1.6		1.7
Radium-226	pCi/L	0.167 U		0.0871 U	0.131 UJ		0 UJ		0.0658 U
Radium-226/228	pCi/L	0.611		0.376 U	0.81 J		0.344 J		-0.0875 U
Radium-228	pCi/L	0.444 U		0.289 U	0.679 J		0.344 UJ		-0.153 U
Redox Potential, Field	mV								
Selenium	mg/L	0.005 U		0.005 U	0.005 U		0.005 U		0.005
Silver	mg/L								
Sodium	mg/L	13		14	14		14		15
Strontium	mg/L								
Sulfate	mg/L	110		120	120		120		120
Temperature, Field	deg C	13.5	14.6			13.5		18.3	
Thallium	mg/L	0.001 U		0.001 U	0.001 U		0.001 U		0.001
Turbidity, Field	NTU	3	2.41			3.94		6.95	
Vanadium	mg/L								
Zinc	mg/L								

Notes:
FD = Field duplicate sample
N = Normal environmental sample
deg C = Degree Celcius
mg/L = Milligrams per liter
mV = Milivolts
NTU = Nephelometric Turbidity Unit
uS/cm = Microsiemens per centimeter
pCi/L = Picocuries per liter
B: Compound was found in the blank and sample.
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U: Indicates the analyte was analyzed for but not detected.
F1 = MS and/or MSD Recovery is outside acceptance limits.
Empty cells = Not analyzed

APPENDIX F LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620
Generated 3/26/2024 11:57:55 AM

JOB DESCRIPTION

Federal CCR Wells - App IV

JOB NUMBER

240-199894-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
3/26/2024 11:57:55 AM

Authorized for release by
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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-199894-1 — Eurofins Cleveland

Job Narrative
240-199894-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/23/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.1°C and 1.6°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0-1993 R2.1	Anions, Ion Chromatography	EPA	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - App IV

Job ID: 240-199894-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-199894-1	OHIO RIVER	Water	02/21/24 13:00	02/23/24 08:00
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Water	02/21/24 13:10	02/23/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Client Sample ID: OHIO RIVER — Lab Sample ID: 240-199894-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	36		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	26000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.68	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.63	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	4.6	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	7400		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	17000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	61		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	61		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Fluoride	0.066		0.050	0.024	mg/L	1		300.0-1993 R2.1	Total/NA

Client Sample ID: FIELDBLANK-001-F-A4-20240221-01 — Lab Sample ID: 240-199894-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - App IV

Job ID: 240-199894-1

Client Sample ID: OHIO RIVER

Date Collected: 02/21/24 13:00
Date Received: 02/23/24 08:00

Lab Sample ID: 240-199894-1

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		02/26/24 14:00	02/27/24 12:45	1
Arsenic	ND		5.0	0.75	ug/L		02/26/24 14:00	02/27/24 12:45	1
Barium	**36**		5.0	2.2	ug/L		02/26/24 14:00	02/27/24 12:45	1
Beryllium	ND		1.0	0.62	ug/L		02/26/24 14:00	02/27/24 12:45	1
Cadmium	ND		1.0	0.20	ug/L		02/26/24 14:00	02/27/24 12:45	1
Calcium	**26000**		1000	250	ug/L		02/26/24 14:00	02/27/24 12:45	1
Chromium	ND		5.0	1.2	ug/L		02/26/24 14:00	02/27/24 12:45	1
Cobalt	**0.68**	**J**	1.0	0.19	ug/L		02/26/24 14:00	02/27/24 12:45	1
Lead	**0.63**	**J**	1.0	0.45	ug/L		02/26/24 14:00	02/27/24 12:45	1
Lithium	**4.6**	**J**	8.0	1.7	ug/L		02/26/24 14:00	02/27/24 12:45	1
Magnesium	**7400**		1000	61	ug/L		02/26/24 14:00	02/27/24 12:45	1
Molybdenum	ND		5.0	1.1	ug/L		02/26/24 14:00	02/27/24 12:45	1
Potassium	**1900**		1000	220	ug/L		02/26/24 14:00	02/27/24 12:45	1
Selenium	ND		5.0	0.89	ug/L		02/26/24 14:00	02/27/24 12:45	1
Sodium	**17000**		1000	330	ug/L		02/26/24 14:00	02/27/24 12:45	1
Thallium	ND		1.0	0.20	ug/L		02/26/24 14:00	02/27/24 12:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/26/24 14:00	02/27/24 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**61**		5.0	2.6	mg/L			03/05/24 13:21	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**61**		5.0	2.6	mg/L			03/05/24 13:21	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			03/05/24 13:21	1
Fluoride (EPA 300.0-1993 R2.1)	**0.066**		0.050	0.024	mg/L			03/03/24 10:51	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0290	U	0.216	0.216	1.00	0.480	pCi/L	02/28/24 09:36	03/25/24 16:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.9*		*30 - 110*	*02/28/24 09:36*	*03/25/24 16:45*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.126	U	0.425	0.425	1.00	0.768	pCi/L	02/28/24 09:41	03/25/24 12:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.9*		*30 - 110*	*02/28/24 09:41*	*03/25/24 12:15*	*1*
Y Carrier	*87.9*		*30 - 110*	*02/28/24 09:41*	*03/25/24 12:15*	*1*

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - App IV

Job ID: 240-199894-1

Client Sample ID: OHIO RIVER
Date Collected: 02/21/24 13:00
Date Received: 02/23/24 08:00

Lab Sample ID: 240-199894-1
Matrix: Water

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0966	U	0.477	0.477	5.00	0.768	pCi/L		03/26/24 10:43	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - App IV

Job ID: 240-199894-1

Client Sample ID: FIELDBLANK-001-F-A4-20240221-01

Lab Sample ID: 240-199894-2

Date Collected: 02/21/24 13:10
Matrix: Water
Date Received: 02/23/24 08:00

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		02/26/24 14:00	02/27/24 12:47	1
Arsenic	ND		5.0	0.75	ug/L		02/26/24 14:00	02/27/24 12:47	1
Barium	ND		5.0	2.2	ug/L		02/26/24 14:00	02/27/24 12:47	1
Beryllium	ND		1.0	0.62	ug/L		02/26/24 14:00	02/27/24 12:47	1
Cadmium	ND		1.0	0.20	ug/L		02/26/24 14:00	02/27/24 12:47	1
Calcium	ND		1000	250	ug/L		02/26/24 14:00	02/27/24 12:47	1
Chromium	ND		5.0	1.2	ug/L		02/26/24 14:00	02/27/24 12:47	1
Cobalt	ND		1.0	0.19	ug/L		02/26/24 14:00	02/27/24 12:47	1
Lead	ND		1.0	0.45	ug/L		02/26/24 14:00	02/27/24 12:47	1
Lithium	ND		8.0	1.7	ug/L		02/26/24 14:00	02/27/24 12:47	1
Magnesium	ND		1000	61	ug/L		02/26/24 14:00	02/27/24 12:47	1
Molybdenum	ND		5.0	1.1	ug/L		02/26/24 14:00	02/27/24 12:47	1
Potassium	ND		1000	220	ug/L		02/26/24 14:00	02/27/24 12:47	1
Selenium	ND		5.0	0.89	ug/L		02/26/24 14:00	02/27/24 12:47	1
Sodium	ND		1000	330	ug/L		02/26/24 14:00	02/27/24 12:47	1
Thallium	ND		1.0	0.20	ug/L		02/26/24 14:00	02/27/24 12:47	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/26/24 14:00	02/27/24 11:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	ND		5.0	2.6	mg/L			03/05/24 14:29	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			03/05/24 14:29	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			03/05/24 14:29	1
Fluoride (EPA 300.0-1993 R2.1)	ND		0.050	0.024	mg/L			03/03/24 11:52	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.175	U	0.156	0.157	1.00	0.450	pCi/L	02/28/24 09:36	03/25/24 16:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.4*		*30 - 110*	*02/28/24 09:36*	*03/25/24 16:46*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.433	U	0.471	0.472	1.00	0.766	pCi/L	02/28/24 09:41	03/25/24 12:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.4*		*30 - 110*	*02/28/24 09:41*	*03/25/24 12:15*	*1*
Y Carrier	*82.6*		*30 - 110*	*02/28/24 09:41*	*03/25/24 12:15*	*1*

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Client Sample ID: FIELDBLANK-001-F-A4-20240221-01
Lab Sample ID: 240-199894-2
Date Collected: 02/21/24 13:10
Matrix: Water
Date Received: 02/23/24 08:00

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.258	U	0.496	0.497	5.00	0.766	pCi/L		03/26/24 10:43	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - App IV

Job ID: 240-199894-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-199894-1	OHIO RIVER	73.9
240-199894-2	FIELDBLANK-001-F-A4-202402 21-01	62.4
LCS 160-650190/2-A	Lab Control Sample	93.7
MB 160-650190/1-A	Method Blank	88.1

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-199894-1	OHIO RIVER	73.9	87.9
240-199894-2	FIELDBLANK-001-F-A4-202402 21-01	62.4	82.6
LCS 160-650192/2-A	Lab Control Sample	93.7	84.9
MB 160-650192/1-A	Method Blank	88.1	82.6

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-604208/1-A
Matrix: Water
Analysis Batch: 604389

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		02/26/24 14:00	02/27/24 15:52	1
Arsenic	ND		5.0	0.75	ug/L		02/26/24 14:00	02/27/24 15:52	1
Barium	ND		5.0	2.2	ug/L		02/26/24 14:00	02/27/24 15:52	1
Beryllium	ND		1.0	0.62	ug/L		02/26/24 14:00	02/27/24 15:52	1
Cadmium	ND		1.0	0.20	ug/L		02/26/24 14:00	02/27/24 15:52	1
Calcium	ND		1000	250	ug/L		02/26/24 14:00	02/27/24 15:52	1
Chromium	ND		5.0	1.2	ug/L		02/26/24 14:00	02/27/24 15:52	1
Cobalt	ND		1.0	0.19	ug/L		02/26/24 14:00	02/27/24 15:52	1
Lead	ND		1.0	0.45	ug/L		02/26/24 14:00	02/27/24 15:52	1
Lithium	ND		8.0	1.7	ug/L		02/26/24 14:00	02/27/24 15:52	1
Magnesium	ND		1000	61	ug/L		02/26/24 14:00	02/27/24 15:52	1
Molybdenum	ND		5.0	1.1	ug/L		02/26/24 14:00	02/27/24 15:52	1
Potassium	ND		1000	220	ug/L		02/26/24 14:00	02/27/24 15:52	1
Selenium	ND		5.0	0.89	ug/L		02/26/24 14:00	02/27/24 15:52	1
Sodium	ND	^+	1000	330	ug/L		02/26/24 14:00	02/27/24 15:52	1
Thallium	0.430	J	1.0	0.20	ug/L		02/26/24 14:00	02/27/24 15:52	1

Lab Sample ID: LCS 240-604208/2-A
Matrix: Water
Analysis Batch: 604389

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	99.6		ug/L		100	80 - 120
Arsenic	1000	989		ug/L		99	80 - 120
Barium	1000	970		ug/L		97	80 - 120
Beryllium	500	474		ug/L		95	80 - 120
Cadmium	500	490		ug/L		98	80 - 120
Calcium	25000	24200		ug/L		97	80 - 120
Chromium	500	477		ug/L		95	80 - 120
Cobalt	500	499		ug/L		100	80 - 120
Lead	500	484		ug/L		97	80 - 120
Lithium	500	487		ug/L		97	80 - 120
Magnesium	25000	24500		ug/L		98	80 - 120
Molybdenum	500	485		ug/L		97	80 - 120
Potassium	25000	24700		ug/L		99	80 - 120
Selenium	1000	998		ug/L		100	80 - 120
Sodium	25000	25300		ug/L		101	80 - 120
Thallium	1000	938		ug/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-604203/1-A
Matrix: Water
Analysis Batch: 604334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 604203

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/26/24 14:00	02/27/24 11:05	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-604203/2-A
Matrix: Water
Analysis Batch: 604334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 604203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.01		ug/L		100	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: LB 240-604777/1-A
Matrix: Water
Analysis Batch: 605052

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			03/05/24 12:31	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/05/24 12:31	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/05/24 12:31	1

Lab Sample ID: MB 240-605052/29
Matrix: Water
Analysis Batch: 605052

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			03/05/24 14:25	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/05/24 14:25	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/05/24 14:25	1

Lab Sample ID: MB 240-605052/4
Matrix: Water
Analysis Batch: 605052

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			03/05/24 12:20	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/05/24 12:20	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/05/24 12:20	1

Lab Sample ID: LCS 240-605052/28
Matrix: Water
Analysis Batch: 605052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	85.3		mg/L		106	86 - 123

Lab Sample ID: LCS 240-605052/3
Matrix: Water
Analysis Batch: 605052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	83.3		mg/L		103	86 - 123

Method: 300.0-1993 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 240-604774/3
Matrix: Water
Analysis Batch: 604774

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050	0.024	mg/L			03/03/24 07:50	1

Lab Sample ID: LCS 240-604774/4
Matrix: Water
Analysis Batch: 604774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.55		mg/L		102	90 - 110

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-650190/1-A
Matrix: Water
Analysis Batch: 653748

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 650190

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01152	U	0.175	0.175	1.00	0.361	pCi/L	02/28/24 09:36	03/25/24 16:30	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.1*		*30 - 110*	*02/28/24 09:36*	*03/25/24 16:30*	*1*

Lab Sample ID: LCS 160-650190/2-A
Matrix: Water
Analysis Batch: 653748

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 650190

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.41		1.34	1.00	0.262	pCi/L	92	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.7*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-650192/1-A
Matrix: Water
Analysis Batch: 653748

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 650192

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1333	U	0.428	0.428	1.00	0.771	pCi/L	02/28/24 09:41	03/25/24 15:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.1*		*30 - 110*	*02/28/24 09:41*	*03/25/24 15:43*	*1*
Y Carrier	*82.6*		*30 - 110*	*02/28/24 09:41*	*03/25/24 15:43*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-650192/2-A
Matrix: Water
Analysis Batch: 653894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 650192

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.09	9.993		1.33	1.00	0.566	pCi/L	110	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.7*		*30 - 110*
Y Carrier	*84.9*		*30 - 110*

Metals

Prep Batch: 604203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total/NA	Water	7470A	
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total/NA	Water	7470A	
MB 240-604203/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-604203/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 604208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total Recoverable	Water	3005A	
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total Recoverable	Water	3005A	
MB 240-604208/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-604208/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 604334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total/NA	Water	7470A	604203
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total/NA	Water	7470A	604203
MB 240-604203/1-A	Method Blank	Total/NA	Water	7470A	604203
LCS 240-604203/2-A	Lab Control Sample	Total/NA	Water	7470A	604203

Analysis Batch: 604389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total Recoverable	Water	6020B	604208
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total Recoverable	Water	6020B	604208
MB 240-604208/1-A	Method Blank	Total Recoverable	Water	6020B	604208
LCS 240-604208/2-A	Lab Control Sample	Total Recoverable	Water	6020B	604208

General Chemistry

Analysis Batch: 604774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total/NA	Water	300.0-1993 R2.1	
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total/NA	Water	300.0-1993 R2.1	
MB 240-604774/3	Method Blank	Total/NA	Water	300.0-1993 R2.1	
LCS 240-604774/4	Lab Control Sample	Total/NA	Water	300.0-1993 R2.1	

Leach Batch: 604777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 240-604777/1-A	Method Blank	Total/NA	Water	D3987-06	

Analysis Batch: 605052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total/NA	Water	2320B-1997	
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total/NA	Water	2320B-1997	
LB 240-604777/1-A	Method Blank	Total/NA	Water	2320B-1997	604777
MB 240-605052/29	Method Blank	Total/NA	Water	2320B-1997	
MB 240-605052/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-605052/28	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-605052/3	Lab Control Sample	Total/NA	Water	2320B-1997	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Rad

Prep Batch: 650190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total/NA	Water	PrecSep-21	
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total/NA	Water	PrecSep-21	
MB 160-650190/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-650190/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 650192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-199894-1	OHIO RIVER	Total/NA	Water	PrecSep_0	
240-199894-2	FIELDBLANK-001-F-A4-20240221-01	Total/NA	Water	PrecSep_0	
MB 160-650192/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-650192/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - App IV

Job ID: 240-199894-1

Client Sample ID: OHIO RIVER

Lab Sample ID: 240-199894-1

Date Collected: 02/21/24 13:00
Date Received: 02/23/24 08:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			604208	BN	EET CLE	02/26/24 14:00
Total Recoverable	Analysis	6020B		1	604389	RKT	EET CLE	02/27/24 12:45
Total/NA	Prep	7470A			604203	BN	EET CLE	02/26/24 14:00
Total/NA	Analysis	7470A		1	604334	TQ6W	EET CLE	02/27/24 11:34
Total/NA	Analysis	2320B-1997		1	605052	QUY8	EET CLE	03/05/24 13:21
Total/NA	Analysis	300.0-1993 R2.1		1	604774	JWW	EET CLE	03/03/24 10:51
Total/NA	Prep	PrecSep-21			650190	KAC	EET SL	02/28/24 09:36
Total/NA	Analysis	9315		1	653889	SWS	EET SL	03/25/24 16:45
Total/NA	Prep	PrecSep_0			650192	KAC	EET SL	02/28/24 09:41
Total/NA	Analysis	9320		1	653748	SWS	EET SL	03/25/24 12:15
Total/NA	Analysis	Ra226_Ra228		1	653993	FLC	EET SL	03/26/24 10:43

Client Sample ID: FIELDBLANK-001-F-A4-20240221-01

Lab Sample ID: 240-199894-2

Date Collected: 02/21/24 13:10
Date Received: 02/23/24 08:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			604208	BN	EET CLE	02/26/24 14:00
Total Recoverable	Analysis	6020B		1	604389	RKT	EET CLE	02/27/24 12:47
Total/NA	Prep	7470A			604203	BN	EET CLE	02/26/24 14:00
Total/NA	Analysis	7470A		1	604334	TQ6W	EET CLE	02/27/24 11:36
Total/NA	Analysis	2320B-1997		1	605052	QUY8	EET CLE	03/05/24 14:29
Total/NA	Analysis	300.0-1993 R2.1		1	604774	JWW	EET CLE	03/03/24 11:52
Total/NA	Prep	PrecSep-21			650190	KAC	EET SL	02/28/24 09:36
Total/NA	Analysis	9315		1	653889	SWS	EET SL	03/25/24 16:46
Total/NA	Prep	PrecSep_0			650192	KAC	EET SL	02/28/24 09:41
Total/NA	Analysis	9320		1	653748	SWS	EET SL	03/25/24 12:15
Total/NA	Analysis	Ra226_Ra228		1	653993	FLC	EET SL	03/26/24 10:43

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24 *
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-01-24
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	03-06-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-199894-1
Project/Site: Federal CCR Wells - App IV

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

Columbus 209

eurofins | Environment Testing America

Client Information	Sampler: Bobby Caste	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-93466-34578.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@Eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: Lightstone Generation Gavin Power LLC	PWSID:			Job #:
Address: 7397 OH-7	Due Date Requested:	Analysis Requested		
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Federal CCR Wells - App IV	Project #: 24019633			
Site: Gavin	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020, 7470A	300.0_28D - Fluoride	2320B - Alkalinity	9315_Ra226, 9320_Ra226, Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	N	D	X	
Ohio River	2-21-24	1300	G	Water	N		1	1	1	2		
FieldBlank-001-F-A4-20240221-01	2-21-24	1310	G	Water	N		1	1	1	2		
				Water								
				Water								
				Water								

240-199894 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Bobby Caste	2-22-24 / 0900	KEMRON	Ashley Deal	2/22/24 2:15	ETA
Relinquished by: Ashley Deal	Date/Time: 2/22/24 1700	Company ETA	Received by:	Date/Time: 2-23-24 800	Company EETNC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins – Cleveland Sample Receipt Form/Narrative Login # 199894
Barberton Facility

Client Light Stone Site Name

Cooler Received on 2-23-24 Opened on 2-23-24

Cooler unpacked by:

FedEx 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt: X See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp °C Corrected Cooler Temp °C

2	Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity: each	Yes No
	Were the seals on the outside of the cooler(s) signed & dated?	Yes No NA
	Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes No
	-Were tamper/custody seals intact and uncompromised?	Yes No NA
3	Shippers' packing slip attached to the cooler(s)?	Yes No
4.	Did custody papers accompany the sample(s)?	Yes No
5	Were the custody papers relinquished & signed in the appropriate place?	Yes No
6	Was/were the person(s) who collected the samples clearly identified on the COC?	Yes No
7	Did all bottles arrive in good condition (Unbroken)?	Yes No
8	Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes No
9	For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	Yes No
10	Were correct bottle(s) used for the test(s) indicated?	Yes No
11	Sufficient quantity received to perform indicated analyses?	Yes No
12	Are these work share samples and all listed on the COC?	Yes No
	If yes, Questions 13-17 have been checked at the originating laboratory	
13	Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC316719
14.	Were VOAs on the COC?	Yes No
15	Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes No NA
16.	Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes No
17	Was a LL Hg or Me Hg trip blank present?	Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19 SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired

Sample(s) were received in a broken container

Sample(s) were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory

Time preserved Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen.

2/23/2024

Login Container Summary Report

240-199894

3/26/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
OHIO RIVER	240-199894-C-1	Plastic 500ml - with Nitric Acid	<2			
OHIO RIVER	240-199894 D-1	Plastic 1 liter - Nitric Acid	<2			
OHIO RIVER	240-199894-E-1	Plastic 1 liter - Nitric Acid	<2			
FIELDBLANK-001 F-A4-20240221-01	240-199894-C-2	Plastic 500ml - with Nitric Acid	<2			
FIELDBLANK-001-F-A4-20240221-01	240-199894-D-2	Plastic 1 liter - Nitric Acid	<2			
FIELDBLANK-001-F-A4-20240221-01	240 199894 E-2	Plastic 1 liter - Nitric Acid	<2			

Login # : _____

3/26/2024

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(IC) Client Box Other	IR GUN #: 22	1.1	1.1	(Wet Ice) Blue Ice Dry Ice Water None
(IC) Client Box Other	IR GUN #: 32	1.6	1.6	(Wet Ice) Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
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IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
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IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
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IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
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IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
IC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

Columbus 209

eurofins | Environment Testing America

Client Information	Sampler: Bobby Caste	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-93466-34578.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@Eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: Lightstone Generation Gavin Power LLC	PWSID:			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Federal CCR Wells - App IV	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020, 7470A	300.0_28D - Fluoride	2320B - Alkalinity	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	N	D		
Ohio River	2-21-24	1300	G	Water	N		1	1	1	2		
Field Blank-001-F-A4-20240221-01	2-21-24	1310	G	Water	N		1	1	1	2		
				Water								
				Water								
				Water								

240-199894 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	2-22-24 / 0900	KEMA	Ashley Deal	2/22/24 2:15	ETA
2	Ashley Deal	2/22/24 1700	ETA	[signature]	2-23-24 800	EETNC
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins – Cleveland Sample Receipt Form/Narrative Logn # 199894
Barberton Facility

Client Light Stone Site Name

Cooler Received on 2-23-24 Opened on 2-23-24

Cooler unpacked by:

FedEx 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After hours Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used. Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt: X See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp °C Corrected Cooler Temp °C

2	Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity each	Yes No
	Were the seals on the outside of the cooler(s) signed & dated?	Yes No NA
	Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes No
	-Were tamper/custody seals intact and uncompromised?	Yes No NA
3	Shippers' packing slip attached to the cooler(s)?	Yes No
4.	Did custody papers accompany the sample(s)?	Yes No
5	Were the custody papers relinquished & signed in the appropriate place?	Yes No
6	Was/were the person(s) who collected the samples clearly identified on the COC?	Yes No
7	Did all bottles arrive in good condition (Unbroken)?	Yes No
8	Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes No
9	For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	Yes No
10	Were correct bottle(s) used for the test(s) indicated?	Yes No
11	Sufficient quantity received to perform indicated analyses?	Yes No
12.	Are these work share samples and all listed on the COC?	Yes No
	If yes, Questions 13-17 have been checked at the originating laboratory	
13	Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC316719
14.	Were VOAs on the COC?	Yes No
15	Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes No NA
16.	Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes No
17	Was a LL Hg or Me Hg trip blank present? _____	Yes No

Tests that are not checked for pH by Receiving

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation Date/Time VOAs Frozen: _____

WT NC 099

3/26/2024

Login # : _____

3/26/2024

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC) Client Box Other	IR GUN #: 22	1.1	1.1	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #: 22	1.6	1.6	(Wet Ice) Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

2/23/2024

Login Container Summary Report

240-199894

3/26/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
OHIO RIVER	240-199894-C-1	Plastic 500ml - with Nitric Acid	<2			
OHIO RIVER	240 199894-D-1	Plastic 1 liter - Nitric Acid	<2			
OHIO RIVER	240-199894-E-1	Plastic 1 liter - Nitric Acid	<2			
FIELDBLANK 001-F-A4-20240 221-01	240-199894-C-2	Plastic 500ml - with Nitric Acid	<2			
FIELDBLANK-001-F-A4-20240 221-01	240 199894-D-2	Plastic 1 liter - Nitric Acid	<2			
FIELDBLANK-001 F-A4 20240 221-01	240-199894-E-2	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-181039.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-199894-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 3/7/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Federal GWM Wells	Project #: 24019633			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
OHIO RIVER (240-199894-1)	2/21/24	13:00 Eastern		Water			X	X	X	2	Recount of TAR after 21 day ingrowth if > action limit; save planchet
FIELDBLANK-001-F-A4-20240221-01 (240-199894-2)	2/21/24	13:10 Eastern		Water			X	X	X	2	Recount of TAR after 21 day ingrowth if > action limit; save planchet

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Rachelle Haecker	22324 1325	EEINC	M. Pinette	FEB 2 6 2024 0821	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-199894-1

Login Number: 199894
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 02/26/24 03:43 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 4/19/2024 11:08:19 AM

JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-201414-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
4/19/2024 11:08:19 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-201414-1 — Eurofins Cleveland

Job Narrative
240-201414-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/20/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.2°C, 3.4°C and 3.8°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9320_Ra228: Radium-228 batch 653870
The LCS recovered at (136%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (69-145%) per method requirements. The LCS passes, no further action is required

(LCS 160-653870/2-A)

Method 9320_Ra228: Radium-228 batch 653870
The detection goal was not met for the following sample due to the reduced sample volume attributed to the presence of matrix interferences: BAC-12-F-20240318-01 (240-201414-2). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201414-1
Project/Site: Federal CCR Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-201414-1	BAC-14-F-20240318-01	Water	03/18/24 12:15	03/20/24 08:00
240-201414-2	BAC-12-F-20240318-01	Water	03/18/24 13:28	03/20/24 08:00
240-201414-3	BAC-10-F-20240318-01	Water	03/18/24 14:30	03/20/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Client Sample ID: BAC-14-F-20240318-01 — Lab Sample ID: 240-201414-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2600		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.4	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	90		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	74000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.8		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	6.5	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	21000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1400		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	22000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	77		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	77		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	33		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.057		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	220		10	3.5	mg/L	10		300.0	Total/NA
Total Dissolved Solids	480		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-12-F-20240318-01 — Lab Sample ID: 240-201414-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2100		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	3.0	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	73		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	76000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	5.3		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	2.6		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	7.6	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	17000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2200		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	27000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	100		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	100		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	54		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.066		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	190		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	460		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Client Sample ID: BAC-10-F-20240318-01

Lab Sample ID: 240-201414-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	900		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.1	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	60		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	2.4	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	2.2		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	1.7		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	5.6	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	33000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	68000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	260		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	260		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	64		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.13		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	340		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	820		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-14-F-20240318-01
Date Collected: 03/18/24 12:15
Date Received: 03/20/24 08:00

Lab Sample ID: 240-201414-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2600**		100	57	ug/L		03/20/24 14:00	03/23/24 03:49	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/20/24 14:00	03/21/24 17:42	1
Arsenic	**2.4**	**J**	5.0	0.75	ug/L		03/20/24 14:00	03/21/24 17:42	1
Barium	**90**		5.0	2.2	ug/L		03/20/24 14:00	03/21/24 17:42	1
Beryllium	ND		1.0	0.62	ug/L		03/20/24 14:00	03/21/24 17:42	1
Cadmium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:42	1
Calcium	**74000**		1000	250	ug/L		03/20/24 14:00	03/21/24 17:42	1
Chromium	ND		5.0	1.2	ug/L		03/20/24 14:00	03/21/24 17:42	1
Cobalt	**1.8**		1.0	0.19	ug/L		03/20/24 14:00	03/21/24 17:42	1
Lead	ND		1.0	0.45	ug/L		03/20/24 14:00	03/21/24 17:42	1
Lithium	**6.5**	**J**	8.0	1.7	ug/L		03/20/24 14:00	03/25/24 12:32	1
Magnesium	**21000**		1000	61	ug/L		03/20/24 14:00	03/21/24 17:42	1
Molybdenum	ND		5.0	1.1	ug/L		03/20/24 14:00	03/21/24 17:42	1
Potassium	**1400**		1000	220	ug/L		03/20/24 14:00	03/21/24 17:42	1
Selenium	ND		5.0	0.89	ug/L		03/20/24 14:00	03/21/24 17:42	1
Sodium	**22000**		1000	330	ug/L		03/20/24 14:00	03/21/24 17:42	1
Thallium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:42	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/20/24 14:00	03/21/24 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**77**		5.0	2.6	mg/L			04/01/24 10:15	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**77**		5.0	2.6	mg/L			04/01/24 10:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:15	1
Chloride (EPA 300.0)	**33**		1.0	0.13	mg/L			04/06/24 23:55	1
Fluoride (EPA 300.0)	**0.057**		0.050	0.024	mg/L			04/06/24 23:55	1
Sulfate (EPA 300.0)	**220**		10	3.5	mg/L			04/08/24 18:56	10
Total Dissolved Solids (SM 2540C)	**480**		10	7.8	mg/L			03/25/24 11:36	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0201	U	0.106	0.106	1.00	0.220	pCi/L	03/25/24 09:49	04/18/24 09:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.5*		*30 - 110*	*03/25/24 09:49*	*04/18/24 09:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.615**		0.381	0.385	1.00	0.563	pCi/L	03/25/24 09:54	04/15/24 11:49	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Client Sample ID: BAC-14-F-20240318-01
Date Collected: 03/18/24 12:15
Date Received: 03/20/24 08:00

Lab Sample ID: 240-201414-1
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110	03/25/24 09:54	04/15/24 11:49	1
Y Carrier	85.2		30 - 110	03/25/24 09:54	04/15/24 11:49	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.595		0.395	0.399	5.00	0.563	pCi/L		04/19/24 09:56	1

Client Sample ID: BAC-12-F-20240318-01
Date Collected: 03/18/24 13:28
Date Received: 03/20/24 08:00

Lab Sample ID: 240-201414-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2100		100	57	ug/L		03/20/24 14:00	03/23/24 03:53	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/20/24 14:00	03/21/24 17:45	1
Arsenic	3.0	J	5.0	0.75	ug/L		03/20/24 14:00	03/21/24 17:45	1
Barium	73		5.0	2.2	ug/L		03/20/24 14:00	03/21/24 17:45	1
Beryllium	ND		1.0	0.62	ug/L		03/20/24 14:00	03/21/24 17:45	1
Cadmium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:45	1
Calcium	76000		1000	250	ug/L		03/20/24 14:00	03/21/24 17:45	1
Chromium	ND		5.0	1.2	ug/L		03/20/24 14:00	03/21/24 17:45	1
Cobalt	5.3		1.0	0.19	ug/L		03/20/24 14:00	03/21/24 17:45	1
Lead	2.6		1.0	0.45	ug/L		03/20/24 14:00	03/21/24 17:45	1
Lithium	7.6	J	8.0	1.7	ug/L		03/20/24 14:00	03/25/24 12:35	1
Magnesium	17000		1000	61	ug/L		03/20/24 14:00	03/21/24 17:45	1
Molybdenum	ND		5.0	1.1	ug/L		03/20/24 14:00	03/21/24 17:45	1
Potassium	2200		1000	220	ug/L		03/20/24 14:00	03/21/24 17:45	1
Selenium	ND		5.0	0.89	ug/L		03/20/24 14:00	03/21/24 17:45	1
Sodium	27000		1000	330	ug/L		03/20/24 14:00	03/21/24 17:45	1
Thallium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/20/24 14:00	03/21/24 14:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	100		5.0	2.6	mg/L			04/01/24 10:20	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	100		5.0	2.6	mg/L			04/01/24 10:20	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:20	1
Chloride (EPA 300.0)	54		1.0	0.13	mg/L			04/07/24 07:10	1
Fluoride (EPA 300.0)	0.066		0.050	0.024	mg/L			04/07/24 07:10	1
Sulfate (EPA 300.0)	190		1.0	0.35	mg/L			04/07/24 07:10	1
Total Dissolved Solids (SM 2540C)	460		10	7.8	mg/L			03/25/24 09:38	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.315		0.219	0.221	1.00	0.294	pCi/L	03/25/24 09:49	04/18/24 09:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.3*		*30 - 110*	*03/25/24 09:49*	*04/18/24 09:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.28	G	0.802	0.811	1.00	1.18	pCi/L	03/25/24 09:54	04/15/24 11:49	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Client Sample ID: BAC-12-F-20240318-01
Date Collected: 03/18/24 13:28
Date Received: 03/20/24 08:00

Lab Sample ID: 240-201414-2
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		30 - 110	03/25/24 09:54	04/15/24 11:49	1
Y Carrier	80.0		30 - 110	03/25/24 09:54	04/15/24 11:49	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.60		0.831	0.841	5.00	1.18	pCi/L		04/19/24 09:56	1

Client Sample ID: BAC-10-F-20240318-01

Date Collected: 03/18/24 14:30
Date Received: 03/20/24 08:00

Lab Sample ID: 240-201414-3

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	900		100	57	ug/L		03/20/24 14:00	03/23/24 03:58	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/20/24 14:00	03/21/24 17:52	1
Arsenic	2.1	J	5.0	0.75	ug/L		03/20/24 14:00	03/21/24 17:52	1
Barium	60		5.0	2.2	ug/L		03/20/24 14:00	03/21/24 17:52	1
Beryllium	ND		1.0	0.62	ug/L		03/20/24 14:00	03/21/24 17:52	1
Cadmium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:52	1
Calcium	130000		1000	250	ug/L		03/20/24 14:00	03/21/24 17:52	1
Chromium	2.4	J	5.0	1.2	ug/L		03/20/24 14:00	03/21/24 17:52	1
Cobalt	2.2		1.0	0.19	ug/L		03/20/24 14:00	03/21/24 17:52	1
Lead	1.7		1.0	0.45	ug/L		03/20/24 14:00	03/21/24 17:52	1
Lithium	5.6	J	8.0	1.7	ug/L		03/20/24 14:00	03/25/24 12:38	1
Magnesium	33000		1000	61	ug/L		03/20/24 14:00	03/21/24 17:52	1
Molybdenum	ND		5.0	1.1	ug/L		03/20/24 14:00	03/21/24 17:52	1
Potassium	2500		1000	220	ug/L		03/20/24 14:00	03/21/24 17:52	1
Selenium	ND		5.0	0.89	ug/L		03/20/24 14:00	03/21/24 17:52	1
Sodium	68000		1000	330	ug/L		03/20/24 14:00	03/21/24 17:52	1
Thallium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:52	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/20/24 14:00	03/21/24 14:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	260		5.0	2.6	mg/L			04/01/24 10:51	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	260		5.0	2.6	mg/L			04/01/24 10:51	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:51	1
Chloride (EPA 300.0)	64		1.0	0.13	mg/L			04/10/24 06:44	1
Fluoride (EPA 300.0)	0.13		0.050	0.024	mg/L			04/10/24 06:44	1
Sulfate (EPA 300.0)	340		5.0	1.7	mg/L			04/10/24 07:05	5
Total Dissolved Solids (SM 2540C)	820		10	7.8	mg/L			03/25/24 09:38	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0274	U	0.121	0.121	1.00	0.236	pCi/L	03/25/24 09:49	04/18/24 09:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.8*		*30 - 110*	*03/25/24 09:49*	*04/18/24 09:26*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.875		0.551	0.557	1.00	0.799	pCi/L	03/25/24 09:54	04/15/24 11:49	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Client Sample ID: BAC-10-F-20240318-01
Date Collected: 03/18/24 14:30
Date Received: 03/20/24 08:00

Lab Sample ID: 240-201414-3
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110	03/25/24 09:54	04/15/24 11:49	1
Y Carrier	75.9		30 - 110	03/25/24 09:54	04/15/24 11:49	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.903		0.564	0.570	5.00	0.799	pCi/L		04/19/24 09:56	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-201414-1	BAC-14-F-20240318-01	90.5
240-201414-2	BAC-12-F-20240318-01	86.3
240-201414-3	BAC-10-F-20240318-01	84.8
LCS 160-653869/2-A	Lab Control Sample	92.3
MB 160-653869/1-A	Method Blank	93.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-201414-1	BAC-14-F-20240318-01	90.5	85.2
240-201414-2	BAC-12-F-20240318-01	86.3	80.0
240-201414-3	BAC-10-F-20240318-01	84.8	75.9
LCS 160-653870/2-A	Lab Control Sample	92.3	81.5
MB 160-653870/1-A	Method Blank	93.8	81.5

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-606785/1-A
Matrix: Water
Analysis Batch: 607207

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/20/24 14:00	03/23/24 02:31	1

Lab Sample ID: LCS 240-606785/2-A
Matrix: Water
Analysis Batch: 607207

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	932		ug/L		93	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-606785/1-A
Matrix: Water
Analysis Batch: 607070

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/20/24 14:00	03/21/24 17:03	1
Arsenic	ND		5.0	0.75	ug/L		03/20/24 14:00	03/21/24 17:03	1
Barium	ND		5.0	2.2	ug/L		03/20/24 14:00	03/21/24 17:03	1
Beryllium	ND		1.0	0.62	ug/L		03/20/24 14:00	03/21/24 17:03	1
Cadmium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:03	1
Calcium	ND		1000	250	ug/L		03/20/24 14:00	03/21/24 17:03	1
Chromium	ND		5.0	1.2	ug/L		03/20/24 14:00	03/21/24 17:03	1
Cobalt	ND		1.0	0.19	ug/L		03/20/24 14:00	03/21/24 17:03	1
Lead	ND		1.0	0.45	ug/L		03/20/24 14:00	03/21/24 17:03	1
Magnesium	ND		1000	61	ug/L		03/20/24 14:00	03/21/24 17:03	1
Molybdenum	ND		5.0	1.1	ug/L		03/20/24 14:00	03/21/24 17:03	1
Potassium	ND		1000	220	ug/L		03/20/24 14:00	03/21/24 17:03	1
Selenium	ND		5.0	0.89	ug/L		03/20/24 14:00	03/21/24 17:03	1
Sodium	ND		1000	330	ug/L		03/20/24 14:00	03/21/24 17:03	1
Thallium	ND		1.0	0.20	ug/L		03/20/24 14:00	03/21/24 17:03	1

Lab Sample ID: MB 240-606785/1-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		8.0	1.7	ug/L		03/20/24 14:00	03/25/24 11:49	1

Lab Sample ID: LCS 240-606785/3-A
Matrix: Water
Analysis Batch: 607070

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	93.4		ug/L		93	80 - 120
Arsenic	1000	914		ug/L		91	80 - 120
Barium	1000	935		ug/L		93	80 - 120
Beryllium	500	451		ug/L		90	80 - 120
Cadmium	500	486		ug/L		97	80 - 120
Calcium	25000	23500		ug/L		94	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-606785/3-A
Matrix: Water
Analysis Batch: 607070

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	500	458		ug/L		92	80 - 120
Cobalt	500	469		ug/L		94	80 - 120
Lead	500	488		ug/L		98	80 - 120
Magnesium	25000	23900		ug/L		95	80 - 120
Molybdenum	500	461		ug/L		92	80 - 120
Potassium	25000	23700		ug/L		95	80 - 120
Selenium	1000	900		ug/L		90	80 - 120
Sodium	25000	24100		ug/L		96	80 - 120
Thallium	1000	983		ug/L		98	80 - 120

Lab Sample ID: LCS 240-606785/3-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 606785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	500	531		ug/L		106	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-606786/1-A
Matrix: Water
Analysis Batch: 606959

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 606786

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/20/24 14:00	03/21/24 14:17	1

Lab Sample ID: LCS 240-606786/2-A
Matrix: Water
Analysis Batch: 606959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 606786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.97		ug/L		99	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-608090/4
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1

Lab Sample ID: LCS 240-608090/3
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	84.4		mg/L		105	86 - 123

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-608479/3
Matrix: Water
Analysis Batch: 608479

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/06/24 22:07	1
Fluoride	ND		0.050	0.024	mg/L			04/06/24 22:07	1
Sulfate	ND		1.0	0.35	mg/L			04/06/24 22:07	1

Lab Sample ID: LCS 240-608479/4
Matrix: Water
Analysis Batch: 608479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	51.1		mg/L		102	90 - 110		
Fluoride			2.50	2.71		mg/L		108	90 - 110		
Sulfate			50.0	52.2		mg/L		104	90 - 110		

Lab Sample ID: 240-201414-2 MS
Matrix: Water
Analysis Batch: 608479

Client Sample ID: BAC-12-F-20240318-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	54		50.0	104		mg/L		100	80 - 120		
Fluoride	0.066		2.50	2.73		mg/L		107	80 - 120		

Lab Sample ID: 240-201414-2 MSD
Matrix: Water
Analysis Batch: 608479

Client Sample ID: BAC-12-F-20240318-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	54		50.0	104		mg/L		100	80 - 120	0	15
Fluoride	0.066		2.50	2.75		mg/L		107	80 - 120	1	15

Lab Sample ID: MB 240-608823/3
Matrix: Water
Analysis Batch: 608823

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/08/24 14:35	1
Fluoride	ND		0.050	0.024	mg/L			04/08/24 14:35	1
Sulfate	ND		1.0	0.35	mg/L			04/08/24 14:35	1

Lab Sample ID: LCS 240-608823/4
Matrix: Water
Analysis Batch: 608823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	48.6		mg/L		97	90 - 110		
Fluoride			2.50	2.53		mg/L		101	90 - 110		
Sulfate			50.0	49.8		mg/L		100	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-201414-1 MS
Matrix: Water
Analysis Batch: 608823

Client Sample ID: BAC-14-F-20240318-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	31		500	535		mg/L		101	80 - 120
Fluoride	ND		25.0	26.3		mg/L		105	80 - 120
Sulfate	220		500	729		mg/L		102	80 - 120

Lab Sample ID: 240-201414-1 MSD
Matrix: Water
Analysis Batch: 608823

Client Sample ID: BAC-14-F-20240318-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	31		500	540		mg/L		102	80 - 120	1	15
Fluoride	ND		25.0	26.6		mg/L		106	80 - 120	1	15
Sulfate	220		500	733		mg/L		102	80 - 120	1	15

Lab Sample ID: MB 240-608850/3
Matrix: Water
Analysis Batch: 608850

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/10/24 06:00	1
Fluoride	ND		0.050	0.024	mg/L			04/10/24 06:00	1
Sulfate	ND		1.0	0.35	mg/L			04/10/24 06:00	1

Lab Sample ID: LCS 240-608850/4
Matrix: Water
Analysis Batch: 608850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.7		mg/L		97	90 - 110
Fluoride	2.50	2.56		mg/L		102	90 - 110
Sulfate	50.0	49.9		mg/L		100	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-607287/1
Matrix: Water
Analysis Batch: 607287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/25/24 09:38	1

Lab Sample ID: LCS 240-607287/2
Matrix: Water
Analysis Batch: 607287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	505	481		mg/L		95	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 240-607338/1
Matrix: Water
Analysis Batch: 607338

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/25/24 11:36	1

Lab Sample ID: LCS 240-607338/2
Matrix: Water
Analysis Batch: 607338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	505	483		mg/L		96	80 - 120

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-653869/1-A
Matrix: Water
Analysis Batch: 657226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653869

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.05918	U	0.0867	0.0869	1.00	0.225	pCi/L	03/25/24 09:49	04/16/24 09:55	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*30 - 110*	*03/25/24 09:49*	*04/16/24 09:55*	*1*

Lab Sample ID: LCS 160-653869/2-A
Matrix: Water
Analysis Batch: 657226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653869

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.127		1.17	1.00	0.281	pCi/L	81	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.3*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-653870/1-A
Matrix: Water
Analysis Batch: 656849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653870

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.04036	U	0.335	0.335	1.00	0.642	pCi/L	03/25/24 09:54	04/15/24 13:23	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*30 - 110*	*03/25/24 09:54*	*04/15/24 13:23*	*1*
Y Carrier	*81.5*		*30 - 110*	*03/25/24 09:54*	*04/15/24 13:23*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-653870/2-A
Matrix: Water
Analysis Batch: 657002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653870

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.03	12.32		1.58	1.00	0.560	pCi/L	136	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.3*		*30 - 110*
Y Carrier	*81.5*		*30 - 110*

Metals

Prep Batch: 606785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total Recoverable	Water	3005A	
240-201414-2	BAC-12-F-20240318-01	Total Recoverable	Water	3005A	
240-201414-3	BAC-10-F-20240318-01	Total Recoverable	Water	3005A	
MB 240-606785/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-606785/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-606785/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 606786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	7470A	
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	7470A	
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	7470A	
MB 240-606786/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-606786/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 606959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	7470A	606786
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	7470A	606786
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	7470A	606786
MB 240-606786/1-A	Method Blank	Total/NA	Water	7470A	606786
LCS 240-606786/2-A	Lab Control Sample	Total/NA	Water	7470A	606786

Analysis Batch: 607070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total Recoverable	Water	6020B	606785
240-201414-2	BAC-12-F-20240318-01	Total Recoverable	Water	6020B	606785
240-201414-3	BAC-10-F-20240318-01	Total Recoverable	Water	6020B	606785
MB 240-606785/1-A	Method Blank	Total Recoverable	Water	6020B	606785
LCS 240-606785/3-A	Lab Control Sample	Total Recoverable	Water	6020B	606785

Analysis Batch: 607207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total Recoverable	Water	6010D	606785
240-201414-2	BAC-12-F-20240318-01	Total Recoverable	Water	6010D	606785
240-201414-3	BAC-10-F-20240318-01	Total Recoverable	Water	6010D	606785
MB 240-606785/1-A	Method Blank	Total Recoverable	Water	6010D	606785
LCS 240-606785/2-A	Lab Control Sample	Total Recoverable	Water	6010D	606785

Analysis Batch: 607394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total Recoverable	Water	6020B	606785
240-201414-2	BAC-12-F-20240318-01	Total Recoverable	Water	6020B	606785
240-201414-3	BAC-10-F-20240318-01	Total Recoverable	Water	6020B	606785
MB 240-606785/1-A	Method Blank	Total Recoverable	Water	6020B	606785
LCS 240-606785/3-A	Lab Control Sample	Total Recoverable	Water	6020B	606785

General Chemistry

Analysis Batch: 607287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	SM 2540C	
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	SM 2540C	
MB 240-607287/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607287/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 607338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	SM 2540C	
MB 240-607338/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607338/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 608090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	2320B-1997	
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	2320B-1997	
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	2320B-1997	
MB 240-608090/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608090/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 608479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	300.0	
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	300.0	
MB 240-608479/3	Method Blank	Total/NA	Water	300.0	
LCS 240-608479/4	Lab Control Sample	Total/NA	Water	300.0	
240-201414-2 MS	BAC-12-F-20240318-01	Total/NA	Water	300.0	
240-201414-2 MSD	BAC-12-F-20240318-01	Total/NA	Water	300.0	

Analysis Batch: 608823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	300.0	
MB 240-608823/3	Method Blank	Total/NA	Water	300.0	
LCS 240-608823/4	Lab Control Sample	Total/NA	Water	300.0	
240-201414-1 MS	BAC-14-F-20240318-01	Total/NA	Water	300.0	
240-201414-1 MSD	BAC-14-F-20240318-01	Total/NA	Water	300.0	

Analysis Batch: 608850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	300.0	
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	300.0	
MB 240-608850/3	Method Blank	Total/NA	Water	300.0	
LCS 240-608850/4	Lab Control Sample	Total/NA	Water	300.0	

Rad

Prep Batch: 653869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	PrecSep-21	
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	PrecSep-21	
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	PrecSep-21	
MB 160-653869/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Rad (Continued)

Prep Batch: 653869 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-653869/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 653870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201414-1	BAC-14-F-20240318-01	Total/NA	Water	PrecSep_0	
240-201414-2	BAC-12-F-20240318-01	Total/NA	Water	PrecSep_0	
240-201414-3	BAC-10-F-20240318-01	Total/NA	Water	PrecSep_0	
MB 160-653870/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-653870/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201414-1

Client Sample ID: BAC-14-F-20240318-01

Lab Sample ID: 240-201414-1

Date Collected: 03/18/24 12:15
Date Received: 03/20/24 08:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6010D		1	607207	RKT	EET CLE	03/23/24 03:49
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6020B		1	607070	AJC	EET CLE	03/21/24 17:42
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 12:32
Total/NA	Prep	7470A			606786	BN	EET CLE	03/20/24 14:00
Total/NA	Analysis	7470A		1	606959	TQ6W	EET CLE	03/21/24 14:46
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:15
Total/NA	Analysis	300.0		1	608479	JWW	EET CLE	04/06/24 23:55
Total/NA	Analysis	300.0		10	608823	JWW	EET CLE	04/08/24 18:56
Total/NA	Analysis	SM 2540C		1	607338	C5SV	EET CLE	03/25/24 11:36
Total/NA	Prep	PrecSep-21			653869	KAK	EET SL	03/25/24 09:49
Total/NA	Analysis	9315		1	657621	SWS	EET SL	04/18/24 09:25
Total/NA	Prep	PrecSep_0			653870	KAK	EET SL	03/25/24 09:54
Total/NA	Analysis	9320		1	657005	SWS	EET SL	04/15/24 11:49
Total/NA	Analysis	Ra226_Ra228		1	657675	FLC	EET SL	04/19/24 09:56

Client Sample ID: BAC-12-F-20240318-01

Lab Sample ID: 240-201414-2

Date Collected: 03/18/24 13:28
Date Received: 03/20/24 08:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6010D		1	607207	RKT	EET CLE	03/23/24 03:53
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6020B		1	607070	AJC	EET CLE	03/21/24 17:45
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 12:35
Total/NA	Prep	7470A			606786	BN	EET CLE	03/20/24 14:00
Total/NA	Analysis	7470A		1	606959	TQ6W	EET CLE	03/21/24 14:48
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:20
Total/NA	Analysis	300.0		1	608479	JWW	EET CLE	04/07/24 07:10
Total/NA	Analysis	SM 2540C		1	607287	C5SV	EET CLE	03/25/24 09:38
Total/NA	Prep	PrecSep-21			653869	KAK	EET SL	03/25/24 09:49
Total/NA	Analysis	9315		1	657621	SWS	EET SL	04/18/24 09:25
Total/NA	Prep	PrecSep_0			653870	KAK	EET SL	03/25/24 09:54
Total/NA	Analysis	9320		1	657005	SWS	EET SL	04/15/24 11:49
Total/NA	Analysis	Ra226_Ra228		1	657675	FLC	EET SL	04/19/24 09:56

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201414-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-10-F-20240318-01
Lab Sample ID: 240-201414-3

Date Collected: 03/18/24 14:30
Matrix: Water
Date Received: 03/20/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6010D		1	607207	RKT	EET CLE	03/23/24 03:58
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6020B		1	607070	AJC	EET CLE	03/21/24 17:52
Total Recoverable	Prep	3005A			606785	BN	EET CLE	03/20/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 12:38
Total/NA	Prep	7470A			606786	BN	EET CLE	03/20/24 14:00
Total/NA	Analysis	7470A		1	606959	TQ6W	EET CLE	03/21/24 14:50
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:51
Total/NA	Analysis	300.0		1	608850	JWW	EET CLE	04/10/24 06:44
Total/NA	Analysis	300.0		5	608850	JWW	EET CLE	04/10/24 07:05
Total/NA	Analysis	SM 2540C		1	607287	C5SV	EET CLE	03/25/24 09:38
Total/NA	Prep	PrecSep-21			653869	KAK	EET SL	03/25/24 09:49
Total/NA	Analysis	9315		1	657621	SWS	EET SL	04/18/24 09:26
Total/NA	Prep	PrecSep_0			653870	KAK	EET SL	03/25/24 09:54
Total/NA	Analysis	9320		1	657005	SWS	EET SL	04/15/24 11:49
Total/NA	Analysis	Ra226_Ra228		1	657675	FLC	EET SL	04/19/24 09:56

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201414-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201414-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbus
209

eurofins
Environment Testing

Client Information	Sampler: Bobby Castle	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-14-F-20240318-01	3-18-24	1215	G	Water			1	1	2	1	1		
BAC-12-F-20240318-01	3-18-24	1328	G	Water			1	1	2	1	1		
BAC-10-F-20240318-01	3-18-24	1430	G	Water			1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

BC

240-201414 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
1	Bobby Castle	3-19-24/0845	EEA	Ashley Deal	3.19.24 12:45	EEA
2	Ashley Deal	3/19/24 1700	EEA		3-20-24 800	ETC
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login # _____

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(1) EC Client Box Other	IR GUN #: 22	3.4	3.4	(Wet Ice) Blue Ice Dry Ice Water None
(2) EC Client Box Other	IR GUN #: 22	2.2	2.2	(Wet Ice) Blue Ice Dry Ice Water None
(3) EC Client Box Other	IR GUN #: 22	3.8	3.8	(Wet Ice) Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

Eurofins - Cleveland Sample Receipt Form/Narrative Login #: 201414
Barberton Facility

Client Lightstone Site Name

Cooler unpacked by: Tracy Ryder

Cooler Received on 3-20-24 Opened on 3-20-24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☒ See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC316719
14 Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
17 Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19 SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container
Sample(s) were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory
Time preserved. Preservative(s) added/Lot number(s)

VOA Sample Preservation Date/Time VOAs Frozen.

3/20/2024

Login Container Summary Report

240-201414

4/19/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-14-F-20240318-01	240-201414-A-1	Plastic 60 mL - unpreserved				
BAC-14-F-20240318-01	240-201414-B 1	Plastic 60 mL - unpreserved				
BAC-14-F-20240318-01	240-201414-C-1	Plastic 500ml - unpreserved				
BAC-14-F-20240318-01	240-201414-D-1	Plastic 500ml - with Nitric Acid				
BAC-14-F-20240318-01	240-201414-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-14-F-20240318-01	240-201414-F-1	Plastic 1 liter - Nitric Acid	<2			
BAC-12-F-20240318-01	240-201414-A-2	Plastic 60 mL - unpreserved				
BAC-12-F-20240318-01	240-201414-B-2	Plastic 60 mL - unpreserved				
BAC-12-F-20240318-01	240-201414-C-2	Plastic 500ml - unpreserved				
BAC-12-F-20240318-01	240-201414-D-2	Plastic 500ml - with Nitric Acid				
BAC-12-F-20240318-01	240-201414-E-2	Plastic 1 liter - Nitric Acid	<2			
BAC-12-F-20240318-01	240-201414-F-2	Plastic 1 liter - Nitric Acid	<2			
BAC-10-F-20240318-01	240-201414-A-3	Plastic 60 mL - unpreserved				
BAC-10 F-20240318-01	240-201414-B-3	Plastic 60 mL - unpreserved				
BAC-10-F-20240318-01	240-201414-C-3	Plastic 500ml - unpreserved				
BAC-10-F-20240318-01	240-201414-D-3	Plastic 500ml - with Nitric Acid				
BAC-10-F-20240318-01	240-201414-E-3	Plastic 1 liter - Nitric Acid	<2			
BAC-10-F-20240318-01	240-201414 F-3	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbus
209

eurofins
Environment Testing

Client Information	Sampler: Bobby Casto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-14-F-20240318-01	3-18-24	1215	G	Water			1	1	2	1	1		
BAC-12-F-20240318-01	3-18-24	1328	G	Water			1	1	2	1	1		
BAC-10-F-20240318-01	3-18-24	1430	G	Water			1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-201414 Chain of Custody

BC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by: Bobby Casto	3-19-24/0845	Gavin	Received by: Ashley Deal	3-19-24 12:45	ETA
Relinquished by: Ashley Deal	3-19-24 1700	ETA	Received by: [signature]	3-20-24 800	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative — Login #: 201414
Barberton Facility

Client Lightstone — Site Name ____ — Cooler unpacked by: Tammy Ryder

Cooler Received on 3-20-24 — Opened on 3-20-24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other ____

Receipt After-hours: Drop-off Date/Time ____ Storage Location ____

Eurofins Cooler # EC — Foam Box Client Cooler Box Other ____

Packing material used: Bubble Wrap Foam Plastic Bag None Other ____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt — ☒ See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp ____ °C Corrected Cooler Temp ____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4 Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12 Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13 17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC316719
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? ____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by:

19 SAMPLE CONDITION

Sample(s) ____ were received after the recommended holding time had expired

Sample(s) ____ were received in a broken container

Sample(s) ____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory

Time preserved. ____ Preservative(s) added/Lot number(s) ____

VOA Sample Preservation - Date/Time VOAs Frozen. ____

Login # : _____

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC) Client Box Other	IR GUN #: 22	3.4	3.4	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #: 20	2.2	2.2	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #: 22	3.8	3.8	(Wet Ice) Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice

3/20/2024

Login Container Summary Report

240-201414

4/19/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-14-F-20240318-01	240-201414-A-1	Plastic 60 mL - unpreserved				
BAC-14-F-20240318-01	240-201414-B-1	Plastic 60 mL - unpreserved				
BAC-14-F 20240318-01	240-201414-C-1	Plastic 500ml - unpreserved				
BAC-14 F 20240318-01	240 201414 D-1	Plastic 500ml - with Nitric Acid				
BAC-14-F-20240318-01	240-201414-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-14 F-20240318-01	240 201414 F-1	Plastic 1 liter - Nitric Acid	<2			
BAC-12-F-20240318-01	240-201414-A-2	Plastic 60 mL - unpreserved				
BAC-12-F-20240318-01	240-201414-B-2	Plastic 60 mL - unpreserved				
BAC-12-F-20240318-01	240 201414-C-2	Plastic 500ml - unpreserved				
BAC-12-F-20240318-01	240-201414-D-2	Plastic 500ml - with Nitric Acid				
BAC-12-F-20240318-01	240-201414 E-2	Plastic 1 liter - Nitric Acid	<2			
BAC-12-F-20240318-01	240-201414-F-2	Plastic 1 liter - Nitric Acid	<2			
BAC-10-F-20240318-01	240 201414 A-3	Plastic 60 mL - unpreserved				
BAC-10-F-20240318-01	240-201414-B-3	Plastic 60 mL - unpreserved				
BAC-10 F-20240318-01	240-201414-C-3	Plastic 500ml - unpreserved				
BAC-10-F-20240318-01	240-201414-D-3	Plastic 500ml - with Nitric Acid				
BAC-10 F-20240318-01	240 201414 E-3	Plastic 1 liter - Nitric Acid	<2			
BAC-10-F-20240318-01	240-201414-F-3	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-182078.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-201414-1
Address: 13715 Rider Trail North,	Due Date Requested: 4/22/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Federal CCR Wells	Project #: 24019633			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BAC-14-F-20240318-01 (240-201414-1)	3/18/24	12:15 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-12-F-20240318-01 (240-201414-2)	3/18/24	13:28 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-10-F-20240318-01 (240-201414-3)	3/18/24	14:30 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: [signature]	Date/Time: 3.2024 1120	Company: EETNC	Received by: Richard Thornley
Date/Time: MAR 21 2024 0830	Company: ETA STL		
Relinquished by:	Date/Time:	Company	Received by:
Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:
Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201414-1

Login Number: 201414
List Number: 2
Creator: Thornley, Richard W

List Source: Eurofins St. Louis
List Creation: 03/21/24 02:17 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

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JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-201546-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-201546-1 — Eurofins Cleveland

Job Narrative
240-201546-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/22/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.4°C, 1.7°C, 2.0°C, 3.4°C, 4.2°C and 11.8°C.

Metals
Method 6020B - Total Recoverable: The continuing calibration verification (CCV) associated with batch 240-607394 recovered above the upper control limit for Thallium. The samples associated with this CCV were below the reporting limit for the affected analyte; therefore, the data have been reported. The associated samples are impacted: BAC-06-F-20240320-01 (240-201546-1), BAC-11-F-20240320-01 (240-201546-2), BAC-02-F-20240320-01 (240-201546-3) and FIELD BLANK-001-F-20240320-01 (240-201546-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 300.0_28D: The following sample was diluted due to the nature of the sample matrix: BAC-11-F-20240320-01 (240-201546-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9315_Ra226: Radium 226 prep batch 160-653972

The barium carrier recovery is outside the upper control limit (110%) for the following sample: BAC-11-F-20240320-01 (240-201546-2). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

Method 9315_Ra226: Radium-226 prep batch 160-653972:

The following samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. Samples with significant salt-like compounds had a native correction applied. The high concentrations of sat-like compounds can interfere with the barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance.The data have been qualified and reported. BAC-11-F-20240320-01 (240-201546-2)

Method 9320_Ra228: Radium 228 prep batch 160-653973

The barium carrier recovery is outside the upper control limit (110%) for the following sample: BAC-11-F-20240320-01 (240-201546-2). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

Method 9320_Ra228: Radium-228 batch 653973
The detection goal was not met for the following sample due to the reduced sample volume attributed to the presence of matrix interferences: BAC-02-F-20240320-01 (240-201546-3). Analytical results are reported with the detection limit achieved.

Job ID: 240-201546-1 (Continued) Eurofins Cleveland

Method 9320_Ra228: Radium-228 batch 653973
The following sample has a barium carrier recovery above the 110% QC limit. Affected samples had a barium correction applied, however, there is significant concentrations of salt-like compounds (i.e. calcium, magnesium, sodium, and strontium) that can interfere with a barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. BAC-11-F-20240320-01 (240-201546-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-201546-1	BAC-06-F-20240320-01	Water	03/20/24 13:05	03/22/24 08:00
240-201546-2	BAC-11-F-20240320-01	Water	03/20/24 14:00	03/22/24 08:00
240-201546-3	BAC-02-F-20240320-01	Water	03/20/24 14:55	03/22/24 08:00
240-201546-4	FIELD BLANK-001-F-20240320-01	Water	03/20/24 15:15	03/22/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Client Sample ID: BAC-06-F-20240320-01 — Lab Sample ID: 240-201546-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1600		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	0.78	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	99		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	110000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	3.3		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	7.0	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	24000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1300		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	16000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	200		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	200		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.072		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	220		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	540		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-11-F-20240320-01 — Lab Sample ID: 240-201546-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	400		100	57	ug/L	1		6010D	Total Recoverable
Barium	150000		250	110	ug/L	50		6020B	Total Recoverable
Calcium	2500000		50000	13000	ug/L	50		6020B	Total Recoverable
Chromium	1.6	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	0.82	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	340		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	740000		50000	3100	ug/L	50		6020B	Total Recoverable
Molybdenum	2.0	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	23000		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	0.98	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	10000000		50000	16000	ug/L	50		6020B	Total Recoverable
Total Alkalinity	28		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	28		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	25000		250	32	mg/L	250		300.0	Total/NA
Total Dissolved Solids	35000		1000	780	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Client Sample ID: BAC-02-F-20240320-01

Lab Sample ID: 240-201546-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1500		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	4.9	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	110		5.0	2.2	ug/L	1		6020B	Total Recoverable
Cadmium	0.34	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	140000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	6.0		5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	3.7		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	4.9		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	5.8	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	40000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	3500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	74000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	290		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	290		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	77		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.18		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	380		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	900		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FIELD BLANK-001-F-20240320-01

Lab Sample ID: 240-201546-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	12		5.0	2.2	ug/L	1		6020B	Total Recoverable
Magnesium	69	J	1000	61	ug/L	1		6020B	Total Recoverable
Total Alkalinity	3.0	J	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	3.0	J	5.0	2.6	mg/L	1		2320B-1997	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-06-F-20240320-01
Date Collected: 03/20/24 13:05
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1600		100	57	ug/L		03/22/24 14:00	03/26/24 20:42	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 16:54	1
Arsenic	0.78	J	5.0	0.75	ug/L		03/22/24 14:00	03/25/24 16:54	1
Barium	99		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 16:54	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 16:54	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:54	1
Calcium	110000		1000	250	ug/L		03/22/24 14:00	03/25/24 16:54	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 16:54	1
Cobalt	3.3		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 16:54	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 16:54	1
Lithium	7.0	J	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 16:54	1
Magnesium	24000		1000	61	ug/L		03/22/24 14:00	03/25/24 16:54	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 16:54	1
Potassium	1300		1000	220	ug/L		03/22/24 14:00	03/25/24 16:54	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 16:54	1
Sodium	16000		1000	330	ug/L		03/22/24 14:00	03/25/24 16:54	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	200		5.0	2.6	mg/L			04/01/24 11:16	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	200		5.0	2.6	mg/L			04/01/24 11:16	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:16	1
Chloride (EPA 300.0)	26		1.0	0.13	mg/L			04/10/24 07:27	1
Fluoride (EPA 300.0)	0.072		0.050	0.024	mg/L			04/10/24 07:27	1
Sulfate (EPA 300.0)	220		5.0	1.7	mg/L			04/12/24 06:25	5
Total Dissolved Solids (SM 2540C)	540		10	7.8	mg/L			03/27/24 11:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.280		0.142	0.144	1.00	0.164	pCi/L	03/26/24 08:55	04/21/24 11:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*30 - 110*	*03/26/24 08:55*	*04/21/24 11:09*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.738		0.422	0.427	1.00	0.605	pCi/L	03/26/24 09:02	04/19/24 12:38	1

Client Sample ID: BAC-06-F-20240320-01
Date Collected: 03/20/24 13:05
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*
Y Carrier	*74.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.02**		0.445	0.451	5.00	0.605	pCi/L		04/22/24 13:26	1

Client Sample ID: BAC-11-F-20240320-01
Date Collected: 03/20/24 14:00
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**400**		100	57	ug/L		03/22/24 14:00	03/26/24 20:46	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 16:56	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 16:56	1
Barium	**150000**		250	110	ug/L		03/22/24 14:00	03/26/24 17:20	50
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 16:56	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:56	1
Calcium	**2500000**		50000	13000	ug/L		03/22/24 14:00	03/26/24 17:20	50
Chromium	**1.6**	**J**	5.0	1.2	ug/L		03/22/24 14:00	03/25/24 16:56	1
Cobalt	**0.82**	**J**	1.0	0.19	ug/L		03/22/24 14:00	03/25/24 16:56	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 16:56	1
Lithium	**340**		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 16:56	1
Magnesium	**740000**		50000	3100	ug/L		03/22/24 14:00	03/26/24 17:20	50
Molybdenum	**2.0**	**J**	5.0	1.1	ug/L		03/22/24 14:00	03/25/24 16:56	1
Potassium	**23000**		1000	220	ug/L		03/22/24 14:00	03/25/24 16:56	1
Selenium	**0.98**	**J**	5.0	0.89	ug/L		03/22/24 14:00	03/25/24 16:56	1
Sodium	**10000000**		50000	16000	ug/L		03/22/24 14:00	03/26/24 17:20	50
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**28**		5.0	2.6	mg/L			04/01/24 11:22	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**28**		5.0	2.6	mg/L			04/01/24 11:22	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:22	1
Chloride (EPA 300.0)	**25000**		250	32	mg/L			04/10/24 08:54	250
Fluoride (EPA 300.0)	ND		1.3	0.60	mg/L			04/10/24 08:32	25
Sulfate (EPA 300.0)	ND		25	8.7	mg/L			04/10/24 08:32	25
Total Dissolved Solids (SM 2540C)	**35000**		1000	780	mg/L			03/27/24 09:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**22.8**		0.982	2.28	1.00	0.162	pCi/L	03/26/24 08:55	04/21/24 12:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*219*	*X*	*30 - 110*	*03/26/24 08:55*	*04/21/24 12:57*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**192**		5.27	18.5	1.00	0.913	pCi/L	03/26/24 09:02	04/19/24 12:38	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Client Sample ID: BAC-11-F-20240320-01
Date Collected: 03/20/24 14:00
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-2
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	219	X	30 - 110	03/26/24 09:02	04/19/24 12:38	1
Y Carrier	68.0		30 - 110	03/26/24 09:02	04/19/24 12:38	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	215		5.36	18.6	5.00	0.913	pCi/L		04/22/24 13:26	1

Client Sample ID: BAC-02-F-20240320-01
Date Collected: 03/20/24 14:55
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-3
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1500		100	57	ug/L		03/22/24 14:00	03/26/24 20:51	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 16:59	1
Arsenic	4.9	J	5.0	0.75	ug/L		03/22/24 14:00	03/25/24 16:59	1
Barium	110		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 16:59	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 16:59	1
Cadmium	0.34	J	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:59	1
Calcium	140000		1000	250	ug/L		03/22/24 14:00	03/25/24 16:59	1
Chromium	6.0		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 16:59	1
Cobalt	3.7		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 16:59	1
Lead	4.9		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 16:59	1
Lithium	5.8	J	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 16:59	1
Magnesium	40000		1000	61	ug/L		03/22/24 14:00	03/25/24 16:59	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 16:59	1
Potassium	3500		1000	220	ug/L		03/22/24 14:00	03/25/24 16:59	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 16:59	1
Sodium	74000		1000	330	ug/L		03/22/24 14:00	03/25/24 16:59	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	290		5.0	2.6	mg/L			04/01/24 11:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	290		5.0	2.6	mg/L			04/01/24 11:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:27	1
Chloride (EPA 300.0)	77		1.0	0.13	mg/L			04/10/24 10:21	1
Fluoride (EPA 300.0)	0.18		0.050	0.024	mg/L			04/10/24 10:21	1
Sulfate (EPA 300.0)	380		5.0	1.7	mg/L			04/10/24 10:43	5
Total Dissolved Solids (SM 2540C)	900		10	7.8	mg/L			03/27/24 11:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0498	U	0.172	0.172	1.00	0.336	pCi/L	03/26/24 08:55	04/21/24 12:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.3*		*30 - 110*	*03/26/24 08:55*	*04/21/24 12:58*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.68	G	0.897	0.910	1.00	1.23	pCi/L	03/26/24 09:02	04/19/24 12:38	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Client Sample ID: BAC-02-F-20240320-01

Date Collected: 03/20/24 14:55
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-3

Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.3*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*
Y Carrier	*68.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.73**		0.913	0.926	5.00	1.23	pCi/L		04/22/24 13:26	1

Client Sample ID: FIELD BLANK-001-F-20240320-01

Lab Sample ID: 240-201546-4

Date Collected: 03/20/24 15:15

Matrix: Water

Date Received: 03/22/24 08:00

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/22/24 14:00	03/26/24 20:55	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:01	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:01	1
Barium	**12**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:01	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:01	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:01	1
Calcium	ND		1000	250	ug/L		03/22/24 14:00	03/25/24 17:01	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:01	1
Cobalt	ND		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:01	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:01	1
Lithium	ND		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:01	1
Magnesium	**69**	**J**	1000	61	ug/L		03/22/24 14:00	03/25/24 17:01	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:01	1
Potassium	ND		1000	220	ug/L		03/22/24 14:00	03/25/24 17:01	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:01	1
Sodium	ND		1000	330	ug/L		03/22/24 14:00	03/26/24 17:28	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:01	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**3.0**	**J**	5.0	2.6	mg/L			04/01/24 11:32	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**3.0**	**J**	5.0	2.6	mg/L			04/01/24 11:32	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:32	1
Chloride (EPA 300.0)	ND		1.0	0.13	mg/L			04/10/24 09:16	1
Fluoride (EPA 300.0)	ND		0.050	0.024	mg/L			04/10/24 09:16	1
Sulfate (EPA 300.0)	ND		1.0	0.35	mg/L			04/10/24 09:16	1
Total Dissolved Solids (SM 2540C)	ND		10	7.8	mg/L			03/27/24 09:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.130	0.130	1.00	0.203	pCi/L	03/26/24 08:55	04/21/24 13:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.5*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:11*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.235	U	0.363	0.364	1.00	0.618	pCi/L	03/26/24 09:02	04/19/24 12:38	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Client Sample ID: FIELD BLANK-001-F-20240320-01
Date Collected: 03/20/24 15:15
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201546-4
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.5*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*
Y Carrier	*68.4*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.366	U	0.386	0.387	5.00	0.618	pCi/L		04/22/24 13:26	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201546-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-201546-1	BAC-06-F-20240320-01	96.0
240-201546-2	BAC-11-F-20240320-01	219 X
240-201546-3	BAC-02-F-20240320-01	89.3
240-201546-4	FIELD BLANK-001-F-20240320-01	99.5
LCS 160-653972/2-A	Lab Control Sample	94.3
MB 160-653972/1-A	Method Blank	94.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-201546-1	BAC-06-F-20240320-01	96.0	74.0
240-201546-2	BAC-11-F-20240320-01	219 X	68.0
240-201546-3	BAC-02-F-20240320-01	89.3	68.0
240-201546-4	FIELD BLANK-001-F-20240320-01	99.5	68.4
LCS 160-653973/2-A	Lab Control Sample	94.3	70.3
MB 160-653973/1-A	Method Blank	94.5	78.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-607145/1-A
Matrix: Water
Analysis Batch: 607444

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/22/24 14:00	03/26/24 19:51	1

Lab Sample ID: LCS 240-607145/2-A
Matrix: Water
Analysis Batch: 607444

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	923		ug/L		92	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-607145/1-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 16:25	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 16:25	1
Barium	ND		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 16:25	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 16:25	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:25	1
Calcium	ND		1000	250	ug/L		03/22/24 14:00	03/25/24 16:25	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 16:25	1
Cobalt	ND		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 16:25	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 16:25	1
Lithium	ND		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 16:25	1
Magnesium	ND		1000	61	ug/L		03/22/24 14:00	03/25/24 16:25	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 16:25	1
Potassium	ND		1000	220	ug/L		03/22/24 14:00	03/25/24 16:25	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 16:25	1
Sodium	ND		1000	330	ug/L		03/22/24 14:00	03/25/24 16:25	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:25	1

Lab Sample ID: LCS 240-607145/3-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	95.7		ug/L		96	80 - 120
Arsenic	1000	958		ug/L		96	80 - 120
Barium	1000	940		ug/L		94	80 - 120
Beryllium	500	456		ug/L		91	80 - 120
Cadmium	500	468		ug/L		94	80 - 120
Calcium	25000	23800		ug/L		95	80 - 120
Chromium	500	479		ug/L		96	80 - 120
Cobalt	500	495		ug/L		99	80 - 120
Lead	500	501		ug/L		100	80 - 120
Lithium	500	524		ug/L		105	80 - 120
Magnesium	25000	24100		ug/L		96	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-607145/3-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	500	475		ug/L		95	80 - 120
Potassium	25000	24000		ug/L		96	80 - 120
Selenium	1000	959		ug/L		96	80 - 120
Sodium	25000	24000		ug/L		96	80 - 120
Thallium	1000	999	^+	ug/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-607147/1-A
Matrix: Water
Analysis Batch: 607413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:24	1

Lab Sample ID: LCS 240-607147/2-A
Matrix: Water
Analysis Batch: 607413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607147

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.82		ug/L		96	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-608090/4
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1

Lab Sample ID: LCS 240-608090/3
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	84.4		mg/L		105	86 - 123

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-608850/3
Matrix: Water
Analysis Batch: 608850

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/10/24 06:00	1
Fluoride	ND		0.050	0.024	mg/L			04/10/24 06:00	1
Sulfate	ND		1.0	0.35	mg/L			04/10/24 06:00	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-608850/4
Matrix: Water
Analysis Batch: 608850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	48.7		mg/L		97	90 - 110		
Fluoride			2.50	2.56		mg/L		102	90 - 110		
Sulfate			50.0	49.9		mg/L		100	90 - 110		

Lab Sample ID: 240-201546-1 MS
Matrix: Water
Analysis Batch: 608850

Client Sample ID: BAC-06-F-20240320-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	26		50.0	79.8		mg/L		108	80 - 120		
Fluoride	0.072		2.50	2.90		mg/L		113	80 - 120		

Lab Sample ID: 240-201546-1 MSD
Matrix: Water
Analysis Batch: 608850

Client Sample ID: BAC-06-F-20240320-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	26		50.0	80.3		mg/L		109	80 - 120	1	15
Fluoride	0.072		2.50	2.93		mg/L		114	80 - 120	1	15

Lab Sample ID: MB 240-609342/3
Matrix: Water
Analysis Batch: 609342

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/12/24 04:39	1
Sulfate	ND		1.0	0.35	mg/L			04/12/24 04:39	1

Lab Sample ID: LCS 240-609342/4
Matrix: Water
Analysis Batch: 609342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	50.2		mg/L		100	90 - 110		
Sulfate			50.0	51.5		mg/L		103	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-607579/1
Matrix: Water
Analysis Batch: 607579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/27/24 09:28	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 240-607579/2
Matrix: Water
Analysis Batch: 607579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			505	486		mg/L		96	80 - 120		

Lab Sample ID: MB 240-607607/1
Matrix: Water
Analysis Batch: 607607

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/27/24 11:00	1

Lab Sample ID: LCS 240-607607/2
Matrix: Water
Analysis Batch: 607607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			505	480		mg/L		95	80 - 120		

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-653972/1-A
Matrix: Water
Analysis Batch: 657953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653972

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04239	U	0.135	0.135	1.00	0.249	pCi/L	03/26/24 08:55	04/21/24 09:37	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*30 - 110*	*03/26/24 08:55*	*04/21/24 09:37*	*1*

Lab Sample ID: LCS 160-653972/2-A
Matrix: Water
Analysis Batch: 657723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653972

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	9.178		1.08	1.00	0.199	pCi/L	81	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*94.3*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-653973/1-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653973

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2467	U	0.348	0.349	1.00	0.586	pCi/L	03/26/24 09:02	04/19/24 12:37	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-653973/1-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653973

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		30 - 110	03/26/24 09:02	04/19/24 12:37	1
Y Carrier	78.9		30 - 110	03/26/24 09:02	04/19/24 12:37	1

Lab Sample ID: LCS 160-653973/2-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653973

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.02	10.65		1.51	1.00	0.686	pCi/L	118	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	94.3		30 - 110
Y Carrier	70.3		30 - 110

Metals

Prep Batch: 607145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total Recoverable	Water	3005A	
240-201546-2	BAC-11-F-20240320-01	Total Recoverable	Water	3005A	
240-201546-3	BAC-02-F-20240320-01	Total Recoverable	Water	3005A	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total Recoverable	Water	3005A	
MB 240-607145/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-607145/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-607145/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 607147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	7470A	
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	7470A	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	7470A	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	7470A	
MB 240-607147/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-607147/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 607394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201546-2	BAC-11-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201546-3	BAC-02-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201546-4	FIELD BLANK-001-F-20240320-01	Total Recoverable	Water	6020B	607145
MB 240-607145/1-A	Method Blank	Total Recoverable	Water	6020B	607145
LCS 240-607145/3-A	Lab Control Sample	Total Recoverable	Water	6020B	607145

Analysis Batch: 607413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	7470A	607147
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	7470A	607147
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	7470A	607147
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	7470A	607147
MB 240-607147/1-A	Method Blank	Total/NA	Water	7470A	607147
LCS 240-607147/2-A	Lab Control Sample	Total/NA	Water	7470A	607147

Analysis Batch: 607444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201546-2	BAC-11-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201546-3	BAC-02-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201546-4	FIELD BLANK-001-F-20240320-01	Total Recoverable	Water	6010D	607145
MB 240-607145/1-A	Method Blank	Total Recoverable	Water	6010D	607145
LCS 240-607145/2-A	Lab Control Sample	Total Recoverable	Water	6010D	607145

Analysis Batch: 607468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-2	BAC-11-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201546-4	FIELD BLANK-001-F-20240320-01	Total Recoverable	Water	6020B	607145

General Chemistry

Analysis Batch: 607579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	SM 2540C	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	SM 2540C	
MB 240-607579/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607579/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 607607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	SM 2540C	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	SM 2540C	
MB 240-607607/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607607/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 608090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	2320B-1997	
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	2320B-1997	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	2320B-1997	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	2320B-1997	
MB 240-608090/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608090/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 608850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	300.0	
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	300.0	
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	300.0	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	300.0	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	300.0	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	300.0	
MB 240-608850/3	Method Blank	Total/NA	Water	300.0	
LCS 240-608850/4	Lab Control Sample	Total/NA	Water	300.0	
240-201546-1 MS	BAC-06-F-20240320-01	Total/NA	Water	300.0	
240-201546-1 MSD	BAC-06-F-20240320-01	Total/NA	Water	300.0	

Analysis Batch: 609342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	300.0	
MB 240-609342/3	Method Blank	Total/NA	Water	300.0	
LCS 240-609342/4	Lab Control Sample	Total/NA	Water	300.0	

Rad

Prep Batch: 653972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	PrecSep-21	
MB 160-653972/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-653972/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201546-1
Project/Site: Federal CCR Wells

Rad

Prep Batch: 653973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201546-1	BAC-06-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201546-2	BAC-11-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201546-3	BAC-02-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201546-4	FIELD BLANK-001-F-20240320-01	Total/NA	Water	PrecSep_0	
MB 160-653973/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-653973/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Client Sample ID: BAC-06-F-20240320-01

Lab Sample ID: 240-201546-1

Date Collected: 03/20/24 13:05

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 20:42
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 16:54
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 14:50
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:16
Total/NA	Analysis	300.0		1	608850	JWW	EET CLE	04/10/24 07:27
Total/NA	Analysis	300.0		5	609342	JWW	EET CLE	04/12/24 06:25
Total/NA	Analysis	SM 2540C		1	607607	C5SV	EET CLE	03/27/24 11:00
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657723	SCB	EET SL	04/21/24 11:09
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:38
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:26

Client Sample ID: BAC-11-F-20240320-01

Lab Sample ID: 240-201546-2

Date Collected: 03/20/24 14:00

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 20:46
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 16:56
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		50	607468	AJC	EET CLE	03/26/24 17:20
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 14:52
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:22
Total/NA	Analysis	300.0		25	608850	JWW	EET CLE	04/10/24 08:32
Total/NA	Analysis	300.0		250	608850	JWW	EET CLE	04/10/24 08:54
Total/NA	Analysis	SM 2540C		1	607579	C5SV	EET CLE	03/27/24 09:28
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657723	SCB	EET SL	04/21/24 12:57
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:38
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:26

Client Sample ID: BAC-02-F-20240320-01

Lab Sample ID: 240-201546-3

Date Collected: 03/20/24 14:55

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 20:51
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 16:59
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 14:55
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:27
Total/NA	Analysis	300.0		1	608850	JWW	EET CLE	04/10/24 10:21
Total/NA	Analysis	300.0		5	608850	JWW	EET CLE	04/10/24 10:43
Total/NA	Analysis	SM 2540C		1	607607	C5SV	EET CLE	03/27/24 11:00
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657723	SCB	EET SL	04/21/24 12:58
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:38
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:26

Client Sample ID: FIELD BLANK-001-F-20240320-01

Lab Sample ID: 240-201546-4

Date Collected: 03/20/24 15:15

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 20:55
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:01
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607468	AJC	EET CLE	03/26/24 17:28
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 14:57
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:32
Total/NA	Analysis	300.0		1	608850	JWW	EET CLE	04/10/24 09:16
Total/NA	Analysis	SM 2540C		1	607579	C5SV	EET CLE	03/27/24 09:28
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657953	SCB	EET SL	04/21/24 13:11
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:38
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:26

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201546-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201546-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbus 209

eurofins Environment Testing

Client Information	Sampler: Bobby Cato	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-33-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-06-F-20240320-01	3-2024	1305	G	Water	N		1	1	2	1	1		
BAC-11-F-20240320-01	3-20-24	1400	G	Water	N		1	1	2	1	1		
BAC-02-F-20240320-01	3-20-24	1455	G	Water	N		1	1	2	1	1		
Field Blank-01-F-20240320-01	3-2024	1515	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-201546 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Bobby Cato	3-21-24/0900	KEA	Ashley Deal	3.21.24 12:15	EXA
2	Ashley Deal	3/21/24 1700	EXA		3-22-24 800	ET
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins - Cleveland Sample Receipt Form/Narrative — Login #: 201544
Barberton Facility

Client Light Stone — Site Name ____ — Cooler unpacked by: [signature]

Cooler Received on 3-22-24 — Opened on 3-22-24

FedEx. 1st Grd Exp UPS FAS (Waypoint) Client Drop Off Eurofins Courier Other ____

Receipt After-hours Drop-off Date/Time ____ Storage Location ____

Eurofins Cooler # EC — Foam Box Client Cooler Box Other ____

Packing material used: Bubble Wrap Foam Plastic Bag None Other ____

COOLANT: Wet Ice Blue Ice Dry Ice Water (None)

1 Cooler temperature upon receipt — [X] See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4 Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC316719
14 Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? ____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by:

19 SAMPLE CONDITION

Sample(s) ____ were received after the recommended holding time had expired.
Sample(s) ____ were received in a broken container
Sample(s) ____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory
Time preserved ____ Preservative(s) added/Lot number(s). ____

VOA Sample Preservation - Date/Time VOAs Frozen. ____

Login # : 201546

4/22/2024

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 22	11.8	11.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	2.0	2.0	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	4.2	4.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.7	1.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	3.4	3.4	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.4	1.4	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	

3/22/2024

Login Container Summary Report

240-201546

4/22/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-06-F-20240320-01	240-201546-A-1	Plastic 60 mL - unpreserved				
BAC-06-F 20240320-01	240-201546-B-1	Plastic 60 mL - unpreserved				
BAC-06-F-20240320-01	240 201546-C-1	Plastic 500ml - unpreserved				
BAC-06-F-20240320-01	240-201546-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-06-F-20240320-01	240-201546-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-06-F-20240320-01	240-201546-F-1	Plastic 1 liter Nitric Acid	<2			
BAC-11 F-20240320-01	240-201546-A-2	Plastic 60 mL - unpreserved				
BAC-11-F-20240320-01	240-201546-B-2	Plastic 60 mL - unpreserved				
BAC-11-F-20240320-01	240-201546-C-2	Plastic 500ml - unpreserved				
BAC-11-F-20240320-01	240-201546-D-2	Plastic 500ml - with Nitric Acid	<2			
BAC-11-F-20240320-01	240-201546 E-2	Plastic 1 liter - Nitric Acid	<2			
BAC-11-F 20240320-01	240-201546-F-2	Plastic 1 liter - Nitric Acid	<2			
BAC-02-F-20240320-01	240-201546-A-3	Plastic 60 mL - unpreserved				
BAC-02-F-20240320-01	240-201546-B-3	Plastic 60 mL unpreserved				
BAC-02-F-20240320-01	240-201546-C-3	Plastic 500ml - unpreserved				
BAC-02-F-20240320-01	240-201546-D-3	Plastic 500ml with Nitric Acid	<2			
BAC-02-F-20240320-01	240-201546-E-3	Plastic 1 liter - Nitric Acid	<2			
BAC-02-F-20240320-01	240-201546-F-3	Plastic 1 liter - Nitric Acid	<2			
FIELD BLANK-20240320-01	240-201546-A-4	Plastic 60 mL - unpreserved				
FIELD BLANK-20240320-01	240-201546-B-4	Plastic 60 mL - unpreserved				
FIELD BLANK-20240320-01	240-201546-C-4	Plastic 500ml - unpreserved				
FIELD BLANK-20240320-01	240-201546-D-4	Plastic 500ml - with Nitric Acid	<2			
FIELD BLANK-20240320-01	240-201546-E-4	Plastic 1 liter - Nitric Acid	<2			
FIELD BLANK-20240320-01	240-201546-F-4	Plastic 1 liter - Nitric Acid	<2			

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201546-1

Login Number: 201546
List Number: 2
Creator: Thornley, Richard W

List Source: Eurofins St. Louis
List Creation: 03/25/24 01:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

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JOB DESCRIPTION

Federal GWM Wells - Gavin CCR

JOB NUMBER

240-201547-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-201547-1 — Eurofins Cleveland

Job Narrative
240-201547-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/22/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.4°C, 1.7°C, 2.0°C, 3.4°C, 4.2°C and 11.8°C.

Metals
Method 6020B - Total Recoverable: The continuing calibration verification (CCV) associated with batch 240-607394 recovered above the upper control limit for Thallium. The samples associated with this CCV were below the reporting limit for the affected analyte; therefore, the data have been reported. The associated samples are impacted: BAC-17-F-20240319-01 (240-201547-1), BAC-16-F-20240319-01 (240-201547-2) and BAC-18-F-20240320-01 (240-201547-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9320_Ra228: Radium-228 batch 653973
The detection goal was not met for the following samples due to the reduced sample volume attributed to the presence of matrix interferences: BAC-17-F-20240319-01 (240-201547-1), BAC-15-F-20240319-01 (240-201547-3) and BAC-09-F-20240319-01 (240-201547-5). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-201547-1	BAC-17-F-20240319-01	Water	03/19/24 10:29	03/22/24 08:00
240-201547-2	BAC-16-F-20240319-01	Water	03/19/24 11:20	03/22/24 08:00
240-201547-3	BAC-15-F-20240319-01	Water	03/19/24 12:20	03/22/24 08:00
240-201547-4	BAC-01-F-20240319-01	Water	03/19/24 14:26	03/22/24 08:00
240-201547-5	BAC-09-F-20240319-01	Water	03/19/24 15:22	03/22/24 08:00
240-201547-6	BAC-07-F-20240320-01	Water	03/20/24 09:40	03/22/24 08:00
240-201547-7	DUP-005-F-20240320-01	Water	03/20/24 00:00	03/22/24 08:00
240-201547-8	BAC-19-F-20240320-01	Water	03/20/24 10:39	03/22/24 08:00
240-201547-9	BAC-18-F-20240320-01	Water	03/20/24 11:34	03/22/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-17-F-20240319-01 — Lab Sample ID: 240-201547-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3200		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	15		5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	87		5.0	2.2	ug/L	1		6020B	Total Recoverable
Beryllium	4.9		1.0	0.62	ug/L	1		6020B	Total Recoverable
Cadmium	0.80	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	54000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	5.5		5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	40		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	2.7		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	6.0	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	26000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	3.8	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	1100		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	0.92	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	19000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	45		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	45		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	22		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.084		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	250		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	410		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-16-F-20240319-01 — Lab Sample ID: 240-201547-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1300		100	57	ug/L	1		6010D	Total Recoverable
Barium	55		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	98000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.6		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	7.0	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	21000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	170		5.0	2.6	mg/L	1		2320B-1997	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-16-F-20240319-01 (Continued) — Lab Sample ID: 240-201547-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	170		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	27		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.049	J	0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	190		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	480		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-15-F-20240319-01 — Lab Sample ID: 240-201547-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	350		100	57	ug/L	1		6010D	Total Recoverable
Barium	40		5.0	2.2	ug/L	1		6020B	Total Recoverable
Cadmium	0.27	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	28000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.7		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.68	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	4.3	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	9500		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	750	J	1000	220	ug/L	1		6020B	Total Recoverable
Sodium	11000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	50		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	50		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	0.85	J	1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.042	J	0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	89		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	180		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-01-F-20240319-01 — Lab Sample ID: 240-201547-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	110		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.8	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	72		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	99000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.97	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	1.1		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	4.7	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	12000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-01-F-20240319-01 (Continued) — Lab Sample ID: 240-201547-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	12000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	220		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	220		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	27		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.11		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	87		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	380		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-09-F-20240319-01 — Lab Sample ID: 240-201547-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	160		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.9	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	860		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	55000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	18		5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	6.8		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	6.9		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	44		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	16000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	41		5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	4000		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	460000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	210		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	210		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	460		5.0	0.64	mg/L	5		300.0	Total/NA
Fluoride	0.99		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	100		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	1700		20	16	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-07-F-20240320-01 — Lab Sample ID: 240-201547-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	57	ug/L	1		6010D	Total Recoverable
Barium	42		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	81000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.3		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	6.7	J	8.0	1.7	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-07-F-20240320-01 (Continued) — Lab Sample ID: 240-201547-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	140		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	140		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.067		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	180		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	450		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-005-F-20240320-01 — Lab Sample ID: 240-201547-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	57	ug/L	1		6010D	Total Recoverable
Barium	45		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	89000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.4		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	7.4	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	20000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1300		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	140		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	140		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.055		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	180		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	440		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-19-F-20240320-01 — Lab Sample ID: 240-201547-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	230		100	57	ug/L	1		6010D	Total Recoverable
Barium	580		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	97000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.41	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	32		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	6.0		5.0	1.1	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-19-F-20240320-01 (Continued)

Lab Sample ID: 240-201547-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	2700		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	450000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	160		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	160		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	1000		10	1.3	mg/L	10		300.0	Total/NA
Fluoride	0.50		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	9.3		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	1600		20	16	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-18-F-20240320-01

Lab Sample ID: 240-201547-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1400		100	57	ug/L	1		6010D	Total Recoverable
Barium	27		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	81000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.5		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	8.5		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	21000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	330	ug/L	1		6020B	Total Recoverable
Thallium	0.45	J ^+	1.0	0.20	ug/L	1		6020B	Total Recoverable
Total Alkalinity	100		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	100		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	25		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.053		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	190		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	420		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-17-F-20240319-01
Date Collected: 03/19/24 10:29
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3200		100	57	ug/L		03/22/24 14:00	03/26/24 21:00	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:06	1
Arsenic	15		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:06	1
Barium	87		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:06	1
Beryllium	4.9		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:06	1
Cadmium	0.80	J	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:06	1
Calcium	54000		1000	250	ug/L		03/22/24 14:00	03/25/24 17:06	1
Chromium	5.5		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:06	1
Cobalt	40		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:06	1
Lead	2.7		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:06	1
Lithium	6.0	J	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:06	1
Magnesium	26000		1000	61	ug/L		03/22/24 14:00	03/25/24 17:06	1
Molybdenum	3.8	J	5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:06	1
Potassium	1100		1000	220	ug/L		03/22/24 14:00	03/25/24 17:06	1
Selenium	0.92	J	5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:06	1
Sodium	19000		1000	330	ug/L		03/22/24 14:00	03/25/24 17:06	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	45		5.0	2.6	mg/L			04/01/24 10:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	45		5.0	2.6	mg/L			04/01/24 10:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:27	1
Chloride (EPA 300.0)	22		1.0	0.13	mg/L			04/04/24 02:40	1
Fluoride (EPA 300.0)	0.084		0.050	0.024	mg/L			04/04/24 02:40	1
Sulfate (EPA 300.0)	250		5.0	1.7	mg/L			04/04/24 03:02	5
Total Dissolved Solids (SM 2540C)	410		10	7.8	mg/L			03/26/24 09:31	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.122	U	0.198	0.199	1.00	0.347	pCi/L	03/26/24 08:55	04/21/24 13:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.5*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:11*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.725	U G	0.869	0.872	1.00	1.44	pCi/L	03/26/24 09:02	04/19/24 12:38	1

Client Sample ID: BAC-17-F-20240319-01
Date Collected: 03/19/24 10:29
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.5*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*
Y Carrier	*74.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:38*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.847	U	0.891	0.894	5.00	1.44	pCi/L		04/22/24 13:26	1

Client Sample ID: BAC-16-F-20240319-01
Date Collected: 03/19/24 11:20
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1300**		100	57	ug/L		03/22/24 14:00	03/26/24 21:04	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:09	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:09	1
Barium	**55**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:09	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:09	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:09	1
Calcium	**98000**		1000	250	ug/L		03/22/24 14:00	03/25/24 17:09	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:09	1
Cobalt	**1.6**		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:09	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:09	1
Lithium	**7.0**	**J**	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:09	1
Magnesium	**21000**		1000	61	ug/L		03/22/24 14:00	03/25/24 17:09	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:09	1
Potassium	**1500**		1000	220	ug/L		03/22/24 14:00	03/25/24 17:09	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:09	1
Sodium	**15000**		1000	330	ug/L		03/22/24 14:00	03/25/24 17:09	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:09	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**170**		5.0	2.6	mg/L			04/01/24 10:31	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**170**		5.0	2.6	mg/L			04/01/24 10:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:31	1
Chloride (EPA 300.0)	**27**		1.0	0.13	mg/L			04/02/24 11:43	1
Fluoride (EPA 300.0)	**0.049**	**J**	0.050	0.024	mg/L			04/02/24 11:43	1
Sulfate (EPA 300.0)	**190**		1.0	0.35	mg/L			04/02/24 11:43	1
Total Dissolved Solids (SM 2540C)	**480**		10	7.8	mg/L			03/26/24 09:31	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.136	U	0.158	0.159	1.00	0.257	pCi/L	03/26/24 08:55	04/21/24 13:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.614	U	0.563	0.565	1.00	0.890	pCi/L	03/26/24 09:02	04/19/24 12:39	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-16-F-20240319-01
Date Collected: 03/19/24 11:20
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-2
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110	03/26/24 09:02	04/19/24 12:39	1
Y Carrier	70.3		30 - 110	03/26/24 09:02	04/19/24 12:39	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.750	U	0.585	0.587	5.00	0.890	pCi/L		04/22/24 13:27	1

Client Sample ID: BAC-15-F-20240319-01
Date Collected: 03/19/24 12:20
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-3
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**350**		100	57	ug/L		03/22/24 14:00	03/26/24 21:08	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:16	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:16	1
Barium	**40**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:16	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:16	1
Cadmium	**0.27**	**J**	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:16	1
Calcium	**28000**		1000	250	ug/L		03/22/24 14:00	03/25/24 17:16	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:16	1
Cobalt	**1.7**		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:16	1
Lead	**0.68**	**J**	1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:16	1
Lithium	**4.3**	**J**	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:16	1
Magnesium	**9500**		1000	61	ug/L		03/22/24 14:00	03/25/24 17:16	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:16	1
Potassium	**750**	**J**	1000	220	ug/L		03/22/24 14:00	03/25/24 17:16	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:16	1
Sodium	**11000**		1000	330	ug/L		03/22/24 14:00	03/25/24 17:16	1
Thallium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:16	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**50**		5.0	2.6	mg/L			03/28/24 10:15	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**50**		5.0	2.6	mg/L			03/28/24 10:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			03/28/24 10:15	1
Chloride (EPA 300.0)	**0.85**	**J**	1.0	0.13	mg/L			03/30/24 15:50	1
Fluoride (EPA 300.0)	**0.042**	**J**	0.050	0.024	mg/L			03/30/24 15:50	1
Sulfate (EPA 300.0)	**89**		1.0	0.35	mg/L			03/30/24 15:50	1
Total Dissolved Solids (SM 2540C)	**180**		10	7.8	mg/L			03/26/24 09:31	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.105	U	0.292	0.292	1.00	0.528	pCi/L	03/26/24 08:55	04/21/24 13:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.5*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.431	U G	0.951	0.952	1.00	1.65	pCi/L	03/26/24 09:02	04/19/24 12:39	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-15-F-20240319-01
Date Collected: 03/19/24 12:20
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-3
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.5*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:39*	*1*
Y Carrier	*69.2*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:39*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.536	U	0.995	0.996	5.00	1.65	pCi/L		04/22/24 13:27	1

Client Sample ID: BAC-01-F-20240319-01
Date Collected: 03/19/24 14:26
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-4
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**110**		100	57	ug/L		03/22/24 14:00	03/26/24 21:13	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:19	1
Arsenic	**1.8**	**J**	5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:19	1
Barium	**72**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:19	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:19	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:19	1
Calcium	**99000**		1000	250	ug/L		03/22/24 14:00	03/25/24 17:19	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:19	1
Cobalt	**0.97**	**J**	1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:19	1
Lead	**1.1**		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:19	1
Lithium	**4.7**	**J**	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:19	1
Magnesium	**12000**		1000	61	ug/L		03/22/24 14:00	03/25/24 17:19	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:19	1
Potassium	**1500**		1000	220	ug/L		03/22/24 14:00	03/25/24 17:19	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:19	1
Sodium	**12000**		1000	330	ug/L		03/22/24 14:00	03/25/24 17:19	1
Thallium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**220**		5.0	2.6	mg/L			04/01/24 10:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**220**		5.0	2.6	mg/L			04/01/24 10:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:41	1
Chloride (EPA 300.0)	**27**		1.0	0.13	mg/L			03/30/24 16:11	1
Fluoride (EPA 300.0)	**0.11**		0.050	0.024	mg/L			03/30/24 16:11	1
Sulfate (EPA 300.0)	**87**		1.0	0.35	mg/L			03/30/24 16:11	1
Total Dissolved Solids (SM 2540C)	**380**		10	7.8	mg/L			03/26/24 09:31	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.106	U	0.131	0.132	1.00	0.312	pCi/L	03/26/24 08:55	04/21/24 13:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.462	U	0.373	0.375	1.00	0.846	pCi/L	03/26/24 09:02	04/19/24 12:39	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-01-F-20240319-01
Date Collected: 03/19/24 14:26
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-4
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:39*	*1*
Y Carrier	*71.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:39*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.568	U	0.395	0.398	5.00	0.846	pCi/L		04/22/24 13:27	1

Client Sample ID: BAC-09-F-20240319-01

Date Collected: 03/19/24 15:22
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-5

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	160		100	57	ug/L		03/22/24 14:00	03/26/24 21:17	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:21	1
Arsenic	2.9	J	5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:21	1
Barium	860		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:21	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:21	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:21	1
Calcium	55000		1000	250	ug/L		03/22/24 14:00	03/25/24 17:21	1
Chromium	18		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:21	1
Cobalt	6.8		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:21	1
Lead	6.9		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:21	1
Lithium	44		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:21	1
Magnesium	16000		1000	61	ug/L		03/22/24 14:00	03/25/24 17:21	1
Molybdenum	41		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:21	1
Potassium	4000		1000	220	ug/L		03/22/24 14:00	03/25/24 17:21	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:21	1
Sodium	460000		1000	330	ug/L		03/22/24 14:00	03/25/24 17:21	1
Thallium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:21	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	210		5.0	2.6	mg/L			04/01/24 10:46	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	210		5.0	2.6	mg/L			04/01/24 10:46	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:46	1
Chloride (EPA 300.0)	460		5.0	0.64	mg/L			04/02/24 03:02	5
Fluoride (EPA 300.0)	0.99		0.050	0.024	mg/L			04/02/24 02:40	1
Sulfate (EPA 300.0)	100		1.0	0.35	mg/L			04/02/24 02:40	1
Total Dissolved Solids (SM 2540C)	1700		20	16	mg/L			03/26/24 09:31	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.43		0.531	0.546	1.00	0.561	pCi/L	03/26/24 08:55	04/21/24 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*59.8*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:04*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.99	U G	1.69	1.70	1.00	2.67	pCi/L	03/26/24 09:02	04/19/24 12:39	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-09-F-20240319-01
Date Collected: 03/19/24 15:22
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-5
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	59.8		30 - 110	03/26/24 09:02	04/19/24 12:39	1
Y Carrier	66.5		30 - 110	03/26/24 09:02	04/19/24 12:39	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.42		1.77	1.79	5.00	2.67	pCi/L		04/22/24 13:27	1

Client Sample ID: BAC-07-F-20240320-01

Lab Sample ID: 240-201547-6

Date Collected: 03/20/24 09:40

Matrix: Water

Date Received: 03/22/24 08:00

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1100**		100	57	ug/L		03/22/24 14:00	03/26/24 21:22	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:24	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:24	1
Barium	**42**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:24	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:24	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:24	1
Calcium	**81000**		1000	250	ug/L		03/22/24 14:00	03/25/24 17:24	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:24	1
Cobalt	**1.3**		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:24	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:24	1
Lithium	**6.7**	**J**	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:24	1
Magnesium	**19000**		1000	61	ug/L		03/22/24 14:00	03/25/24 17:24	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:24	1
Potassium	**1200**		1000	220	ug/L		03/22/24 14:00	03/25/24 17:24	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:24	1
Sodium	**14000**		1000	330	ug/L		03/22/24 14:00	03/25/24 17:24	1
Thallium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:24	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**140**		5.0	2.6	mg/L			04/01/24 11:36	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**140**		5.0	2.6	mg/L			04/01/24 11:36	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:36	1
Chloride (EPA 300.0)	**26**		1.0	0.13	mg/L			03/30/24 16:33	1
Fluoride (EPA 300.0)	**0.067**		0.050	0.024	mg/L			03/30/24 16:33	1
Sulfate (EPA 300.0)	**180**		1.0	0.35	mg/L			03/30/24 16:33	1
Total Dissolved Solids (SM 2540C)	**450**		10	7.8	mg/L			03/27/24 09:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0168	U	0.0948	0.0948	1.00	0.199	pCi/L	03/26/24 08:55	04/21/24 13:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:05*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0634	U	0.371	0.371	1.00	0.675	pCi/L	03/26/24 09:02	04/19/24 12:32	1

Client Sample ID: BAC-07-F-20240320-01
Date Collected: 03/20/24 09:40
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-6
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:32*	*1*
Y Carrier	*67.7*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:32*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0466	U	0.383	0.383	5.00	0.675	pCi/L		04/22/24 13:27	1

Client Sample ID: DUP-005-F-20240320-01

Date Collected: 03/20/24 00:00
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-7

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1100**		100	57	ug/L		03/22/24 14:00	03/29/24 14:18	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:26	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:26	1
Barium	**45**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:26	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:26	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:26	1
Calcium	**89000**		1000	250	ug/L		03/22/24 14:00	03/25/24 17:26	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:26	1
Cobalt	**1.4**		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:26	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:26	1
Lithium	**7.4**	**J**	8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:26	1
Magnesium	**20000**		1000	61	ug/L		03/22/24 14:00	03/25/24 17:26	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:26	1
Potassium	**1300**		1000	220	ug/L		03/22/24 14:00	03/25/24 17:26	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:26	1
Sodium	**15000**		1000	330	ug/L		03/22/24 14:00	03/25/24 17:26	1
Thallium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**140**		5.0	2.6	mg/L			04/01/24 11:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**140**		5.0	2.6	mg/L			04/01/24 11:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:41	1
Chloride (EPA 300.0)	**26**		1.0	0.13	mg/L			03/30/24 17:38	1
Fluoride (EPA 300.0)	**0.055**		0.050	0.024	mg/L			03/30/24 17:38	1
Sulfate (EPA 300.0)	**180**		1.0	0.35	mg/L			03/30/24 17:38	1
Total Dissolved Solids (SM 2540C)	**440**		10	7.8	mg/L			03/27/24 09:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0430	U	0.0988	0.0989	1.00	0.181	pCi/L	03/26/24 08:55	04/21/24 13:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:05*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.164	U	0.309	0.310	1.00	0.621	pCi/L	03/26/24 09:02	04/19/24 12:32	1

Client Sample ID: DUP-005-F-20240320-01
Date Collected: 03/20/24 00:00
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-7
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:32*	*1*
Y Carrier	*75.5*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:32*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.120	U	0.324	0.325	5.00	0.621	pCi/L		04/22/24 13:27	1

Client Sample ID: BAC-19-F-20240320-01
Date Collected: 03/20/24 10:39
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-8
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**230**		100	57	ug/L		03/22/24 14:00	03/29/24 14:22	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 17:29	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 17:29	1
Barium	**580**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 17:29	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 17:29	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:29	1
Calcium	**97000**		1000	250	ug/L		03/22/24 14:00	03/25/24 17:29	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 17:29	1
Cobalt	**0.41**	**J**	1.0	0.19	ug/L		03/22/24 14:00	03/25/24 17:29	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 17:29	1
Lithium	**32**		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 17:29	1
Magnesium	**19000**		1000	61	ug/L		03/22/24 14:00	03/25/24 17:29	1
Molybdenum	**6.0**		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 17:29	1
Potassium	**2700**		1000	220	ug/L		03/22/24 14:00	03/25/24 17:29	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 17:29	1
Sodium	**450000**		1000	330	ug/L		03/22/24 14:00	03/25/24 17:29	1
Thallium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 17:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 15:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**160**		5.0	2.6	mg/L			04/01/24 13:09	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**160**		5.0	2.6	mg/L			04/01/24 13:09	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 13:09	1
Chloride (EPA 300.0)	**1000**		10	1.3	mg/L			04/02/24 14:15	10
Fluoride (EPA 300.0)	**0.50**		0.050	0.024	mg/L			04/02/24 13:54	1
Sulfate (EPA 300.0)	**9.3**		1.0	0.35	mg/L			04/02/24 13:54	1
Total Dissolved Solids (SM 2540C)	**1600**		20	16	mg/L			03/27/24 11:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.897**		0.239	0.252	1.00	0.198	pCi/L	03/26/24 08:55	04/21/24 13:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.8*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:05*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.934**		0.496	0.504	1.00	0.701	pCi/L	03/26/24 09:02	04/19/24 12:32	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-19-F-20240320-01
Date Collected: 03/20/24 10:39
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-8
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		30 - 110	03/26/24 09:02	04/19/24 12:32	1
Y Carrier	71.0		30 - 110	03/26/24 09:02	04/19/24 12:32	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.83		0.551	0.563	5.00	0.701	pCi/L		04/22/24 13:27	1

Client Sample ID: BAC-18-F-20240320-01

Lab Sample ID: 240-201547-9

Date Collected: 03/20/24 11:34

Matrix: Water

Date Received: 03/22/24 08:00

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1400**		100	57	ug/L		03/22/24 14:00	03/26/24 19:59	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 16:29	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 16:29	1
Barium	**27**		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 16:29	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 16:29	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:29	1
Calcium	**81000**		1000	250	ug/L		03/22/24 14:00	03/25/24 16:29	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 16:29	1
Cobalt	**1.5**		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 16:29	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 16:29	1
Lithium	**8.5**		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 16:29	1
Magnesium	**21000**		1000	61	ug/L		03/22/24 14:00	03/25/24 16:29	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 16:29	1
Potassium	**1200**		1000	220	ug/L		03/22/24 14:00	03/25/24 16:29	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 16:29	1
Sodium	**15000**		1000	330	ug/L		03/22/24 14:00	03/25/24 16:29	1
Thallium	**0.45**	**J ^+**	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**100**		5.0	2.6	mg/L			04/01/24 10:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**100**		5.0	2.6	mg/L			04/01/24 10:00	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 10:00	1
Chloride (EPA 300.0)	**25**		1.0	0.13	mg/L			03/30/24 14:44	1
Fluoride (EPA 300.0)	**0.053**		0.050	0.024	mg/L			03/30/24 14:44	1
Sulfate (EPA 300.0)	**190**		1.0	0.35	mg/L			03/30/24 14:44	1
Total Dissolved Solids (SM 2540C)	**420**		10	7.8	mg/L			03/27/24 09:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0271	U	0.104	0.104	1.00	0.199	pCi/L	03/26/24 08:55	04/21/24 13:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*30 - 110*	*03/26/24 08:55*	*04/21/24 13:05*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.210	U	0.358	0.359	1.00	0.615	pCi/L	03/26/24 09:02	04/19/24 12:32	1

Client Sample ID: BAC-18-F-20240320-01
Date Collected: 03/20/24 11:34
Date Received: 03/22/24 08:00

Lab Sample ID: 240-201547-9
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:32*	*1*
Y Carrier	*71.0*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:32*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.237	U	0.373	0.374	5.00	0.615	pCi/L		04/22/24 13:27	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201547-1
Project/Site: Federal GWM Wells - Gavin CCR

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-201547-1	BAC-17-F-20240319-01	84.5
240-201547-2	BAC-16-F-20240319-01	90.3
240-201547-3	BAC-15-F-20240319-01	89.5
240-201547-4	BAC-01-F-20240319-01	98.0
240-201547-5	BAC-09-F-20240319-01	59.8
240-201547-6	BAC-07-F-20240320-01	98.5
240-201547-7	DUP-005-F-20240320-01	98.0
240-201547-8	BAC-19-F-20240320-01	87.8
240-201547-9	BAC-18-F-20240320-01	94.0
240-201547-9 MS	BAC-18-F-20240320-01	94.0
240-201547-9 MSD	BAC-18-F-20240320-01	98.8
LCS 160-653972/2-A	Lab Control Sample	94.3
MB 160-653972/1-A	Method Blank	94.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-201547-1	BAC-17-F-20240319-01	84.5	74.0
240-201547-2	BAC-16-F-20240319-01	90.3	70.3
240-201547-3	BAC-15-F-20240319-01	89.5	69.2
240-201547-4	BAC-01-F-20240319-01	98.0	71.0
240-201547-5	BAC-09-F-20240319-01	59.8	66.5
240-201547-6	BAC-07-F-20240320-01	98.5	67.7
240-201547-7	DUP-005-F-20240320-01	98.0	75.5
240-201547-8	BAC-19-F-20240320-01	87.8	71.0
240-201547-9	BAC-18-F-20240320-01	94.0	71.0
240-201547-9 MS	BAC-18-F-20240320-01	94.0	72.9
240-201547-9 MSD	BAC-18-F-20240320-01	98.8	74.8
LCS 160-653973/2-A	Lab Control Sample	94.3	70.3
MB 160-653973/1-A	Method Blank	94.5	78.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: 240-201547-9 MS
Matrix: Water
Analysis Batch: 607444

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1400		1000	2230		ug/L		85	75 - 125

Lab Sample ID: 240-201547-9 MSD
Matrix: Water
Analysis Batch: 607444

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1400		1000	2330		ug/L		95	75 - 125	5	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-607145/1-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/22/24 14:00	03/25/24 16:25	1
Arsenic	ND		5.0	0.75	ug/L		03/22/24 14:00	03/25/24 16:25	1
Barium	ND		5.0	2.2	ug/L		03/22/24 14:00	03/25/24 16:25	1
Beryllium	ND		1.0	0.62	ug/L		03/22/24 14:00	03/25/24 16:25	1
Cadmium	ND		1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:25	1
Calcium	ND		1000	250	ug/L		03/22/24 14:00	03/25/24 16:25	1
Chromium	ND		5.0	1.2	ug/L		03/22/24 14:00	03/25/24 16:25	1
Cobalt	ND		1.0	0.19	ug/L		03/22/24 14:00	03/25/24 16:25	1
Lead	ND		1.0	0.45	ug/L		03/22/24 14:00	03/25/24 16:25	1
Lithium	ND		8.0	1.7	ug/L		03/22/24 14:00	03/25/24 16:25	1
Magnesium	ND		1000	61	ug/L		03/22/24 14:00	03/25/24 16:25	1
Molybdenum	ND		5.0	1.1	ug/L		03/22/24 14:00	03/25/24 16:25	1
Potassium	ND		1000	220	ug/L		03/22/24 14:00	03/25/24 16:25	1
Selenium	ND		5.0	0.89	ug/L		03/22/24 14:00	03/25/24 16:25	1
Sodium	ND		1000	330	ug/L		03/22/24 14:00	03/25/24 16:25	1
Thallium	ND	^+	1.0	0.20	ug/L		03/22/24 14:00	03/25/24 16:25	1

Lab Sample ID: LCS 240-607145/3-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	95.7		ug/L		96	80 - 120
Arsenic	1000	958		ug/L		96	80 - 120
Barium	1000	940		ug/L		94	80 - 120
Beryllium	500	456		ug/L		91	80 - 120
Cadmium	500	468		ug/L		94	80 - 120
Calcium	25000	23800		ug/L		95	80 - 120
Chromium	500	479		ug/L		96	80 - 120
Cobalt	500	495		ug/L		99	80 - 120
Lead	500	501		ug/L		100	80 - 120
Lithium	500	524		ug/L		105	80 - 120
Magnesium	25000	24100		ug/L		96	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-607145/3-A
Matrix: Water
Analysis Batch: 607394

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Molybdenum			500	475		ug/L		95	80 - 120		
Potassium			25000	24000		ug/L		96	80 - 120		
Selenium			1000	959		ug/L		96	80 - 120		
Sodium			25000	24000		ug/L		96	80 - 120		
Thallium			1000	999	^+	ug/L		100	80 - 120		

Lab Sample ID: 240-201547-9 MS
Matrix: Water
Analysis Batch: 607394

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		100	101		ug/L		101	80 - 120		
Arsenic	ND		1000	991		ug/L		99	80 - 120		
Barium	27		1000	1020		ug/L		99	80 - 120		
Beryllium	ND		500	477		ug/L		95	80 - 120		
Cadmium	ND		500	491		ug/L		98	80 - 120		
Calcium	81000		25000	103000		ug/L		90	80 - 120		
Chromium	ND		500	492		ug/L		98	80 - 120		
Cobalt	1.5		500	504		ug/L		100	80 - 120		
Lead	ND		500	513		ug/L		103	80 - 120		
Lithium	8.5		500	548		ug/L		108	80 - 120		
Magnesium	21000		25000	43800		ug/L		93	80 - 120		
Molybdenum	ND		500	500		ug/L		100	80 - 120		
Potassium	1200		25000	25400		ug/L		96	80 - 120		
Selenium	ND		1000	978		ug/L		98	80 - 120		
Sodium	15000		25000	38800		ug/L		95	80 - 120		
Thallium	0.45	J ^+	1000	1030	^+	ug/L		103	80 - 120		

Lab Sample ID: 240-201547-9 MSD
Matrix: Water
Analysis Batch: 607394

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total Recoverable
Prep Batch: 607145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		100	102		ug/L		102	80 - 120	1	20
Arsenic	ND		1000	1030		ug/L		103	80 - 120	3	20
Barium	27		1000	1020		ug/L		99	80 - 120	0	20
Beryllium	ND		500	480		ug/L		96	80 - 120	1	20
Cadmium	ND		500	492		ug/L		98	80 - 120	0	20
Calcium	81000		25000	105000		ug/L		100	80 - 120	2	20
Chromium	ND		500	500		ug/L		100	80 - 120	2	20
Cobalt	1.5		500	516		ug/L		103	80 - 120	2	20
Lead	ND		500	525		ug/L		105	80 - 120	2	20
Lithium	8.5		500	556		ug/L		110	80 - 120	2	20
Magnesium	21000		25000	44800		ug/L		97	80 - 120	2	20
Molybdenum	ND		500	515		ug/L		103	80 - 120	3	20
Potassium	1200		25000	26000		ug/L		99	80 - 120	3	20
Selenium	ND		1000	1020		ug/L		102	80 - 120	4	20
Sodium	15000		25000	39600		ug/L		98	80 - 120	2	20
Thallium	0.45	J ^+	1000	1060	^+	ug/L		106	80 - 120	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-607147/1-A
Matrix: Water
Analysis Batch: 607413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/22/24 12:15	03/25/24 14:24	1

Lab Sample ID: LCS 240-607147/2-A
Matrix: Water
Analysis Batch: 607413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607147

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.82		ug/L		96	80 - 120

Lab Sample ID: 240-201547-9 MS
Matrix: Water
Analysis Batch: 607413

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA
Prep Batch: 607147

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	0.941		ug/L		94	80 - 120

Lab Sample ID: 240-201547-9 MSD
Matrix: Water
Analysis Batch: 607413

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA
Prep Batch: 607147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		1.00	0.936		ug/L		94	80 - 120	1	20

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-607734/4
Matrix: Water
Analysis Batch: 607734

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			03/28/24 08:33	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/28/24 08:33	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			03/28/24 08:33	1

Lab Sample ID: LCS 240-607734/3
Matrix: Water
Analysis Batch: 607734

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	80.0		mg/L		99	86 - 123

Lab Sample ID: MB 240-608090/30
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/01/24 11:55	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 11:55	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 11:55	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-608090/4
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1

Lab Sample ID: LCS 240-608090/29
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	86.2		mg/L		107	86 - 123

Lab Sample ID: LCS 240-608090/3
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	84.4		mg/L		105	86 - 123

Lab Sample ID: 240-201547-9 DU
Matrix: Water
Analysis Batch: 608090

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity	100		103		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	100		103		mg/L		2	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-607811/3
Matrix: Water
Analysis Batch: 607811

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			03/30/24 08:57	1
Fluoride	ND		0.050	0.024	mg/L			03/30/24 08:57	1
Sulfate	ND		1.0	0.35	mg/L			03/30/24 08:57	1

Lab Sample ID: LCS 240-607811/4
Matrix: Water
Analysis Batch: 607811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	51.9		mg/L		104	90 - 110
Fluoride	2.50	2.70		mg/L		108	90 - 110
Sulfate	50.0	52.6		mg/L		105	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-201547-9 MS
Matrix: Water
Analysis Batch: 607811

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25		50.0	74.7		mg/L		99	80 - 120
Fluoride	0.053		2.50	2.66		mg/L		104	80 - 120
Sulfate	190		50.0	238	E	mg/L		89	80 - 120

Lab Sample ID: 240-201547-9 MSD
Matrix: Water
Analysis Batch: 607811

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25		50.0	75.0		mg/L		100	80 - 120	0	15
Fluoride	0.053		2.50	2.67		mg/L		105	80 - 120	0	15
Sulfate	190		50.0	238	E	mg/L		90	80 - 120	0	15

Lab Sample ID: MB 240-608019/3
Matrix: Water
Analysis Batch: 608019

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/02/24 00:08	1
Fluoride	ND		0.050	0.024	mg/L			04/02/24 00:08	1
Sulfate	ND		1.0	0.35	mg/L			04/02/24 00:08	1

Lab Sample ID: LCS 240-608019/4
Matrix: Water
Analysis Batch: 608019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.9		mg/L		102	90 - 110
Fluoride	2.50	2.67		mg/L		107	90 - 110
Sulfate	50.0	51.5		mg/L		103	90 - 110

Lab Sample ID: MB 240-608213/3
Matrix: Water
Analysis Batch: 608213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/03/24 22:19	1
Fluoride	ND		0.050	0.024	mg/L			04/03/24 22:19	1
Sulfate	ND		1.0	0.35	mg/L			04/03/24 22:19	1

Lab Sample ID: LCS 240-608213/4
Matrix: Water
Analysis Batch: 608213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.9		mg/L		102	90 - 110
Fluoride	2.50	2.68		mg/L		107	90 - 110
Sulfate	50.0	51.8		mg/L		104	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-607427/1
Matrix: Water
Analysis Batch: 607427

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/26/24 09:31	1

Lab Sample ID: LCS 240-607427/2
Matrix: Water
Analysis Batch: 607427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	505	484		mg/L		96	80 - 120

Lab Sample ID: MB 240-607579/1
Matrix: Water
Analysis Batch: 607579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/27/24 09:28	1

Lab Sample ID: LCS 240-607579/2
Matrix: Water
Analysis Batch: 607579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	505	486		mg/L		96	80 - 120

Lab Sample ID: MB 240-607607/1
Matrix: Water
Analysis Batch: 607607

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/27/24 11:00	1

Lab Sample ID: LCS 240-607607/2
Matrix: Water
Analysis Batch: 607607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	505	480		mg/L		95	80 - 120

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-653972/1-A
Matrix: Water
Analysis Batch: 657953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653972

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04239	U	0.135	0.135	1.00	0.249	pCi/L	03/26/24 08:55	04/21/24 09:37	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*30 - 110*	*03/26/24 08:55*	*04/21/24 09:37*	*1*

Method: 9315 - Radium 226 by GFPC (Continued)

Lab Sample ID: LCS 160-653972/2-A
Matrix: Water
Analysis Batch: 657723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653972

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	9.178		1.08	1.00	0.199	pCi/L	81	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*94.3*		*30 - 110*

Lab Sample ID: 240-201547-9 MS
Matrix: Water
Analysis Batch: 657954

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA
Prep Batch: 653972

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226	0.0271	U	11.4	10.92		1.24	1.00	0.190	pCi/L	96	60 - 140		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*94.0*		*30 - 110*

Lab Sample ID: 240-201547-9 MSD
Matrix: Water
Analysis Batch: 657954

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA
Prep Batch: 653972

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.0271	U	11.3	10.21		1.16	1.00	0.185	pCi/L	90	60 - 140	0.29	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*98.8*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-653973/1-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653973

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2467	U	0.348	0.349	1.00	0.586	pCi/L	03/26/24 09:02	04/19/24 12:37	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:37*	*1*
Y Carrier	*78.9*		*30 - 110*	*03/26/24 09:02*	*04/19/24 12:37*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-653973/2-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653973

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.02	10.65		1.51	1.00	0.686	pCi/L	118	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*94.3*		*30 - 110*
Y Carrier	*70.3*		*30 - 110*

Lab Sample ID: 240-201547-9 MS
Matrix: Water
Analysis Batch: 657688

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA
Prep Batch: 653973

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228	0.210	U	9.06	9.069		1.33	1.00	0.643	pCi/L	98	60 - 140		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*94.0*		*30 - 110*
Y Carrier	*72.9*		*30 - 110*

Lab Sample ID: 240-201547-9 MSD
Matrix: Water
Analysis Batch: 657688

Client Sample ID: BAC-18-F-20240320-01
Prep Type: Total/NA
Prep Batch: 653973

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	0.210	U	9.02	9.220		1.31	1.00	0.603	pCi/L	100	60 - 140	0.06	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*98.8*		*30 - 110*
Y Carrier	*74.8*		*30 - 110*

Metals

Prep Batch: 607145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total Recoverable	Water	3005A	
240-201547-2	BAC-16-F-20240319-01	Total Recoverable	Water	3005A	
240-201547-3	BAC-15-F-20240319-01	Total Recoverable	Water	3005A	
240-201547-4	BAC-01-F-20240319-01	Total Recoverable	Water	3005A	
240-201547-5	BAC-09-F-20240319-01	Total Recoverable	Water	3005A	
240-201547-6	BAC-07-F-20240320-01	Total Recoverable	Water	3005A	
240-201547-7	DUP-005-F-20240320-01	Total Recoverable	Water	3005A	
240-201547-8	BAC-19-F-20240320-01	Total Recoverable	Water	3005A	
240-201547-9	BAC-18-F-20240320-01	Total Recoverable	Water	3005A	
MB 240-607145/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-607145/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-201547-9 MS	BAC-18-F-20240320-01	Total Recoverable	Water	3005A	
240-201547-9 MS	BAC-18-F-20240320-01	Total Recoverable	Water	3005A	
240-201547-9 MSD	BAC-18-F-20240320-01	Total Recoverable	Water	3005A	
240-201547-9 MSD	BAC-18-F-20240320-01	Total Recoverable	Water	3005A	

Prep Batch: 607147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	7470A	
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	7470A	
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	7470A	
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	7470A	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	7470A	
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	7470A	
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	7470A	
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	7470A	
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	7470A	
MB 240-607147/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-607147/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-201547-9 MS	BAC-18-F-20240320-01	Total/NA	Water	7470A	
240-201547-9 MSD	BAC-18-F-20240320-01	Total/NA	Water	7470A	

Analysis Batch: 607394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total Recoverable	Water	6020B	607145
240-201547-2	BAC-16-F-20240319-01	Total Recoverable	Water	6020B	607145
240-201547-3	BAC-15-F-20240319-01	Total Recoverable	Water	6020B	607145
240-201547-4	BAC-01-F-20240319-01	Total Recoverable	Water	6020B	607145
240-201547-5	BAC-09-F-20240319-01	Total Recoverable	Water	6020B	607145
240-201547-6	BAC-07-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201547-7	DUP-005-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201547-8	BAC-19-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201547-9	BAC-18-F-20240320-01	Total Recoverable	Water	6020B	607145
MB 240-607145/1-A	Method Blank	Total Recoverable	Water	6020B	607145
LCS 240-607145/3-A	Lab Control Sample	Total Recoverable	Water	6020B	607145
240-201547-9 MS	BAC-18-F-20240320-01	Total Recoverable	Water	6020B	607145
240-201547-9 MSD	BAC-18-F-20240320-01	Total Recoverable	Water	6020B	607145

Analysis Batch: 607413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	7470A	607147

Metals (Continued)

Analysis Batch: 607413 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	7470A	607147
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	7470A	607147
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	7470A	607147
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	7470A	607147
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	7470A	607147
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	7470A	607147
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	7470A	607147
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	7470A	607147
MB 240-607147/1-A	Method Blank	Total/NA	Water	7470A	607147
LCS 240-607147/2-A	Lab Control Sample	Total/NA	Water	7470A	607147
240-201547-9 MS	BAC-18-F-20240320-01	Total/NA	Water	7470A	607147
240-201547-9 MSD	BAC-18-F-20240320-01	Total/NA	Water	7470A	607147

Analysis Batch: 607444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total Recoverable	Water	6010D	607145
240-201547-2	BAC-16-F-20240319-01	Total Recoverable	Water	6010D	607145
240-201547-3	BAC-15-F-20240319-01	Total Recoverable	Water	6010D	607145
240-201547-4	BAC-01-F-20240319-01	Total Recoverable	Water	6010D	607145
240-201547-5	BAC-09-F-20240319-01	Total Recoverable	Water	6010D	607145
240-201547-6	BAC-07-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201547-9	BAC-18-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201547-9 MS	BAC-18-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201547-9 MSD	BAC-18-F-20240320-01	Total Recoverable	Water	6010D	607145

Analysis Batch: 607951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-7	DUP-005-F-20240320-01	Total Recoverable	Water	6010D	607145
240-201547-8	BAC-19-F-20240320-01	Total Recoverable	Water	6010D	607145

General Chemistry

Analysis Batch: 607427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	SM 2540C	
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	SM 2540C	
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	SM 2540C	
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	SM 2540C	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	SM 2540C	
MB 240-607427/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607427/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 607579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	SM 2540C	
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	SM 2540C	
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	SM 2540C	
MB 240-607579/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607579/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 607607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	SM 2540C	
MB 240-607607/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607607/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 607734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	2320B-1997	
MB 240-607734/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-607734/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 607811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	300.0	
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	300.0	
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	300.0	
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	300.0	
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	300.0	
MB 240-607811/3	Method Blank	Total/NA	Water	300.0	
LCS 240-607811/4	Lab Control Sample	Total/NA	Water	300.0	
240-201547-9 MS	BAC-18-F-20240320-01	Total/NA	Water	300.0	
240-201547-9 MSD	BAC-18-F-20240320-01	Total/NA	Water	300.0	

Analysis Batch: 608019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	300.0	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	300.0	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	300.0	
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	300.0	
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	300.0	
MB 240-608019/3	Method Blank	Total/NA	Water	300.0	
LCS 240-608019/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 608090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	2320B-1997	
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	2320B-1997	
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	2320B-1997	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	2320B-1997	
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	2320B-1997	
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	2320B-1997	
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	2320B-1997	
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	2320B-1997	
MB 240-608090/30	Method Blank	Total/NA	Water	2320B-1997	
MB 240-608090/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608090/29	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-608090/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-201547-9 DU	BAC-18-F-20240320-01	Total/NA	Water	2320B-1997	

Analysis Batch: 608213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 608213 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	300.0	
MB 240-608213/3	Method Blank	Total/NA	Water	300.0	
LCS 240-608213/4	Lab Control Sample	Total/NA	Water	300.0	

Rad

Prep Batch: 653972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	PrecSep-21	
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	PrecSep-21	
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	PrecSep-21	
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	PrecSep-21	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	PrecSep-21	
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	PrecSep-21	
MB 160-653972/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-653972/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-201547-9 MS	BAC-18-F-20240320-01	Total/NA	Water	PrecSep-21	
240-201547-9 MSD	BAC-18-F-20240320-01	Total/NA	Water	PrecSep-21	

Prep Batch: 653973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201547-1	BAC-17-F-20240319-01	Total/NA	Water	PrecSep_0	
240-201547-2	BAC-16-F-20240319-01	Total/NA	Water	PrecSep_0	
240-201547-3	BAC-15-F-20240319-01	Total/NA	Water	PrecSep_0	
240-201547-4	BAC-01-F-20240319-01	Total/NA	Water	PrecSep_0	
240-201547-5	BAC-09-F-20240319-01	Total/NA	Water	PrecSep_0	
240-201547-6	BAC-07-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201547-7	DUP-005-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201547-8	BAC-19-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201547-9	BAC-18-F-20240320-01	Total/NA	Water	PrecSep_0	
MB 160-653973/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-653973/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-201547-9 MS	BAC-18-F-20240320-01	Total/NA	Water	PrecSep_0	
240-201547-9 MSD	BAC-18-F-20240320-01	Total/NA	Water	PrecSep_0	

Client Sample ID: BAC-17-F-20240319-01
Lab Sample ID: 240-201547-1

Date Collected: 03/19/24 10:29
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 21:00
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:06
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:00
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:27
Total/NA	Analysis	300.0		1	608213	JWW	EET CLE	04/04/24 02:40
Total/NA	Analysis	300.0		5	608213	JWW	EET CLE	04/04/24 03:02
Total/NA	Analysis	SM 2540C		1	607427	C5SV	EET CLE	03/26/24 09:31
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657953	SCB	EET SL	04/21/24 13:11
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:38
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:26

Client Sample ID: BAC-16-F-20240319-01
Lab Sample ID: 240-201547-2

Date Collected: 03/19/24 11:20
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 21:04
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:09
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:02
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:31
Total/NA	Analysis	300.0		1	608019	JWW	EET CLE	04/02/24 11:43
Total/NA	Analysis	SM 2540C		1	607427	C5SV	EET CLE	03/26/24 09:31
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657953	SCB	EET SL	04/21/24 13:12
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:39
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: BAC-15-F-20240319-01
Lab Sample ID: 240-201547-3

Date Collected: 03/19/24 12:20
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 21:08

Client Sample ID: BAC-15-F-20240319-01

Lab Sample ID: 240-201547-3

Date Collected: 03/19/24 12:20

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:16
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:05
Total/NA	Analysis	2320B-1997		1	607734	QUY8	EET CLE	03/28/24 10:15
Total/NA	Analysis	300.0		1	607811	JWW	EET CLE	03/30/24 15:50
Total/NA	Analysis	SM 2540C		1	607427	C5SV	EET CLE	03/26/24 09:31
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657953	SCB	EET SL	04/21/24 13:12
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:39
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: BAC-01-F-20240319-01

Lab Sample ID: 240-201547-4

Date Collected: 03/19/24 14:26

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 21:13
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:19
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:07
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:41
Total/NA	Analysis	300.0		1	607811	JWW	EET CLE	03/30/24 16:11
Total/NA	Analysis	SM 2540C		1	607427	C5SV	EET CLE	03/26/24 09:31
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657953	SCB	EET SL	04/21/24 13:12
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:39
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: BAC-09-F-20240319-01

Lab Sample ID: 240-201547-5

Date Collected: 03/19/24 15:22

Matrix: Water

Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 21:17
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:21
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:10

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal GWM Wells - Gavin CCR

Job ID: 240-201547-1

Client Sample ID: BAC-09-F-20240319-01

Lab Sample ID: 240-201547-5

Date Collected: 03/19/24 15:22
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:46
Total/NA	Analysis	300.0		1	608019	JWW	EET CLE	04/02/24 02:40
Total/NA	Analysis	300.0		5	608019	JWW	EET CLE	04/02/24 03:02
Total/NA	Analysis	SM 2540C		1	607427	C5SV	EET CLE	03/26/24 09:31
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657954	SCB	EET SL	04/21/24 13:04
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657685	SWS	EET SL	04/19/24 12:39
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: BAC-07-F-20240320-01

Lab Sample ID: 240-201547-6

Date Collected: 03/20/24 09:40
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 21:22
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:24
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:13
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:36
Total/NA	Analysis	300.0		1	607811	JWW	EET CLE	03/30/24 16:33
Total/NA	Analysis	SM 2540C		1	607579	C5SV	EET CLE	03/27/24 09:28
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657954	SCB	EET SL	04/21/24 13:05
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657688	SWS	EET SL	04/19/24 12:32
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: DUP-005-F-20240320-01

Lab Sample ID: 240-201547-7

Date Collected: 03/20/24 00:00
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607951	RKT	EET CLE	03/29/24 14:18
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:26
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:20
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:41
Total/NA	Analysis	300.0		1	607811	JWW	EET CLE	03/30/24 17:38
Total/NA	Analysis	SM 2540C		1	607579	C5SV	EET CLE	03/27/24 09:28

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201547-1
Project/Site: Federal GWM Wells - Gavin CCR

Client Sample ID: DUP-005-F-20240320-01
Lab Sample ID: 240-201547-7

Date Collected: 03/20/24 00:00
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657954	SCB	EET SL	04/21/24 13:05
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657688	SWS	EET SL	04/19/24 12:32
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: BAC-19-F-20240320-01
Lab Sample ID: 240-201547-8

Date Collected: 03/20/24 10:39
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607951	RKT	EET CLE	03/29/24 14:22
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 17:29
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 15:23
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 13:09
Total/NA	Analysis	300.0		1	608019	JWW	EET CLE	04/02/24 13:54
Total/NA	Analysis	300.0		10	608019	JWW	EET CLE	04/02/24 14:15
Total/NA	Analysis	SM 2540C		1	607607	C5SV	EET CLE	03/27/24 11:00
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657954	SCB	EET SL	04/21/24 13:05
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657688	SWS	EET SL	04/19/24 12:32
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Client Sample ID: BAC-18-F-20240320-01
Lab Sample ID: 240-201547-9

Date Collected: 03/20/24 11:34
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6010D		1	607444	AJC	EET CLE	03/26/24 19:59
Total Recoverable	Prep	3005A			607145	GK	EET CLE	03/22/24 14:00
Total Recoverable	Analysis	6020B		1	607394	AJC	EET CLE	03/25/24 16:29
Total/NA	Prep	7470A			607147	GK	EET CLE	03/22/24 12:15
Total/NA	Analysis	7470A		1	607413	TQ6W	EET CLE	03/25/24 14:29
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 10:00
Total/NA	Analysis	300.0		1	607811	JWW	EET CLE	03/30/24 14:44
Total/NA	Analysis	SM 2540C		1	607579	C5SV	EET CLE	03/27/24 09:28
Total/NA	Prep	PrecSep-21			653972	KAK	EET SL	03/26/24 08:55
Total/NA	Analysis	9315		1	657954	SCB	EET SL	04/21/24 13:05

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201547-1
Project/Site: Federal GWM Wells - Gavin CCR

Client Sample ID: BAC-18-F-20240320-01
Lab Sample ID: 240-201547-9
Date Collected: 03/20/24 11:34
Matrix: Water
Date Received: 03/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			653973	KAK	EET SL	03/26/24 09:02
Total/NA	Analysis	9320		1	657688	SWS	EET SL	04/19/24 12:32
Total/NA	Analysis	Ra226_Ra228		1	658119	FLC	EET SL	04/22/24 13:27

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201547-1
Project/Site: Federal GWM Wells - Gavin CCR

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201547-1
Project/Site: Federal GWM Wells - Gavin CCR

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbus 209

eurofins Environment Testing

Client Information	Sampler: Bobby Casto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-17-F-20240319-01	3-19-24	1029	G	Water	N		1	1	2	1	1		
BAC-16-F-20240319-01	3-19-24	1120	G	Water	N		1	1	2	1	1		
BAC-15-F-20240319-01	3-19-24	1220	G	Water	N		1	1	2	1	1		
BAC-01-F-20240319-01	3-19-24	1426	G	Water	N		1	1	2	1	1		
BAC-09-F-20240319-01	3-19-24	1522	G	Water	N		1	1	2	1	1		
BAC-07-F-20240320-01	3-20-24	0940	G	Water	N		1	1	2	1	1		
DUP-05-F-20240320-01	3-20-24	—	G	Water	N		1	1	2	1	1		
BAC-19-F-20240320-01	3-20-24	1039	G	Water	N		1	1	2	1	1		
BAC-18-F-20240320-01	3-20-24	1134	G	Water	N		1	1	2	1	1		
BAC-18-F-20240320-MS-01	3-20-24	1134	G	Water	N	Y	1	1	2	1	1		
BAC-18-F-20240320-MSD-01	3-20-24	1134	G	Water	N	Y	1	1	2	1	1		

240-201547 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	3-21-24 / 0900	KEURIG	Ashley Deal	3.21.24 12:15	ETA
Ashley Deal	3/21/24 1100	ET	[signature]	3-22-24 800	ET TNC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative — Login #: 201547
Barberton Facility

Client Light Stone — Site Name _____ — Cooler unpacked by: [signature]

Cooler Received on 3-22-24 — Opened on 3-22-24

FedEx, 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt — See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	Yes	No
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC316719
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by:

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container
Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory
Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation Date/Time VOAs Frozen. _____

Login # : 201547

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 22	11.8	11.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	2.0	2.0	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	4.2	4.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.7	1.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	3.4	3.4	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.4	1.4	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

3/22/2024

Login Container Summary Report

240-201547

4/22/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-17-F-20240319-01	240-201547 A-1	Plastic 60 mL - unpreserved				
BAC-17 F-20240319-01	240-201547-B-1	Plastic 60 mL - unpreserved				
BAC-17-F 20240319-01	240-201547-C-1	Plastic 500ml - unpreserved				
BAC-17-F-20240319-01	240-201547-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-17-F-20240319-01	240-201547-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-17-F-20240319-01	240-201547-F-1	Plastic 1 liter - Nitric Acid	<2			
BAC-16-F-20240319-01	240-201547-A-2	Plastic 60 mL - unpreserved				
BAC-16-F-20240319-01	240-201547-B-2	Plastic 60 mL - unpreserved				
BAC-16-F-20240319-01	240-201547-C-2	Plastic 500ml - unpreserved				
BAC-16-F 20240319-01	240-201547-D-2	Plastic 500ml - with Nitric Acid	<2			
BAC-16-F-20240319-01	240-201547-E-2	Plastic 1 liter - Nitric Acid	<2			
BAC-16-F-20240319-01	240-201547-F-2	Plastic 1 liter - Nitric Acid	<2			
BAC-15-F-20240319-01	240-201547-A-3	Plastic 60 mL - unpreserved				
BAC-15-F-20240319-01	240-201547-B-3	Plastic 60 mL - unpreserved				
BAC-15-F 20240319-01	240-201547-C-3	Plastic 500ml - unpreserved				
BAC-15 F-20240319-01	240-201547-D 3	Plastic 500ml - with Nitric Acid	<2			
BAC-15-F 20240319-01	240-201547-E-3	Plastic 1 liter Nitric Acid	<2			
BAC-15-F-20240319-01	240-201547-F-3	Plastic 1 liter - Nitric Acid	<2			
BAC-01-F-20240319-01	240-201547-A-4	Plastic 60 mL - unpreserved				
BAC-01-F 20240319-01	240-201547-B-4	Plastic 60 mL - unpreserved				
BAC-01 F-20240319-01	240-201547-C-4	Plastic 500ml - unpreserved				
BAC-01-F-20240319-01	240-201547-D-4	Plastic 500ml with Nitric Acid	<2			
BAC-01 F-20240319-01	240-201547-E-4	Plastic 1 liter - Nitric Acid	<2			
BAC-01-F-20240319-01	240-201547-F-4	Plastic 1 liter - Nitric Acid	<2			
BAC-09-F-20240319-01	240-201547-A-5	Plastic 60 mL - unpreserved				
BAC-09-F 20240319-01	240-201547-B-5	Plastic 60 mL - unpreserved				
BAC-09-F-20240319-01	240-201547-C-5	Plastic 500ml - unpreserved				
BAC-09-F 20240319-01	240 201547-D-5	Plastic 500ml with Nitric Acid	<2			
BAC-09-F-20240319-01	240-201547-E-5	Plastic 1 liter - Nitric Acid	<2			
BAC-09-F-20240319-01	240-201547-F-5	Plastic 1 liter - Nitric Acid	<2			
BAC-07-F-20240320-01	240-201547-A-6	Plastic 60 mL unpreserved				
BAC-07 F 20240320-01	240-201547-B-6	Plastic 60 mL - unpreserved				
BAC-07-F 20240320-01	240 201547-C-6	Plastic 500ml - unpreserved				
BAC-07 F-20240320-01	240-201547-D-6	Plastic 500ml - with Nitric Acid	<2			
BAC-07-F 20240320-01	240-201547 E-6	Plastic 1 liter - Nitric Acid	<2			

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-07-F-20240320-01	240-201547-F-6	Plastic 1 liter Nitric Acid	<2			
DUP-005-F-20240320-01	240-201547-A-7	Plastic 60 mL - unpreserved				
DUP-005-F-20240320-01	240-201547-B-7	Plastic 60 mL - unpreserved				
DUP-005-F-20240320-01	240-201547-C-7	Plastic 500ml - unpreserved				
DUP-005 F-20240320-01	240-201547-D-7	Plastic 500ml - with Nitric Acid	<2			
DUP-005-F-20240320-01	240-201547-E-7	Plastic 1 liter - Nitric Acid	<2			
DUP-005-F-20240320-01	240-201547-F-7	Plastic 1 liter - Nitric Acid	<2			
BAC-19-F-20240320-01	240-201547-A-8	Plastic 60 mL - unpreserved				
BAC-19-F-20240320-01	240-201547 B-8	Plastic 60 mL - unpreserved				
BAC-19-F-20240320-01	240-201547-C-8	Plastic 500ml - unpreserved				
BAC-19-F-20240320-01	240-201547-D-8	Plastic 500ml - with Nitric Acid	<2			
BAC-19-F-20240320-01	240-201547-E-8	Plastic 1 liter - Nitric Acid	<2			
BAC-19-F-20240320-01	240-201547-F-8	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547-A-9	Plastic 60 mL - unpreserved				
BAC-18-F 20240320-01	240-201547-A-9 MS	Plastic 60 mL - unpreserved				
BAC-18-F-20240320-01	240-201547-A-9 MSD	Plastic 60 mL - unpreserved				
BAC-18-F-20240320-01	240-201547-B-9	Plastic 60 mL - unpreserved				
BAC-18-F-20240320-01	240-201547-B-9 MS	Plastic 60 mL - unpreserved				
BAC-18-F-20240320-01	240-201547-B-9 MSD	Plastic 60 mL - unpreserved				
BAC-18 F-20240320-01	240-201547-C-9	Plastic 500ml - unpreserved				
BAC-18-F-20240320-01	240-201547-C-9 MS	Plastic 500ml - unpreserved				
BAC-18-F-20240320-01	240-201547-C-9 MSD	Plastic 500ml - unpreserved				
BAC-18 F-20240320-01	240 201547-D-9	Plastic 500ml - with Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547-D-9 MS	Plastic 500ml - with Nitric Acid	<2			
BAC-18-F 20240320-01	240-201547 D-9 MSD	Plastic 500ml - with Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547 E-9	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547-E-9 MS	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F 20240320-01	240-201547 E-9 MSD	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547-F-9	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547-F-9 MS	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20240320-01	240-201547 F-9 MSD	Plastic 1 liter - Nitric Acid	<2			

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201547-1

Login Number: 201547
List Number: 2
Creator: Thornley, Richard W

List Source: Eurofins St. Louis
List Creation: 03/25/24 01:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201547-1

Login Number: 201547
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 03/26/24 07:37 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 4/26/2024 10:28:49 AM

JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-201696-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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Authorized for release by
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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201696-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-201696-1 — Eurofins Cleveland

Job Narrative
240-201696-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 3/25/2024 3:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.5°C, 2.2°C, 3.2°C and 3.3°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201696-1
Project/Site: Federal CCR Wells

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201696-1
Project/Site: Federal CCR Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-201696-1	BAC-08-F-20240322-01	Water	03/22/24 13:51	03/25/24 15:30

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201696-1

Client Sample ID: BAC-08-F-20240322-01

Lab Sample ID: 240-201696-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	120		100	57	ug/L	1		6010D	Total Recoverable
Barium	86		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	84000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.7		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	4.0	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	12000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	1.1	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	12000		1000	330	ug/L	1		6020B	Total Recoverable
Thallium	0.42	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Total Alkalinity	190		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	190		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	21		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.12		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	78		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	320		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-08-F-20240322-01
Date Collected: 03/22/24 13:51
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201696-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**120**		100	57	ug/L		03/26/24 14:00	03/28/24 02:09	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/26/24 14:00	03/27/24 11:47	1
Arsenic	ND		5.0	0.75	ug/L		03/26/24 14:00	03/27/24 11:47	1
Barium	**86**		5.0	2.2	ug/L		03/26/24 14:00	03/27/24 11:47	1
Beryllium	ND		1.0	0.62	ug/L		03/26/24 14:00	03/27/24 11:47	1
Cadmium	ND		1.0	0.20	ug/L		03/26/24 14:00	03/27/24 11:47	1
Calcium	**84000**		1000	250	ug/L		03/26/24 14:00	03/27/24 11:47	1
Chromium	ND		5.0	1.2	ug/L		03/26/24 14:00	03/27/24 11:47	1
Cobalt	**1.7**		1.0	0.19	ug/L		03/26/24 14:00	03/27/24 11:47	1
Lead	ND		1.0	0.45	ug/L		03/26/24 14:00	03/27/24 11:47	1
Lithium	**4.0**	**J**	8.0	1.7	ug/L		03/26/24 14:00	03/27/24 11:47	1
Magnesium	**12000**		1000	61	ug/L		03/26/24 14:00	03/27/24 11:47	1
Molybdenum	**1.1**	**J**	5.0	1.1	ug/L		03/26/24 14:00	03/27/24 11:47	1
Potassium	**1200**		1000	220	ug/L		03/26/24 14:00	03/27/24 11:47	1
Selenium	ND		5.0	0.89	ug/L		03/26/24 14:00	03/27/24 11:47	1
Sodium	**12000**		1000	330	ug/L		03/26/24 14:00	03/27/24 11:47	1
Thallium	**0.42**	**J**	1.0	0.20	ug/L		03/26/24 14:00	03/27/24 11:47	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/26/24 14:00	03/27/24 10:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**190**		5.0	2.6	mg/L			04/02/24 10:30	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**190**		5.0	2.6	mg/L			04/02/24 10:30	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/02/24 10:30	1
Chloride (EPA 300.0)	**21**		1.0	0.13	mg/L			04/11/24 23:39	1
Fluoride (EPA 300.0)	**0.12**		0.050	0.024	mg/L			04/11/24 23:39	1
Sulfate (EPA 300.0)	**78**		1.0	0.35	mg/L			04/11/24 23:39	1
Total Dissolved Solids (SM 2540C)	**320**		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.177	U	0.146	0.147	1.00	0.209	pCi/L	03/28/24 09:14	04/23/24 07:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.8*		*30 - 110*	*03/28/24 09:14*	*04/23/24 07:27*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.606	U	0.421	0.424	1.00	0.641	pCi/L	03/28/24 09:22	04/22/24 12:03	1

Client Sample ID: BAC-08-F-20240322-01
Date Collected: 03/22/24 13:51
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201696-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.8*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:03*	*1*
Y Carrier	*79.6*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:03*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.783**		0.446	0.449	5.00	0.641	pCi/L		04/26/24 09:16	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201696-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-201696-1	BAC-08-F-20240322-01	92.8
240-201696-1 DU	BAC-08-F-20240322-01	95.0
LCS 160-654479/2-A	Lab Control Sample	98.5
MB 160-654479/1-A	Method Blank	99.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-201696-1	BAC-08-F-20240322-01	92.8	79.6
240-201696-1 DU	BAC-08-F-20240322-01	95.0	80.4
LCS 160-654480/2-A	Lab Control Sample	100	83.7
MB 160-654480/1-A	Method Blank	99.3	84.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-607469/1-A
Matrix: Water
Analysis Batch: 607681

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/26/24 14:00	03/28/24 01:52	1

Lab Sample ID: LCS 240-607469/2-A
Matrix: Water
Analysis Batch: 607681

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1060		ug/L		106	80 - 120

Lab Sample ID: 240-201696-1 MS
Matrix: Water
Analysis Batch: 607681

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	120		1000	1180		ug/L		106	75 - 125

Lab Sample ID: 240-201696-1 MSD
Matrix: Water
Analysis Batch: 607681

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	120		1000	1170		ug/L		106	75 - 125	1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-607469/1-A
Matrix: Water
Analysis Batch: 607657

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/26/24 14:00	03/27/24 11:42	1
Arsenic	ND		5.0	0.75	ug/L		03/26/24 14:00	03/27/24 11:42	1
Barium	ND		5.0	2.2	ug/L		03/26/24 14:00	03/27/24 11:42	1
Beryllium	ND		1.0	0.62	ug/L		03/26/24 14:00	03/27/24 11:42	1
Cadmium	ND		1.0	0.20	ug/L		03/26/24 14:00	03/27/24 11:42	1
Calcium	ND		1000	250	ug/L		03/26/24 14:00	03/27/24 11:42	1
Chromium	ND		5.0	1.2	ug/L		03/26/24 14:00	03/27/24 11:42	1
Cobalt	ND		1.0	0.19	ug/L		03/26/24 14:00	03/27/24 11:42	1
Lead	ND		1.0	0.45	ug/L		03/26/24 14:00	03/27/24 11:42	1
Lithium	ND		8.0	1.7	ug/L		03/26/24 14:00	03/27/24 11:42	1
Magnesium	ND		1000	61	ug/L		03/26/24 14:00	03/27/24 11:42	1
Molybdenum	ND		5.0	1.1	ug/L		03/26/24 14:00	03/27/24 11:42	1
Potassium	ND		1000	220	ug/L		03/26/24 14:00	03/27/24 11:42	1
Selenium	ND		5.0	0.89	ug/L		03/26/24 14:00	03/27/24 11:42	1
Sodium	ND		1000	330	ug/L		03/26/24 14:00	03/27/24 11:42	1
Thallium	ND		1.0	0.20	ug/L		03/26/24 14:00	03/27/24 11:42	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-607469/3-A
Matrix: Water
Analysis Batch: 607657

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			100	96.4		ug/L		96	80 - 120		
Arsenic			1000	993		ug/L		99	80 - 120		
Barium			1000	958		ug/L		96	80 - 120		
Beryllium			500	492		ug/L		98	80 - 120		
Cadmium			500	487		ug/L		97	80 - 120		
Calcium			25000	24300		ug/L		97	80 - 120		
Chromium			500	485		ug/L		97	80 - 120		
Cobalt			500	502		ug/L		100	80 - 120		
Lead			500	476		ug/L		95	80 - 120		
Lithium			500	490		ug/L		98	80 - 120		
Magnesium			25000	24500		ug/L		98	80 - 120		
Molybdenum			500	478		ug/L		96	80 - 120		
Potassium			25000	24800		ug/L		99	80 - 120		
Selenium			1000	978		ug/L		98	80 - 120		
Sodium			25000	24600		ug/L		98	80 - 120		
Thallium			1000	945		ug/L		94	80 - 120		

Lab Sample ID: 240-201696-1 MS
Matrix: Water
Analysis Batch: 607657

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		100	97.7		ug/L		98	80 - 120		
Arsenic	ND		1000	992		ug/L		99	80 - 120		
Barium	86		1000	1050		ug/L		97	80 - 120		
Beryllium	ND		500	485		ug/L		97	80 - 120		
Cadmium	ND		500	487		ug/L		97	80 - 120		
Calcium	84000		25000	109000		ug/L		99	80 - 120		
Chromium	ND		500	491		ug/L		98	80 - 120		
Cobalt	1.7		500	499		ug/L		100	80 - 120		
Lead	ND		500	481		ug/L		96	80 - 120		
Lithium	4.0	J	500	481		ug/L		95	80 - 120		
Magnesium	12000		25000	36500		ug/L		97	80 - 120		
Molybdenum	1.1	J	500	484		ug/L		97	80 - 120		
Potassium	1200		25000	26000		ug/L		99	80 - 120		
Selenium	ND		1000	947		ug/L		95	80 - 120		
Sodium	12000		25000	36000		ug/L		96	80 - 120		
Thallium	0.42	J	1000	963		ug/L		96	80 - 120		

Lab Sample ID: 240-201696-1 MSD
Matrix: Water
Analysis Batch: 607657

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		100	95.6		ug/L		96	80 - 120	2	20
Arsenic	ND		1000	982		ug/L		98	80 - 120	1	20
Barium	86		1000	1040		ug/L		95	80 - 120	2	20
Beryllium	ND		500	477		ug/L		95	80 - 120	2	20
Cadmium	ND		500	479		ug/L		96	80 - 120	2	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-201696-1 MSD
Matrix: Water
Analysis Batch: 607657

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	84000		25000	106000		ug/L		89	80 - 120	2	20
Chromium	ND		500	481		ug/L		96	80 - 120	2	20
Cobalt	1.7		500	496		ug/L		99	80 - 120	1	20
Lead	ND		500	481		ug/L		96	80 - 120	0	20
Lithium	4.0	J	500	478		ug/L		95	80 - 120	1	20
Magnesium	12000		25000	35800		ug/L		94	80 - 120	2	20
Molybdenum	1.1	J	500	479		ug/L		96	80 - 120	1	20
Potassium	1200		25000	25300		ug/L		96	80 - 120	3	20
Selenium	ND		1000	942		ug/L		94	80 - 120	1	20
Sodium	12000		25000	35500		ug/L		94	80 - 120	1	20
Thallium	0.42	J	1000	952		ug/L		95	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-607470/1-A
Matrix: Water
Analysis Batch: 607624

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/26/24 14:00	03/27/24 10:44	1

Lab Sample ID: LCS 240-607470/2-A
Matrix: Water
Analysis Batch: 607624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607470

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.04		ug/L		101	80 - 120

Lab Sample ID: 240-201696-1 MS
Matrix: Water
Analysis Batch: 607624

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA
Prep Batch: 607470

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	1.01		ug/L		101	80 - 120

Lab Sample ID: 240-201696-1 MSD
Matrix: Water
Analysis Batch: 607624

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA
Prep Batch: 607470

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		1.00	1.02		ug/L		102	80 - 120	1	20

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-608207/4
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/02/24 09:38	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-608207/4
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/02/24 09:38	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/02/24 09:38	1

Lab Sample ID: LCS 240-608207/3
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			80.6	84.6		mg/L		105	86 - 123		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-609344/3
Matrix: Water
Analysis Batch: 609344

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/11/24 22:55	1
Fluoride	ND		0.050	0.024	mg/L			04/11/24 22:55	1
Sulfate	ND		1.0	0.35	mg/L			04/11/24 22:55	1

Lab Sample ID: LCS 240-609344/4
Matrix: Water
Analysis Batch: 609344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	48.8		mg/L		98	90 - 110		
Fluoride			2.50	2.54		mg/L		101	90 - 110		
Sulfate			50.0	50.0		mg/L		100	90 - 110		

Lab Sample ID: 240-201696-1 MS
Matrix: Water
Analysis Batch: 609344

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	21		50.0	74.9		mg/L		108	80 - 120		
Fluoride	0.12		2.50	2.97		mg/L		114	80 - 120		
Sulfate	78		50.0	131		mg/L		106	80 - 120		

Lab Sample ID: 240-201696-1 MSD
Matrix: Water
Analysis Batch: 609344

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	21		50.0	75.1		mg/L		108	80 - 120	0	15
Fluoride	0.12		2.50	2.98		mg/L		114	80 - 120	0	15
Sulfate	78		50.0	131		mg/L		106	80 - 120	0	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-607708/1
Matrix: Water
Analysis Batch: 607708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/28/24 09:02	1

Lab Sample ID: LCS 240-607708/2
Matrix: Water
Analysis Batch: 607708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			505	494		mg/L		98	80 - 120		

Lab Sample ID: 240-201696-1 DU
Matrix: Water
Analysis Batch: 607708

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	320			321		mg/L				0.3	20

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-654479/1-A
Matrix: Water
Analysis Batch: 658242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654479

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1412	U	0.0846	0.0856	1.00	0.263	pCi/L	03/28/24 09:14	04/23/24 07:38	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 07:38*	*1*

Lab Sample ID: LCS 160-654479/2-A
Matrix: Water
Analysis Batch: 658164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654479

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	9.882		1.21	1.00	0.196	pCi/L	87	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*30 - 110*

Lab Sample ID: 240-201696-1 DU
Matrix: Water
Analysis Batch: 658164

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA
Prep Batch: 654479

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.177	U		0.02992	U	0.116	1.00	0.228	pCi/L			0.56	1

Method: 9315 - Radium 226 by GFPC (Continued)

Lab Sample ID: 240-201696-1 DU
Matrix: Water
Analysis Batch: 658164

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA
Prep Batch: 654479

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	95.0		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-654480/1-A
Matrix: Water
Analysis Batch: 657955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654480

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08459	U	0.255	0.255	1.00	0.458	pCi/L	03/28/24 09:22	04/22/24 12:02	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.3		30 - 110	03/28/24 09:22	04/22/24 12:02	1
Y Carrier	84.1		30 - 110	03/28/24 09:22	04/22/24 12:02	1

Lab Sample ID: LCS 160-654480/2-A
Matrix: Water
Analysis Batch: 657955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654480

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.01	7.704		1.10	1.00	0.502	pCi/L	86	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	100		30 - 110
Y Carrier	83.7		30 - 110

Lab Sample ID: 240-201696-1 DU
Matrix: Water
Analysis Batch: 657955

Client Sample ID: BAC-08-F-20240322-01
Prep Type: Total/NA
Prep Batch: 654480

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.606	U		0.2389	U	0.367	1.00	0.620	pCi/L			0.46	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	95.0		30 - 110
Y Carrier	80.4		30 - 110

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201696-1

Metals

Prep Batch: 607469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total Recoverable	Water	3005A	
MB 240-607469/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-607469/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-607469/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-201696-1 MS	BAC-08-F-20240322-01	Total Recoverable	Water	3005A	
240-201696-1 MS	BAC-08-F-20240322-01	Total Recoverable	Water	3005A	
240-201696-1 MSD	BAC-08-F-20240322-01	Total Recoverable	Water	3005A	
240-201696-1 MSD	BAC-08-F-20240322-01	Total Recoverable	Water	3005A	

Prep Batch: 607470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	7470A	
MB 240-607470/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-607470/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-201696-1 MS	BAC-08-F-20240322-01	Total/NA	Water	7470A	
240-201696-1 MSD	BAC-08-F-20240322-01	Total/NA	Water	7470A	

Analysis Batch: 607624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	7470A	607470
MB 240-607470/1-A	Method Blank	Total/NA	Water	7470A	607470
LCS 240-607470/2-A	Lab Control Sample	Total/NA	Water	7470A	607470
240-201696-1 MS	BAC-08-F-20240322-01	Total/NA	Water	7470A	607470
240-201696-1 MSD	BAC-08-F-20240322-01	Total/NA	Water	7470A	607470

Analysis Batch: 607657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total Recoverable	Water	6020B	607469
MB 240-607469/1-A	Method Blank	Total Recoverable	Water	6020B	607469
LCS 240-607469/3-A	Lab Control Sample	Total Recoverable	Water	6020B	607469
240-201696-1 MS	BAC-08-F-20240322-01	Total Recoverable	Water	6020B	607469
240-201696-1 MSD	BAC-08-F-20240322-01	Total Recoverable	Water	6020B	607469

Analysis Batch: 607681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total Recoverable	Water	6010D	607469
MB 240-607469/1-A	Method Blank	Total Recoverable	Water	6010D	607469
LCS 240-607469/2-A	Lab Control Sample	Total Recoverable	Water	6010D	607469
240-201696-1 MS	BAC-08-F-20240322-01	Total Recoverable	Water	6010D	607469
240-201696-1 MSD	BAC-08-F-20240322-01	Total Recoverable	Water	6010D	607469

General Chemistry

Analysis Batch: 607708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	SM 2540C	
MB 240-607708/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607708/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-201696-1 DU	BAC-08-F-20240322-01	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201696-1
Project/Site: Federal CCR Wells

General Chemistry

Analysis Batch: 608207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	2320B-1997	
MB 240-608207/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608207/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 609344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	300.0	
MB 240-609344/3	Method Blank	Total/NA	Water	300.0	
LCS 240-609344/4	Lab Control Sample	Total/NA	Water	300.0	
240-201696-1 MS	BAC-08-F-20240322-01	Total/NA	Water	300.0	
240-201696-1 MSD	BAC-08-F-20240322-01	Total/NA	Water	300.0	

Rad

Prep Batch: 654479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	PrecSep-21	
MB 160-654479/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-654479/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-201696-1 DU	BAC-08-F-20240322-01	Total/NA	Water	PrecSep-21	

Prep Batch: 654480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201696-1	BAC-08-F-20240322-01	Total/NA	Water	PrecSep_0	
MB 160-654480/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-654480/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-201696-1 DU	BAC-08-F-20240322-01	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201696-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-08-F-20240322-01
Lab Sample ID: 240-201696-1

Date Collected: 03/22/24 13:51
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607469	BN	EET CLE	03/26/24 14:00
Total Recoverable	Analysis	6010D		1	607681	RKT	EET CLE	03/28/24 02:09
Total Recoverable	Prep	3005A			607469	BN	EET CLE	03/26/24 14:00
Total Recoverable	Analysis	6020B		1	607657	AJC	EET CLE	03/27/24 11:47
Total/NA	Prep	7470A			607470	BN	EET CLE	03/26/24 14:00
Total/NA	Analysis	7470A		1	607624	TQ6W	EET CLE	03/27/24 10:49
Total/NA	Analysis	2320B-1997		1	608207	QUY8	EET CLE	04/02/24 10:30
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/11/24 23:39
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 07:27
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:03
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201696-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201696-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing

Client Information	Sampler: Bobby Cesta	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-323-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastestl, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-08-F-20240322-01	3-22-24	1351	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-201696 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Ryan Smith	3-25-24/0945	KEMRA	Tom Edwards	3-25-24 11:50hrs	Auto Options
2	Tom Edwards	3-25-24 15:25 hrs	Auto Options			
3						
4					3-25-24 15:30	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins - Cleveland Sample Receipt Form/Narrative — Login #: 201696
Barberton Facility

Client Light Stone — Site Name ____ — Cooler unpacked by:

Cooler Received on 3-25-24 — Opened on 3-26-24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other ____

Receipt After-hours Drop-off Date/Time ____ Storage Location ____

Eurofins Cooler # E — Foam Box Client Cooler Box Other ____

Packing material used: Bubble Wrap Foam Plastic Bag None Other ____

COOLANT Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt — ☒ See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp ____ °C Corrected Cooler Temp ____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC316719
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? ____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by:

19 SAMPLE CONDITION

Sample(s) ____ were received after the recommended holding time had expired.

Sample(s) ____ were received in a broken container

Sample(s) ____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory

Time preserved. ____ Preservative(s) added/Lot number(s) ____

VOA Sample Preservation - Date/Time VOAs Frozen. ____

Login # . 201696

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 22	3.3	3.3	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	3.2	3.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.5	1.5	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	2.2	2.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

3/26/2024

Login Container Summary Report

240-201696

4/26/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-08-F-20240322-01	240-201696-A-1	Plastic 60 mL - unpreserved				
BAC-08-F-20240322-01	240-201696-B-1	Plastic 60 mL - unpreserved				
BAC-08-F-20240322-01	240-201696-C-1	Plastic 500ml - unpreserved				
BAC-08-F-20240322-01	240-201696-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-08-F-20240322-01	240-201696 E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-08-F-20240322-01	240-201696-F-1	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-182290.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-201696-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 4/8/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Federal GWM Wells	Project #: 24019633			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BAC-08-F-20240322-01 (240-201696-1)	3/22/24	13:51 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Rachelle Haeer	3/22/24 920	EETNC			
Relinquished by:	Date/Time:	Company	Received by: M. Pinette	Date/Time: MAR 27 2024 0920	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201696-1

Login Number: 201696
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 03/27/24 03:06 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 4/26/2024 10:29:23 AM

JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-201698-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
4/26/2024 10:29:23 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-201698-1 — Eurofins Cleveland

Job Narrative
240-201698-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 3/25/2024 3:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.5°C, 2.2°C, 3.2°C and 3.3°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-201698-1	OHIO RIVER	Water	03/22/24 08:45	03/25/24 15:30

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Client Sample ID: OHIO RIVER

Lab Sample ID: 240-201698-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	37		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	26000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	1.2	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	0.77	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.92	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	4.4	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	7200		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	330	ug/L	1		6020B	Total Recoverable
Thallium	0.32	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Total Alkalinity	62		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	62		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	20		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.070		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	44		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	140		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Client Sample ID: OHIO RIVER

Date Collected: 03/22/24 08:45
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201698-1

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/26/24 14:00	03/28/24 02:34	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/26/24 14:00	03/27/24 12:05	1
Arsenic	ND		5.0	0.75	ug/L		03/26/24 14:00	03/27/24 12:05	1
Barium	**37**		5.0	2.2	ug/L		03/26/24 14:00	03/27/24 12:05	1
Beryllium	ND		1.0	0.62	ug/L		03/26/24 14:00	03/27/24 12:05	1
Cadmium	ND		1.0	0.20	ug/L		03/26/24 14:00	03/27/24 12:05	1
Calcium	**26000**		1000	250	ug/L		03/26/24 14:00	03/27/24 12:05	1
Chromium	**1.2**	**J**	5.0	1.2	ug/L		03/26/24 14:00	03/27/24 12:05	1
Cobalt	**0.77**	**J**	1.0	0.19	ug/L		03/26/24 14:00	03/27/24 12:05	1
Lead	**0.92**	**J**	1.0	0.45	ug/L		03/26/24 14:00	03/27/24 12:05	1
Lithium	**4.4**	**J**	8.0	1.7	ug/L		03/26/24 14:00	03/27/24 12:05	1
Magnesium	**7200**		1000	61	ug/L		03/26/24 14:00	03/27/24 12:05	1
Molybdenum	ND		5.0	1.1	ug/L		03/26/24 14:00	03/27/24 12:05	1
Potassium	**1900**		1000	220	ug/L		03/26/24 14:00	03/27/24 12:05	1
Selenium	ND		5.0	0.89	ug/L		03/26/24 14:00	03/27/24 12:05	1
Sodium	**15000**		1000	330	ug/L		03/26/24 14:00	03/27/24 12:05	1
Thallium	**0.32**	**J**	1.0	0.20	ug/L		03/26/24 14:00	03/27/24 12:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/26/24 14:00	03/27/24 10:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**62**		5.0	2.6	mg/L			04/02/24 10:15	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**62**		5.0	2.6	mg/L			04/02/24 10:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/02/24 10:15	1
Chloride (EPA 300.0)	**20**		1.0	0.13	mg/L			04/12/24 08:42	1
Fluoride (EPA 300.0)	**0.070**		0.050	0.024	mg/L			04/12/24 08:42	1
Sulfate (EPA 300.0)	**44**		1.0	0.35	mg/L			04/12/24 08:42	1
Total Dissolved Solids (SM 2540C)	**140**		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.354**		0.244	0.246	1.00	0.337	pCi/L	03/28/24 09:14	04/23/24 07:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.8*		*30 - 110*	*03/28/24 09:14*	*04/23/24 07:27*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.45**		0.557	0.573	1.00	0.706	pCi/L	03/28/24 09:22	04/22/24 12:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Client Sample ID: OHIO RIVER
Date Collected: 03/22/24 08:45
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201698-1
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		30 - 110	03/28/24 09:22	04/22/24 12:03	1
Y Carrier	84.5		30 - 110	03/28/24 09:22	04/22/24 12:03	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.81		0.608	0.624	5.00	0.706	pCi/L		04/26/24 09:16	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-201698-1	OHIO RIVER	92.8
LCS 160-654479/2-A	Lab Control Sample	98.5
MB 160-654479/1-A	Method Blank	99.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-201698-1	OHIO RIVER	92.8	84.5
LCS 160-654480/2-A	Lab Control Sample	100	83.7
MB 160-654480/1-A	Method Blank	99.3	84.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-607469/1-A
Matrix: Water
Analysis Batch: 607681

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/26/24 14:00	03/28/24 01:52	1

Lab Sample ID: LCS 240-607469/2-A
Matrix: Water
Analysis Batch: 607681

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1060		ug/L		106	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-607469/1-A
Matrix: Water
Analysis Batch: 607657

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/26/24 14:00	03/27/24 11:42	1
Arsenic	ND		5.0	0.75	ug/L		03/26/24 14:00	03/27/24 11:42	1
Barium	ND		5.0	2.2	ug/L		03/26/24 14:00	03/27/24 11:42	1
Beryllium	ND		1.0	0.62	ug/L		03/26/24 14:00	03/27/24 11:42	1
Cadmium	ND		1.0	0.20	ug/L		03/26/24 14:00	03/27/24 11:42	1
Calcium	ND		1000	250	ug/L		03/26/24 14:00	03/27/24 11:42	1
Chromium	ND		5.0	1.2	ug/L		03/26/24 14:00	03/27/24 11:42	1
Cobalt	ND		1.0	0.19	ug/L		03/26/24 14:00	03/27/24 11:42	1
Lead	ND		1.0	0.45	ug/L		03/26/24 14:00	03/27/24 11:42	1
Lithium	ND		8.0	1.7	ug/L		03/26/24 14:00	03/27/24 11:42	1
Magnesium	ND		1000	61	ug/L		03/26/24 14:00	03/27/24 11:42	1
Molybdenum	ND		5.0	1.1	ug/L		03/26/24 14:00	03/27/24 11:42	1
Potassium	ND		1000	220	ug/L		03/26/24 14:00	03/27/24 11:42	1
Selenium	ND		5.0	0.89	ug/L		03/26/24 14:00	03/27/24 11:42	1
Sodium	ND		1000	330	ug/L		03/26/24 14:00	03/27/24 11:42	1
Thallium	ND		1.0	0.20	ug/L		03/26/24 14:00	03/27/24 11:42	1

Lab Sample ID: LCS 240-607469/3-A
Matrix: Water
Analysis Batch: 607657

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	96.4		ug/L		96	80 - 120
Arsenic	1000	993		ug/L		99	80 - 120
Barium	1000	958		ug/L		96	80 - 120
Beryllium	500	492		ug/L		98	80 - 120
Cadmium	500	487		ug/L		97	80 - 120
Calcium	25000	24300		ug/L		97	80 - 120
Chromium	500	485		ug/L		97	80 - 120
Cobalt	500	502		ug/L		100	80 - 120
Lead	500	476		ug/L		95	80 - 120
Lithium	500	490		ug/L		98	80 - 120
Magnesium	25000	24500		ug/L		98	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-607469/3-A
Matrix: Water
Analysis Batch: 607657

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607469

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	500	478		ug/L		96	80 - 120
Potassium	25000	24800		ug/L		99	80 - 120
Selenium	1000	978		ug/L		98	80 - 120
Sodium	25000	24600		ug/L		98	80 - 120
Thallium	1000	945		ug/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-607470/1-A
Matrix: Water
Analysis Batch: 607624

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/26/24 14:00	03/27/24 10:44	1

Lab Sample ID: LCS 240-607470/2-A
Matrix: Water
Analysis Batch: 607624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607470

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.04		ug/L		101	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-608207/4
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/02/24 09:38	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/02/24 09:38	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/02/24 09:38	1

Lab Sample ID: LCS 240-608207/3
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	80.6	84.6		mg/L		105	86 - 123

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-609344/3
Matrix: Water
Analysis Batch: 609344

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/11/24 22:55	1
Fluoride	ND		0.050	0.024	mg/L			04/11/24 22:55	1
Sulfate	ND		1.0	0.35	mg/L			04/11/24 22:55	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-609344/4
Matrix: Water
Analysis Batch: 609344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	48.8		mg/L		98	90 - 110		
Fluoride			2.50	2.54		mg/L		101	90 - 110		
Sulfate			50.0	50.0		mg/L		100	90 - 110		

Lab Sample ID: 240-201698-1 MS
Matrix: Water
Analysis Batch: 609344

Client Sample ID: OHIO RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	20		50.0	73.4		mg/L		108	80 - 120		
Fluoride	0.070		2.50	2.90		mg/L		113	80 - 120		
Sulfate	44		50.0	98.4		mg/L		108	80 - 120		

Lab Sample ID: 240-201698-1 MSD
Matrix: Water
Analysis Batch: 609344

Client Sample ID: OHIO RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20		50.0	72.7		mg/L		106	80 - 120	1	15
Fluoride	0.070		2.50	2.87		mg/L		112	80 - 120	1	15
Sulfate	44		50.0	97.8		mg/L		107	80 - 120	1	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-607708/1
Matrix: Water
Analysis Batch: 607708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/28/24 09:02	1

Lab Sample ID: LCS 240-607708/2
Matrix: Water
Analysis Batch: 607708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			505	494		mg/L		98	80 - 120		

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-654479/1-A
Matrix: Water
Analysis Batch: 658242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654479

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1412	U	0.0846	0.0856	1.00	0.263	pCi/L	03/28/24 09:14	04/23/24 07:38	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 07:38*	*1*

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: LCS 160-654479/2-A
Matrix: Water
Analysis Batch: 658164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654479

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	9.882		1.21	1.00	0.196	pCi/L	87	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-654480/1-A
Matrix: Water
Analysis Batch: 657955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654480

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08459	U	0.255	0.255	1.00	0.458	pCi/L	03/28/24 09:22	04/22/24 12:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.3*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:02*	*1*
Y Carrier	*84.1*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:02*	*1*

Lab Sample ID: LCS 160-654480/2-A
Matrix: Water
Analysis Batch: 657955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654480

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.01	7.704		1.10	1.00	0.502	pCi/L	86	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*30 - 110*
Y Carrier	*83.7*		*30 - 110*

Metals

Prep Batch: 607469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total Recoverable	Water	3005A	
MB 240-607469/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-607469/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-607469/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 607470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	7470A	
MB 240-607470/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-607470/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 607624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	7470A	607470
MB 240-607470/1-A	Method Blank	Total/NA	Water	7470A	607470
LCS 240-607470/2-A	Lab Control Sample	Total/NA	Water	7470A	607470

Analysis Batch: 607657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total Recoverable	Water	6020B	607469
MB 240-607469/1-A	Method Blank	Total Recoverable	Water	6020B	607469
LCS 240-607469/3-A	Lab Control Sample	Total Recoverable	Water	6020B	607469

Analysis Batch: 607681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total Recoverable	Water	6010D	607469
MB 240-607469/1-A	Method Blank	Total Recoverable	Water	6010D	607469
LCS 240-607469/2-A	Lab Control Sample	Total Recoverable	Water	6010D	607469

General Chemistry

Analysis Batch: 607708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	SM 2540C	
MB 240-607708/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607708/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 608207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	2320B-1997	
MB 240-608207/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608207/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 609344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	300.0	
MB 240-609344/3	Method Blank	Total/NA	Water	300.0	
LCS 240-609344/4	Lab Control Sample	Total/NA	Water	300.0	
240-201698-1 MS	OHIO RIVER	Total/NA	Water	300.0	
240-201698-1 MSD	OHIO RIVER	Total/NA	Water	300.0	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201698-1

Rad

Prep Batch: 654479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	PrecSep-21	
MB 160-654479/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-654479/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 654480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201698-1	OHIO RIVER	Total/NA	Water	PrecSep_0	
MB 160-654480/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-654480/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201698-1
Project/Site: Federal CCR Wells

Client Sample ID: OHIO RIVER
Lab Sample ID: 240-201698-1

Date Collected: 03/22/24 08:45
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607469	BN	EET CLE	03/26/24 14:00
Total Recoverable	Analysis	6010D		1	607681	RKT	EET CLE	03/28/24 02:34
Total Recoverable	Prep	3005A			607469	BN	EET CLE	03/26/24 14:00
Total Recoverable	Analysis	6020B		1	607657	AJC	EET CLE	03/27/24 12:05
Total/NA	Prep	7470A			607470	BN	EET CLE	03/26/24 14:00
Total/NA	Analysis	7470A		1	607624	TQ6W	EET CLE	03/27/24 10:59
Total/NA	Analysis	2320B-1997		1	608207	QUY8	EET CLE	04/02/24 10:15
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 08:42
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 07:27
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:03
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201698-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201698-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins
Environment Testing

Client Information	Sampler: Bobby Casto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4806	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID	Analysis Requested		Job #:
Address: 7397 OH-7	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	N	X	
Ohio River	3-22-24	0845	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-201698 Chain of Custody

Ryan Smith

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Ryan Smith	3-25-24 / 0945	KEMRON	Tom Edwards	3-25-24 11:50 hrs	Auto Options
Tom Edwards	3-25-24 15:25 hrs	Auto Options			
			Y. Khan	3-25-24 15:30	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins - Cleveland Sample Receipt Form/Narrative — Login #: 201648
Barberton Facility

Client Light Stone — Site Name ____ — Cooler unpacked by: [signature]

Cooler Received on 3-25-24 — Opened on 3-26-24

FedEx. 1st Grd Exp UPS FAS Waypoint (Client Drop Off) Eurofins Courier Other ____

Receipt After-hours Drop-off Date/Time ____ Storage Location ____

Eurofins Cooler # 6 — (Foam Box) Client Cooler Box Other ____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other ____

COOLANT (Wet Ice) Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt — See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp ____ °C Corrected Cooler Temp ____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	(Yes) No	Tests that are not checked for pH by Receiving: VOAs, Oil and Grease, TOC
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes) No NA	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	(Yes) No NA	
3 Shippers' packing slip attached to the cooler(s)?	Yes (No)	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5 Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6 Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes) No	
7 Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes) No	
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
11 Sufficient quantity received to perform indicated analyses?	(Yes) No	
12 Are these work share samples and all listed on the COC?	Yes (No)	
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	(Yes) No NA	pH Strip Lot# HC3 16719
14. Were VOAs on the COC?	(Yes) No	
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes (No) (NA)	
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____	Yes (No)	
17 Was a LL Hg or Me Hg trip blank present? ____	Yes (No)	

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by:

19 SAMPLE CONDITION

Sample(s) ____ were received after the recommended holding time had expired

Sample(s) ____ were received in a broken container

Sample(s) ____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory.

Time preserved. ____ Preservative(s) added/Lot number(s) ____

VOA Sample Preservation - Date/Time VOAs Frozen. ____

Login # . 201698

4/26/2024

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 22	3.3	3.3	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	3.2	3.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.5	1.5	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	2.2	2.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

3/26/2024

Login Container Summary Report

240-201698

4/26/2024

Temperature readings. _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
OHIO RIVER	240-201698 A-1	Plastic 60 mL - unpreserved				
OHIO RIVER	240-201698-B-1	Plastic 60 mL - unpreserved				
OHIO RIVER	240-201698-C-1	Plastic 500ml - unpreserved				
OHIO RIVER	240-201698-D-1	Plastic 500ml - with Nitric Acid	<2			
OHIO RIVER	240-201698-E-1	Plastic 1 liter - Nitric Acid	<2			
OHIO RIVER	240-201698-F-1	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-182290.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-201698-1
Address: 13715 Rider Trail North,	Due Date Requested: 4/8/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Federal GWM Wells	Project #: 24019633			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
OHIO RIVER (240-201698-1)	3/22/24	08:45 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Rachelle Herrera	3.22.24 920	EETNC	M. Pinette		
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: MAR 27 2024 920	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201698-1

Login Number: 201698
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 03/27/24 03:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620
Generated 4/26/2024 10:30:27 AM

JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-201699-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
4/26/2024 10:30:27 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-201699-1 — Eurofins Cleveland

Job Narrative
240-201699-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/25/2024 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.5°C, 2.2°C, 3.2°C and 3.3°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 300.0_28D: An incorrect volume of spiking solution was inadvertently added to the matrix spike (MS), AND/OR matrix spike duplicate (MSD) associated with analytical batch 240-609487. Percent recoveries are based on the amount spiked.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9320_Ra228: Radium-228 160-654480
The radium-228 detection goal was not met for the following sample due to the reduced sample volume attributed to the presence of matrix interferences: BAC-21-F-20240322-01 (240-201699-10). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201699-1
Project/Site: Federal CCR Wells

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-201699-1	BAC-05-F-20240321-01	Water	03/21/24 10:13	03/25/24 15:30
240-201699-2	BAC-04-F-20240321-01	Water	03/21/24 11:17	03/25/24 15:30
240-201699-3	BAC-13-F-20240321-01	Water	03/21/24 12:02	03/25/24 15:30
240-201699-4	BAC-03-F-20240321-01	Water	03/21/24 13:26	03/25/24 15:30
240-201699-5	MW-6-F-20240321-01	Water	03/21/24 14:22	03/25/24 15:30
240-201699-6	DUP-006-F-20240321-01	Water	03/21/24 00:00	03/25/24 15:30
240-201699-7	BAC-23-F-20240321-01	Water	03/21/24 15:21	03/25/24 15:30
240-201699-8	EB-001-F-20240321-01	Water	03/21/24 15:30	03/25/24 15:30
240-201699-9	MW-1-F-20240322-01	Water	03/22/24 09:41	03/25/24 15:30
240-201699-10	BAC-21-F-20240322-01	Water	03/22/24 10:55	03/25/24 15:30
240-201699-11	BAC-22-F-20240322-01	Water	03/22/24 11:49	03/25/24 15:30

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-05-F-20240321-01 — Lab Sample ID: 240-201699-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2700		100	57	ug/L	1		6010D	Total Recoverable
Barium	32		5.0	2.2	ug/L	1		6020B	Total Recoverable
Cadmium	0.29	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	92000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	5.7		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	8.8		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	21000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1600		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	26000		1000	330	ug/L	1		6020B	Total Recoverable
Thallium	0.39	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Total Alkalinity	89		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	89		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	31		5.0	0.64	mg/L	5		300.0	Total/NA
Fluoride	0.098		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	270		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	580		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-04-F-20240321-01 — Lab Sample ID: 240-201699-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2500		100	57	ug/L	1		6010D	Total Recoverable
Barium	40		5.0	2.2	ug/L	1		6020B	Total Recoverable
Beryllium	0.66	J	1.0	0.62	ug/L	1		6020B	Total Recoverable
Calcium	95000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.7		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.54	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	9.1		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	20000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	26000		1000	330	ug/L	1		6020B	Total Recoverable
Thallium	0.63	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Total Alkalinity	110		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	110		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	37		5.0	0.64	mg/L	5		300.0	Total/NA
Fluoride	0.065		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	240		5.0	1.7	mg/L	5		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-04-F-20240321-01 (Continued) — Lab Sample ID: 240-201699-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	510		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-13-F-20240321-01 — Lab Sample ID: 240-201699-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	410		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.8	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	3600		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	230000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	1.3	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	0.58	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	56		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	45000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	15		5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	6500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	1000000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	83		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	83		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	2300		25	3.2	mg/L	25		300.0	Total/NA
Fluoride	0.84		0.25	0.12	mg/L	5		300.0	Total/NA
Total Dissolved Solids	3400		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-03-F-20240321-01 — Lab Sample ID: 240-201699-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1900		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	0.76	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	48		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	79000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	1.3	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	1.2		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	3.4		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	7.8	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	16000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2000		1000	220	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-03-F-20240321-01 (Continued) — Lab Sample ID: 240-201699-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	30000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	90		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	90		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	61		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.046	J	0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	180		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	430		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-6-F-20240321-01 — Lab Sample ID: 240-201699-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	75	J	100	57	ug/L	1		6010D	Total Recoverable
Barium	130		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	120000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.53	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	5.6	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	13000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1600		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.072		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	120		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	420		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-006-F-20240321-01 — Lab Sample ID: 240-201699-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	75	J	100	57	ug/L	1		6010D	Total Recoverable
Barium	130		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	120000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.50	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	5.5	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	14000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1700		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	250		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	250		5.0	2.6	mg/L	1		2320B-1997	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP-006-F-20240321-01 (Continued) — Lab Sample ID: 240-201699-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.071		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	120		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	420		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-23-F-20240321-01 — Lab Sample ID: 240-201699-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	300		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	0.98	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	140		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.92	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	3.8	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	15000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	19000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	49		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.11		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	140		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	490		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: EB-001-F-20240321-01 — Lab Sample ID: 240-201699-8

No Detections.

Client Sample ID: MW-1-F-20240322-01 — Lab Sample ID: 240-201699-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	85	J	100	57	ug/L	1		6010D	Total Recoverable
Barium	120		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.67	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	5.3	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	15000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	18000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	250		5.0	2.6	mg/L	1		2320B-1997	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1-F-20240322-01 (Continued) — Lab Sample ID: 240-201699-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	250		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	37		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.086		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	130		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	450		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-21-F-20240322-01 — Lab Sample ID: 240-201699-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	380		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	6.6		5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	180		5.0	2.2	ug/L	1		6020B	Total Recoverable
Cadmium	0.28	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	120000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	8.2		5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	3.8		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	6.1		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	10		8.0	1.7	ug/L	1		6020B	Total Recoverable
Magnesium	14000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	1.2	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	2800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	28000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	65		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.069		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	120		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	490		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-22-F-20240322-01 — Lab Sample ID: 240-201699-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	220		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.3	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	130		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	150000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.68	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	5.9	J	8.0	1.7	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-22-F-20240322-01 (Continued)
Lab Sample ID: 240-201699-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2600		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	18000		1000	330	ug/L	1		6020B	Total Recoverable
Total Alkalinity	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	39		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.066		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	240		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	600		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-05-F-20240321-01

Date Collected: 03/21/24 10:13
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-1

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2700**		100	57	ug/L		03/27/24 14:00	03/28/24 10:34	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 15:54	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 15:54	1
Barium	**32**		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 15:54	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 15:54	1
Cadmium	**0.29**	**J**	1.0	0.20	ug/L		03/27/24 14:00	03/28/24 15:54	1
Calcium	**92000**		1000	250	ug/L		03/27/24 14:00	03/28/24 15:54	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 15:54	1
Cobalt	**5.7**		1.0	0.19	ug/L		03/27/24 14:00	03/28/24 15:54	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 15:54	1
Lithium	**8.8**		8.0	1.7	ug/L		03/27/24 14:00	03/28/24 15:54	1
Magnesium	**21000**		1000	61	ug/L		03/27/24 14:00	03/28/24 15:54	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 15:54	1
Potassium	**1600**		1000	220	ug/L		03/27/24 14:00	03/28/24 15:54	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 15:54	1
Sodium	**26000**		1000	330	ug/L		03/27/24 14:00	03/28/24 15:54	1
Thallium	**0.39**	**J**	1.0	0.20	ug/L		03/27/24 14:00	03/28/24 15:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**89**		5.0	2.6	mg/L			04/01/24 12:40	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**89**		5.0	2.6	mg/L			04/01/24 12:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:40	1
Chloride (EPA 300.0)	**31**		5.0	0.64	mg/L			04/13/24 02:23	5
Fluoride (EPA 300.0)	**0.098**		0.050	0.024	mg/L			04/12/24 09:47	1
Sulfate (EPA 300.0)	**270**		5.0	1.7	mg/L			04/13/24 02:23	5
Total Dissolved Solids (SM 2540C)	**580**		50	39	mg/L			03/27/24 11:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.137	U	0.169	0.170	1.00	0.277	pCi/L	03/28/24 09:14	04/23/24 09:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.8*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.942**		0.470	0.478	1.00	0.632	pCi/L	03/28/24 09:22	04/22/24 12:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-05-F-20240321-01
Date Collected: 03/21/24 10:13
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.8*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:03*	*1*
Y Carrier	*84.1*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:03*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.08**		0.499	0.507	5.00	0.632	pCi/L		04/26/24 09:16	1

Client Sample ID: BAC-04-F-20240321-01
Date Collected: 03/21/24 11:17
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2500		100	57	ug/L		03/27/24 14:00	03/28/24 10:59	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 16:48	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 16:48	1
Barium	40		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 16:48	1
Beryllium	0.66	J	1.0	0.62	ug/L		03/27/24 14:00	03/28/24 16:48	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:48	1
Calcium	95000		1000	250	ug/L		03/27/24 14:00	03/28/24 16:48	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 16:48	1
Cobalt	1.7		1.0	0.19	ug/L		03/27/24 14:00	03/28/24 16:48	1
Lead	0.54	J	1.0	0.45	ug/L		03/27/24 14:00	03/28/24 16:48	1
Lithium	9.1		8.0	1.7	ug/L		03/27/24 14:00	03/28/24 16:48	1
Magnesium	20000		1000	61	ug/L		03/27/24 14:00	03/28/24 16:48	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 16:48	1
Potassium	1800		1000	220	ug/L		03/27/24 14:00	03/28/24 16:48	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 16:48	1
Sodium	26000		1000	330	ug/L		03/27/24 14:00	03/28/24 16:48	1
Thallium	0.63	J	1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	110		5.0	2.6	mg/L			04/01/24 12:35	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	110		5.0	2.6	mg/L			04/01/24 12:35	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:35	1
Chloride (EPA 300.0)	37		5.0	0.64	mg/L			04/13/24 03:28	5
Fluoride (EPA 300.0)	0.065		0.050	0.024	mg/L			04/12/24 10:08	1
Sulfate (EPA 300.0)	240		5.0	1.7	mg/L			04/13/24 03:28	5
Total Dissolved Solids (SM 2540C)	510		10	7.8	mg/L			03/27/24 11:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172	U	0.143	0.144	1.00	0.206	pCi/L	03/28/24 09:14	04/23/24 09:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.0*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.524	U	0.371	0.374	1.00	0.562	pCi/L	03/28/24 09:22	04/22/24 12:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-04-F-20240321-01
Date Collected: 03/21/24 11:17
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-2
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.0*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:03*	*1*
Y Carrier	*83.0*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:03*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.696**		0.398	0.401	5.00	0.562	pCi/L		04/26/24 09:16	1

Client Sample ID: BAC-13-F-20240321-01

Date Collected: 03/21/24 12:02
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-3

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**410**		100	57	ug/L		03/27/24 14:00	03/28/24 11:04	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 16:51	1
Arsenic	**2.8**	**J**	5.0	0.75	ug/L		03/27/24 14:00	03/28/24 16:51	1
Barium	**3600**		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 16:51	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 16:51	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:51	1
Calcium	**230000**		1000	250	ug/L		03/27/24 14:00	03/28/24 16:51	1
Chromium	**1.3**	**J**	5.0	1.2	ug/L		03/27/24 14:00	03/28/24 16:51	1
Cobalt	**0.58**	**J**	1.0	0.19	ug/L		03/27/24 14:00	03/28/24 16:51	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 16:51	1
Lithium	**56**		8.0	1.7	ug/L		03/27/24 14:00	03/28/24 16:51	1
Magnesium	**45000**		1000	61	ug/L		03/27/24 14:00	03/28/24 16:51	1
Molybdenum	**15**		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 16:51	1
Potassium	**6500**		1000	220	ug/L		03/27/24 14:00	03/28/24 16:51	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 16:51	1
Sodium	**1000000**		1000	330	ug/L		03/27/24 14:00	03/28/24 16:51	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**83**		5.0	2.6	mg/L			04/01/24 12:31	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**83**		5.0	2.6	mg/L			04/01/24 12:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:31	1
Chloride (EPA 300.0)	**2300**		25	3.2	mg/L			04/12/24 10:52	25
Fluoride (EPA 300.0)	**0.84**		0.25	0.12	mg/L			04/12/24 10:30	5
Sulfate (EPA 300.0)	ND		5.0	1.7	mg/L			04/12/24 10:30	5
Total Dissolved Solids (SM 2540C)	**3400**		50	39	mg/L			03/27/24 11:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.01**		0.451	0.486	1.00	0.376	pCi/L	03/28/24 09:14	04/23/24 09:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**2.53**		0.602	0.645	1.00	0.579	pCi/L	03/28/24 09:22	04/22/24 12:04	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-13-F-20240321-01
Date Collected: 03/21/24 12:02
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-3
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	104		30 - 110	03/28/24 09:22	04/22/24 12:04	1
Y Carrier	81.9		30 - 110	03/28/24 09:22	04/22/24 12:04	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.53		0.752	0.808	5.00	0.579	pCi/L		04/26/24 09:16	1

Client Sample ID: BAC-03-F-20240321-01

Lab Sample ID: 240-201699-4

Date Collected: 03/21/24 13:26

Matrix: Water

Date Received: 03/25/24 15:30

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1900		100	57	ug/L		03/27/24 14:00	03/28/24 12:01	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 16:53	1
Arsenic	0.76	J	5.0	0.75	ug/L		03/27/24 14:00	03/28/24 16:53	1
Barium	48		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 16:53	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 16:53	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:53	1
Calcium	79000		1000	250	ug/L		03/27/24 14:00	03/28/24 16:53	1
Chromium	1.3	J	5.0	1.2	ug/L		03/27/24 14:00	03/28/24 16:53	1
Cobalt	1.2		1.0	0.19	ug/L		03/27/24 14:00	03/28/24 16:53	1
Lead	3.4		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 16:53	1
Lithium	7.8	J	8.0	1.7	ug/L		03/27/24 14:00	03/28/24 16:53	1
Magnesium	16000		1000	61	ug/L		03/27/24 14:00	03/28/24 16:53	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 16:53	1
Potassium	2000		1000	220	ug/L		03/27/24 14:00	03/28/24 16:53	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 16:53	1
Sodium	30000		1000	330	ug/L		03/27/24 14:00	03/28/24 16:53	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:53	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	90		5.0	2.6	mg/L			04/01/24 12:26	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	90		5.0	2.6	mg/L			04/01/24 12:26	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:26	1
Chloride (EPA 300.0)	61		1.0	0.13	mg/L			04/12/24 11:57	1
Fluoride (EPA 300.0)	0.046	J	0.050	0.024	mg/L			04/12/24 11:57	1
Sulfate (EPA 300.0)	180		1.0	0.35	mg/L			04/12/24 11:57	1
Total Dissolved Solids (SM 2540C)	430		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.158	U	0.206	0.206	1.00	0.343	pCi/L	03/28/24 09:14	04/23/24 09:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:12*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.932		0.504	0.511	1.00	0.710	pCi/L	03/28/24 09:22	04/22/24 12:04	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-03-F-20240321-01
Date Collected: 03/21/24 13:26
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-4
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		30 - 110	03/28/24 09:22	04/22/24 12:04	1
Y Carrier	81.9		30 - 110	03/28/24 09:22	04/22/24 12:04	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.09		0.544	0.551	5.00	0.710	pCi/L		04/26/24 09:16	1

Client Sample ID: MW-6-F-20240321-01
Date Collected: 03/21/24 14:22
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-5
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	75	J	100	57	ug/L		03/27/24 14:00	03/28/24 12:05	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 16:56	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 16:56	1
Barium	130		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 16:56	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 16:56	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:56	1
Calcium	120000		1000	250	ug/L		03/27/24 14:00	03/28/24 16:56	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 16:56	1
Cobalt	0.53	J	1.0	0.19	ug/L		03/27/24 14:00	03/28/24 16:56	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 16:56	1
Lithium	5.6	J	8.0	1.7	ug/L		03/27/24 14:00	03/28/24 16:56	1
Magnesium	13000		1000	61	ug/L		03/27/24 14:00	03/28/24 16:56	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 16:56	1
Potassium	1600		1000	220	ug/L		03/27/24 14:00	03/28/24 16:56	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 16:56	1
Sodium	14000		1000	330	ug/L		03/27/24 14:00	03/28/24 16:56	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 16:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	240		5.0	2.6	mg/L			04/01/24 11:59	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	240		5.0	2.6	mg/L			04/01/24 11:59	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:59	1
Chloride (EPA 300.0)	26		1.0	0.13	mg/L			04/12/24 12:19	1
Fluoride (EPA 300.0)	0.072		0.050	0.024	mg/L			04/12/24 12:19	1
Sulfate (EPA 300.0)	120		1.0	0.35	mg/L			04/12/24 12:19	1
Total Dissolved Solids (SM 2540C)	420		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.000	U	0.0950	0.0950	1.00	0.208	pCi/L	03/28/24 09:14	04/23/24 09:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.8*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:13*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.344	U	0.353	0.354	1.00	0.571	pCi/L	03/28/24 09:22	04/22/24 12:04	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: MW-6-F-20240321-01
Date Collected: 03/21/24 14:22
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-5
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.8*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:04*	*1*
Y Carrier	*80.7*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:04*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.344	U	0.366	0.367	5.00	0.571	pCi/L		04/26/24 09:16	1

Client Sample ID: DUP-006-F-20240321-01

Date Collected: 03/21/24 00:00
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-6

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**75**	**J**	100	57	ug/L		03/27/24 14:00	03/28/24 12:10	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 17:03	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 17:03	1
Barium	**130**		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 17:03	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 17:03	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:03	1
Calcium	**120000**		1000	250	ug/L		03/27/24 14:00	03/28/24 17:03	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 17:03	1
Cobalt	**0.50**	**J**	1.0	0.19	ug/L		03/27/24 14:00	03/28/24 17:03	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 17:03	1
Lithium	**5.5**	**J**	8.0	1.7	ug/L		03/27/24 14:00	03/28/24 17:03	1
Magnesium	**14000**		1000	61	ug/L		03/27/24 14:00	03/28/24 17:03	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 17:03	1
Potassium	**1700**		1000	220	ug/L		03/27/24 14:00	03/28/24 17:03	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 17:03	1
Sodium	**14000**		1000	330	ug/L		03/27/24 14:00	03/28/24 17:03	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:03	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**250**		5.0	2.6	mg/L			04/01/24 11:46	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**250**		5.0	2.6	mg/L			04/01/24 11:46	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 11:46	1
Chloride (EPA 300.0)	**26**		1.0	0.13	mg/L			04/12/24 12:41	1
Fluoride (EPA 300.0)	**0.071**		0.050	0.024	mg/L			04/12/24 12:41	1
Sulfate (EPA 300.0)	**120**		1.0	0.35	mg/L			04/12/24 12:41	1
Total Dissolved Solids (SM 2540C)	**420**		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.135	0.135	1.00	0.209	pCi/L	03/28/24 09:14	04/23/24 09:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:13*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.679**		0.371	0.376	1.00	0.521	pCi/L	03/28/24 09:22	04/22/24 12:04	1

Client Sample ID: DUP-006-F-20240321-01
Date Collected: 03/21/24 00:00
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-6
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:04*	*1*
Y Carrier	*84.1*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:04*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.810**		0.395	0.400	5.00	0.521	pCi/L		04/26/24 09:16	1

Client Sample ID: BAC-23-F-20240321-01

Lab Sample ID: 240-201699-7

Date Collected: 03/21/24 15:21

Matrix: Water

Date Received: 03/25/24 15:30

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**300**		100	57	ug/L		03/27/24 14:00	03/28/24 12:14	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 17:06	1
Arsenic	**0.98**	**J**	5.0	0.75	ug/L		03/27/24 14:00	03/28/24 17:06	1
Barium	**140**		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 17:06	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 17:06	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:06	1
Calcium	**130000**		1000	250	ug/L		03/27/24 14:00	03/28/24 17:06	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 17:06	1
Cobalt	**0.92**	**J**	1.0	0.19	ug/L		03/27/24 14:00	03/28/24 17:06	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 17:06	1
Lithium	**3.8**	**J**	8.0	1.7	ug/L		03/27/24 14:00	03/28/24 17:06	1
Magnesium	**15000**		1000	61	ug/L		03/27/24 14:00	03/28/24 17:06	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 17:06	1
Potassium	**1900**		1000	220	ug/L		03/27/24 14:00	03/28/24 17:06	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 17:06	1
Sodium	**19000**		1000	330	ug/L		03/27/24 14:00	03/28/24 17:06	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**240**		5.0	2.6	mg/L			04/01/24 12:48	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**240**		5.0	2.6	mg/L			04/01/24 12:48	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:48	1
Chloride (EPA 300.0)	**49**		1.0	0.13	mg/L			04/12/24 13:02	1
Fluoride (EPA 300.0)	**0.11**		0.050	0.024	mg/L			04/12/24 13:02	1
Sulfate (EPA 300.0)	**140**		1.0	0.35	mg/L			04/12/24 13:02	1
Total Dissolved Solids (SM 2540C)	**490**		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.201**		0.141	0.142	1.00	0.183	pCi/L	03/28/24 09:14	04/23/24 09:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:13*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.427	U	0.317	0.319	1.00	0.476	pCi/L	03/28/24 09:22	04/22/24 12:04	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-23-F-20240321-01
Date Collected: 03/21/24 15:21
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-7
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.3		30 - 110	03/28/24 09:22	04/22/24 12:04	1
Y Carrier	78.1		30 - 110	03/28/24 09:22	04/22/24 12:04	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.628		0.347	0.349	5.00	0.476	pCi/L		04/26/24 09:16	1

Client Sample ID: EB-001-F-20240321-01

Date Collected: 03/21/24 15:30
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-8

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/27/24 14:00	03/28/24 12:18	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 17:08	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 17:08	1
Barium	ND		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 17:08	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 17:08	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:08	1
Calcium	ND		1000	250	ug/L		03/27/24 14:00	03/28/24 17:08	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 17:08	1
Cobalt	ND		1.0	0.19	ug/L		03/27/24 14:00	03/28/24 17:08	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 17:08	1
Lithium	ND		8.0	1.7	ug/L		03/27/24 14:00	03/28/24 17:08	1
Magnesium	ND		1000	61	ug/L		03/27/24 14:00	03/28/24 17:08	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 17:08	1
Potassium	ND		1000	220	ug/L		03/27/24 14:00	03/28/24 17:08	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 17:08	1
Sodium	ND		1000	330	ug/L		03/27/24 14:00	03/28/24 17:08	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:44	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:44	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/01/24 12:44	1
Chloride (EPA 300.0)	ND		1.0	0.13	mg/L			04/12/24 13:24	1
Fluoride (EPA 300.0)	ND		0.050	0.024	mg/L			04/12/24 13:24	1
Sulfate (EPA 300.0)	ND		1.0	0.35	mg/L			04/12/24 13:24	1
Total Dissolved Solids (SM 2540C)	ND		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0847	U	0.0869	0.0872	1.00	0.237	pCi/L	03/28/24 09:14	04/23/24 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:14*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.101	U	0.259	0.259	1.00	0.460	pCi/L	03/28/24 09:22	04/22/24 12:04	1

Client Sample ID: EB-001-F-20240321-01
Date Collected: 03/21/24 15:30
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-8
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.3*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:04*	*1*
Y Carrier	*84.5*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:04*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0166	U	0.273	0.273	5.00	0.460	pCi/L		04/26/24 09:16	1

Client Sample ID: MW-1-F-20240322-01

Lab Sample ID: 240-201699-9

Date Collected: 03/22/24 09:41

Matrix: Water

Date Received: 03/25/24 15:30

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**85**	**J**	100	57	ug/L		03/27/24 14:00	03/28/24 12:23	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 17:11	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 17:11	1
Barium	**120**		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 17:11	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 17:11	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:11	1
Calcium	**130000**		1000	250	ug/L		03/27/24 14:00	03/28/24 17:11	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 17:11	1
Cobalt	**0.67**	**J**	1.0	0.19	ug/L		03/27/24 14:00	03/28/24 17:11	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 17:11	1
Lithium	**5.3**	**J**	8.0	1.7	ug/L		03/27/24 14:00	03/28/24 17:11	1
Magnesium	**15000**		1000	61	ug/L		03/27/24 14:00	03/28/24 17:11	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 17:11	1
Potassium	**1500**		1000	220	ug/L		03/27/24 14:00	03/28/24 17:11	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 17:11	1
Sodium	**18000**		1000	330	ug/L		03/27/24 14:00	03/28/24 17:11	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:11	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**250**		5.0	2.6	mg/L			04/02/24 10:37	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**250**		5.0	2.6	mg/L			04/02/24 10:37	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/02/24 10:37	1
Chloride (EPA 300.0)	**37**		1.0	0.13	mg/L			04/12/24 13:46	1
Fluoride (EPA 300.0)	**0.086**		0.050	0.024	mg/L			04/12/24 13:46	1
Sulfate (EPA 300.0)	**130**		1.0	0.35	mg/L			04/12/24 13:46	1
Total Dissolved Solids (SM 2540C)	**450**		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.272**		0.170	0.172	1.00	0.219	pCi/L	03/28/24 09:14	04/23/24 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.0*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:14*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.330	U	0.358	0.359	1.00	0.582	pCi/L	03/28/24 09:22	04/22/24 12:42	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: MW-1-F-20240322-01
Date Collected: 03/22/24 09:41
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-9
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.0		30 - 110	03/28/24 09:22	04/22/24 12:42	1
Y Carrier	82.6		30 - 110	03/28/24 09:22	04/22/24 12:42	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.602		0.396	0.398	5.00	0.582	pCi/L		04/26/24 09:16	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-21-F-20240322-01

Date Collected: 03/22/24 10:55
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-10

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	380		100	57	ug/L		03/27/24 14:00	03/28/24 12:36	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 17:13	1
Arsenic	6.6		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 17:13	1
Barium	180		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 17:13	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 17:13	1
Cadmium	0.28	J	1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:13	1
Calcium	120000		1000	250	ug/L		03/27/24 14:00	03/28/24 17:13	1
Chromium	8.2		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 17:13	1
Cobalt	3.8		1.0	0.19	ug/L		03/27/24 14:00	03/28/24 17:13	1
Lead	6.1		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 17:13	1
Lithium	10		8.0	1.7	ug/L		03/27/24 14:00	03/28/24 17:13	1
Magnesium	14000		1000	61	ug/L		03/27/24 14:00	03/28/24 17:13	1
Molybdenum	1.2	J	5.0	1.1	ug/L		03/27/24 14:00	03/28/24 17:13	1
Potassium	2800		1000	220	ug/L		03/27/24 14:00	03/28/24 17:13	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 17:13	1
Sodium	28000		1000	330	ug/L		03/27/24 14:00	03/28/24 17:13	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	240		5.0	2.6	mg/L			04/02/24 09:56	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	240		5.0	2.6	mg/L			04/02/24 09:56	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/02/24 09:56	1
Chloride (EPA 300.0)	65		1.0	0.13	mg/L			04/13/24 11:48	1
Fluoride (EPA 300.0)	0.069		0.050	0.024	mg/L			04/13/24 11:48	1
Sulfate (EPA 300.0)	120		1.0	0.35	mg/L			04/13/24 11:48	1
Total Dissolved Solids (SM 2540C)	490		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.681		0.472	0.476	1.00	0.642	pCi/L	03/28/24 09:14	04/23/24 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*61.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:14*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.823	U G	1.03	1.04	1.00	1.72	pCi/L	03/28/24 09:22	04/22/24 12:17	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-21-F-20240322-01
Date Collected: 03/22/24 10:55
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-10
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*61.3*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:17*	*1*
Y Carrier	*80.7*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:17*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.50	U	1.13	1.14	5.00	1.72	pCi/L		04/26/24 09:16	1

Client Sample ID: BAC-22-F-20240322-01

Lab Sample ID: 240-201699-11

Date Collected: 03/22/24 11:49

Matrix: Water

Date Received: 03/25/24 15:30

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**220**		100	57	ug/L		03/27/24 14:00	03/28/24 12:40	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 17:16	1
Arsenic	**1.3**	**J**	5.0	0.75	ug/L		03/27/24 14:00	03/28/24 17:16	1
Barium	**130**		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 17:16	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 17:16	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:16	1
Calcium	**150000**		1000	250	ug/L		03/27/24 14:00	03/28/24 17:16	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 17:16	1
Cobalt	**0.68**	**J**	1.0	0.19	ug/L		03/27/24 14:00	03/28/24 17:16	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 17:16	1
Lithium	**5.9**	**J**	8.0	1.7	ug/L		03/27/24 14:00	03/28/24 17:16	1
Magnesium	**19000**		1000	61	ug/L		03/27/24 14:00	03/28/24 17:16	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 17:16	1
Potassium	**2600**		1000	220	ug/L		03/27/24 14:00	03/28/24 17:16	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 17:16	1
Sodium	**18000**		1000	330	ug/L		03/27/24 14:00	03/28/24 17:16	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 17:16	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**230**		5.0	2.6	mg/L			04/02/24 09:51	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**230**		5.0	2.6	mg/L			04/02/24 09:51	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			04/02/24 09:51	1
Chloride (EPA 300.0)	**39**		1.0	0.13	mg/L			04/13/24 12:53	1
Fluoride (EPA 300.0)	**0.066**		0.050	0.024	mg/L			04/13/24 12:53	1
Sulfate (EPA 300.0)	**240**		5.0	1.7	mg/L			04/13/24 13:15	5
Total Dissolved Solids (SM 2540C)	**600**		10	7.8	mg/L			03/28/24 09:02	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.388**		0.215	0.218	1.00	0.241	pCi/L	03/28/24 09:14	04/23/24 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*30 - 110*	*03/28/24 09:14*	*04/23/24 09:15*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.561	U	0.428	0.431	1.00	0.648	pCi/L	03/28/24 09:22	04/22/24 12:17	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: BAC-22-F-20240322-01
Date Collected: 03/22/24 11:49
Date Received: 03/25/24 15:30

Lab Sample ID: 240-201699-11
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:17*	*1*
Y Carrier	*81.9*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:17*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.949**		0.479	0.483	5.00	0.648	pCi/L		04/26/24 09:16	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-201699-1	BAC-05-F-20240321-01	91.8
240-201699-2	BAC-04-F-20240321-01	93.0
240-201699-3	BAC-13-F-20240321-01	104
240-201699-4	BAC-03-F-20240321-01	93.5
240-201699-5	MW-6-F-20240321-01	91.8
240-201699-6	DUP-006-F-20240321-01	91.3
240-201699-7	BAC-23-F-20240321-01	96.3
240-201699-8	EB-001-F-20240321-01	98.3
240-201699-9	MW-1-F-20240322-01	93.0
240-201699-10	BAC-21-F-20240322-01	61.3
240-201699-11	BAC-22-F-20240322-01	92.0
LCS 160-654479/2-A	Lab Control Sample	98.5
MB 160-654479/1-A	Method Blank	99.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-201699-1	BAC-05-F-20240321-01	91.8	84.1
240-201699-2	BAC-04-F-20240321-01	93.0	83.0
240-201699-3	BAC-13-F-20240321-01	104	81.9
240-201699-4	BAC-03-F-20240321-01	93.5	81.9
240-201699-5	MW-6-F-20240321-01	91.8	80.7
240-201699-6	DUP-006-F-20240321-01	91.3	84.1
240-201699-7	BAC-23-F-20240321-01	96.3	78.1
240-201699-8	EB-001-F-20240321-01	98.3	84.5
240-201699-9	MW-1-F-20240322-01	93.0	82.6
240-201699-10	BAC-21-F-20240322-01	61.3	80.7
240-201699-11	BAC-22-F-20240322-01	92.0	81.9
LCS 160-654480/2-A	Lab Control Sample	100	83.7
MB 160-654480/1-A	Method Blank	99.3	84.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-607610/1-A
Matrix: Water
Analysis Batch: 607740

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		03/27/24 14:00	03/28/24 10:25	1

Lab Sample ID: LCS 240-607610/2-A
Matrix: Water
Analysis Batch: 607740

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1040		ug/L		104	80 - 120

Lab Sample ID: 240-201699-1 MS
Matrix: Water
Analysis Batch: 607740

Client Sample ID: BAC-05-F-20240321-01
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2700		1000	3860		ug/L		113	75 - 125

Lab Sample ID: 240-201699-1 MSD
Matrix: Water
Analysis Batch: 607740

Client Sample ID: BAC-05-F-20240321-01
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	2700		1000	3710		ug/L		97	75 - 125	4	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-607610/1-A
Matrix: Water
Analysis Batch: 607809

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		03/27/24 14:00	03/28/24 15:50	1
Arsenic	ND		5.0	0.75	ug/L		03/27/24 14:00	03/28/24 15:50	1
Barium	ND		5.0	2.2	ug/L		03/27/24 14:00	03/28/24 15:50	1
Beryllium	ND		1.0	0.62	ug/L		03/27/24 14:00	03/28/24 15:50	1
Cadmium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 15:50	1
Calcium	ND		1000	250	ug/L		03/27/24 14:00	03/28/24 15:50	1
Chromium	ND		5.0	1.2	ug/L		03/27/24 14:00	03/28/24 15:50	1
Cobalt	ND		1.0	0.19	ug/L		03/27/24 14:00	03/28/24 15:50	1
Lead	ND		1.0	0.45	ug/L		03/27/24 14:00	03/28/24 15:50	1
Lithium	ND		8.0	1.7	ug/L		03/27/24 14:00	03/28/24 15:50	1
Magnesium	ND		1000	61	ug/L		03/27/24 14:00	03/28/24 15:50	1
Molybdenum	ND		5.0	1.1	ug/L		03/27/24 14:00	03/28/24 15:50	1
Potassium	ND		1000	220	ug/L		03/27/24 14:00	03/28/24 15:50	1
Selenium	ND		5.0	0.89	ug/L		03/27/24 14:00	03/28/24 15:50	1
Sodium	ND		1000	330	ug/L		03/27/24 14:00	03/28/24 15:50	1
Thallium	ND		1.0	0.20	ug/L		03/27/24 14:00	03/28/24 15:50	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-607610/3-A
Matrix: Water
Analysis Batch: 607809

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			100	97.2		ug/L		97	80 - 120		
Arsenic			1000	986		ug/L		99	80 - 120		
Barium			1000	957		ug/L		96	80 - 120		
Beryllium			500	480		ug/L		96	80 - 120		
Cadmium			500	487		ug/L		97	80 - 120		
Calcium			25000	24200		ug/L		97	80 - 120		
Chromium			500	478		ug/L		96	80 - 120		
Cobalt			500	504		ug/L		101	80 - 120		
Lead			500	489		ug/L		98	80 - 120		
Lithium			500	504		ug/L		101	80 - 120		
Magnesium			25000	24300		ug/L		97	80 - 120		
Molybdenum			500	482		ug/L		96	80 - 120		
Potassium			25000	24100		ug/L		96	80 - 120		
Selenium			1000	986		ug/L		99	80 - 120		
Sodium			25000	23900		ug/L		96	80 - 120		
Thallium			1000	963		ug/L		96	80 - 120		

Lab Sample ID: 240-201699-1 MS
Matrix: Water
Analysis Batch: 607809

Client Sample ID: BAC-05-F-20240321-01
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		100	100		ug/L		100	80 - 120		
Arsenic	ND		1000	1040		ug/L		104	80 - 120		
Barium	32		1000	1020		ug/L		99	80 - 120		
Beryllium	ND		500	499		ug/L		100	80 - 120		
Cadmium	0.29	J	500	500		ug/L		100	80 - 120		
Calcium	92000		25000	116000		ug/L		99	80 - 120		
Chromium	ND		500	492		ug/L		98	80 - 120		
Cobalt	5.7		500	517		ug/L		102	80 - 120		
Lead	ND		500	503		ug/L		101	80 - 120		
Lithium	8.8		500	558		ug/L		110	80 - 120		
Magnesium	21000		25000	45100		ug/L		95	80 - 120		
Molybdenum	ND		500	511		ug/L		102	80 - 120		
Potassium	1600		25000	26100		ug/L		98	80 - 120		
Selenium	ND		1000	1040		ug/L		104	80 - 120		
Sodium	26000		25000	49300		ug/L		93	80 - 120		
Thallium	0.39	J	1000	998		ug/L		100	80 - 120		

Lab Sample ID: 240-201699-1 MSD
Matrix: Water
Analysis Batch: 607809

Client Sample ID: BAC-05-F-20240321-01
Prep Type: Total Recoverable
Prep Batch: 607610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		100	99.9		ug/L		100	80 - 120	0	20
Arsenic	ND		1000	1040		ug/L		104	80 - 120	0	20
Barium	32		1000	1000		ug/L		97	80 - 120	2	20
Beryllium	ND		500	482		ug/L		96	80 - 120	3	20
Cadmium	0.29	J	500	493		ug/L		98	80 - 120	1	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-201699-1 MSD — **Client Sample ID: BAC-05-F-20240321-01**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 607809 — **Prep Batch: 607610**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	92000		25000	115000		ug/L		95	80 - 120	1	20
Chromium	ND		500	487		ug/L		97	80 - 120	1	20
Cobalt	5.7		500	515		ug/L		102	80 - 120	0	20
Lead	ND		500	503		ug/L		101	80 - 120	0	20
Lithium	8.8		500	534		ug/L		105	80 - 120	4	20
Magnesium	21000		25000	44800		ug/L		94	80 - 120	1	20
Molybdenum	ND		500	510		ug/L		102	80 - 120	0	20
Potassium	1600		25000	26200		ug/L		98	80 - 120	0	20
Selenium	ND		1000	1000		ug/L		100	80 - 120	3	20
Sodium	26000		25000	49700		ug/L		95	80 - 120	1	20
Thallium	0.39	J	1000	1010		ug/L		101	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-607612/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 607763 — **Prep Batch: 607612**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		03/27/24 14:00	03/28/24 10:06	1

Lab Sample ID: LCS 240-607612/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 607763 — **Prep Batch: 607612**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.95		ug/L		99	80 - 120

Lab Sample ID: 240-201699-1 MS — **Client Sample ID: BAC-05-F-20240321-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 607763 — **Prep Batch: 607612**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	0.907		ug/L		91	80 - 120

Lab Sample ID: 240-201699-1 MSD — **Client Sample ID: BAC-05-F-20240321-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 607763 — **Prep Batch: 607612**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		1.00	0.974		ug/L		97	80 - 120	7	20

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-608090/30 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 608090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/01/24 11:55	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-608090/30
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 11:55	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 11:55	1

Lab Sample ID: MB 240-608090/4
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/01/24 09:56	1

Lab Sample ID: LCS 240-608090/29
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			80.6	86.2		mg/L		107	86 - 123		

Lab Sample ID: LCS 240-608090/3
Matrix: Water
Analysis Batch: 608090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			80.6	84.4		mg/L		105	86 - 123		

Lab Sample ID: 240-201699-5 DU
Matrix: Water
Analysis Batch: 608090

Client Sample ID: MW-6-F-20240321-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	240			244		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	240			244		mg/L				0	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: MB 240-608207/4
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			04/02/24 09:38	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/02/24 09:38	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			04/02/24 09:38	1

Lab Sample ID: LCS 240-608207/3
Matrix: Water
Analysis Batch: 608207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			80.6	84.6		mg/L		105	86 - 123		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-609344/3
Matrix: Water
Analysis Batch: 609344

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/11/24 22:55	1
Fluoride	ND		0.050	0.024	mg/L			04/11/24 22:55	1
Sulfate	ND		1.0	0.35	mg/L			04/11/24 22:55	1

Lab Sample ID: LCS 240-609344/4
Matrix: Water
Analysis Batch: 609344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.8		mg/L		98	90 - 110
Fluoride	2.50	2.54		mg/L		101	90 - 110
Sulfate	50.0	50.0		mg/L		100	90 - 110

Lab Sample ID: MB 240-609487/3
Matrix: Water
Analysis Batch: 609487

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/12/24 17:41	1
Fluoride	ND		0.050	0.024	mg/L			04/12/24 17:41	1
Sulfate	ND		1.0	0.35	mg/L			04/12/24 17:41	1

Lab Sample ID: LCS 240-609487/4
Matrix: Water
Analysis Batch: 609487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.8		mg/L		98	90 - 110
Fluoride	2.50	2.59		mg/L		103	90 - 110
Sulfate	50.0	50.1		mg/L		100	90 - 110

Lab Sample ID: 240-201699-1 MS
Matrix: Water
Analysis Batch: 609487

Client Sample ID: BAC-05-F-20240321-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	31		500	536		mg/L		101	80 - 120
Sulfate	270		500	776		mg/L		100	80 - 120

Lab Sample ID: 240-201699-1 MSD
Matrix: Water
Analysis Batch: 609487

Client Sample ID: BAC-05-F-20240321-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	31		500	529		mg/L		100	80 - 120	1	15
Sulfate	270		500	768		mg/L		99	80 - 120	1	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 240-609495/3
Matrix: Water
Analysis Batch: 609495

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			04/13/24 11:04	1
Fluoride	ND		0.050	0.024	mg/L			04/13/24 11:04	1
Sulfate	ND		1.0	0.35	mg/L			04/13/24 11:04	1

Lab Sample ID: LCS 240-609495/4
Matrix: Water
Analysis Batch: 609495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	48.9		mg/L		98	90 - 110		
Fluoride			2.50	2.58		mg/L		103	90 - 110		
Sulfate			50.0	50.0		mg/L		100	90 - 110		

Lab Sample ID: 240-201699-10 MS
Matrix: Water
Analysis Batch: 609495

Client Sample ID: BAC-21-F-20240322-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	65		50.0	119		mg/L		107	80 - 120		
Fluoride	0.069		2.50	3.02		mg/L		118	80 - 120		
Sulfate	120		50.0	176		mg/L		104	80 - 120		

Lab Sample ID: 240-201699-10 MSD
Matrix: Water
Analysis Batch: 609495

Client Sample ID: BAC-21-F-20240322-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65		50.0	118		mg/L		106	80 - 120	0	15
Fluoride	0.069		2.50	2.98		mg/L		117	80 - 120	1	15
Sulfate	120		50.0	176		mg/L		103	80 - 120	0	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-607607/1
Matrix: Water
Analysis Batch: 607607

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/27/24 11:00	1

Lab Sample ID: LCS 240-607607/2
Matrix: Water
Analysis Batch: 607607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			505	480		mg/L		95	80 - 120		

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 240-607708/1
Matrix: Water
Analysis Batch: 607708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/28/24 09:02	1

Lab Sample ID: LCS 240-607708/2
Matrix: Water
Analysis Batch: 607708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	505	494		mg/L		98	80 - 120

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-654479/1-A
Matrix: Water
Analysis Batch: 658242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654479

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1412	U	0.0846	0.0856	1.00	0.263	pCi/L	03/28/24 09:14	04/23/24 07:38	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.3*		*30 - 110*	*03/28/24 09:14*	*04/23/24 07:38*	*1*

Lab Sample ID: LCS 160-654479/2-A
Matrix: Water
Analysis Batch: 658164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654479

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.882		1.21	1.00	0.196	pCi/L	87	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-654480/1-A
Matrix: Water
Analysis Batch: 657955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654480

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08459	U	0.255	0.255	1.00	0.458	pCi/L	03/28/24 09:22	04/22/24 12:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.3*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:02*	*1*
Y Carrier	*84.1*		*30 - 110*	*03/28/24 09:22*	*04/22/24 12:02*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-654480/2-A
Matrix: Water
Analysis Batch: 657955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654480

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.01	7.704		1.10	1.00	0.502	pCi/L	86	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*30 - 110*
Y Carrier	*83.7*		*30 - 110*

Metals

Prep Batch: 607610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-2	BAC-04-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-3	BAC-13-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-4	BAC-03-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-5	MW-6-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-6	DUP-006-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-7	BAC-23-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-8	EB-001-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-9	MW-1-F-20240322-01	Total Recoverable	Water	3005A	
240-201699-10	BAC-21-F-20240322-01	Total Recoverable	Water	3005A	
240-201699-11	BAC-22-F-20240322-01	Total Recoverable	Water	3005A	
MB 240-607610/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-607610/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-607610/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-201699-1 MS	BAC-05-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-1 MS	BAC-05-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-1 MSD	BAC-05-F-20240321-01	Total Recoverable	Water	3005A	
240-201699-1 MSD	BAC-05-F-20240321-01	Total Recoverable	Water	3005A	

Prep Batch: 607612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	7470A	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	7470A	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	7470A	
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	7470A	
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	7470A	
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	7470A	
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	7470A	
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	7470A	
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	7470A	
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	7470A	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	7470A	
MB 240-607612/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-607612/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-201699-1 MS	BAC-05-F-20240321-01	Total/NA	Water	7470A	
240-201699-1 MSD	BAC-05-F-20240321-01	Total/NA	Water	7470A	

Analysis Batch: 607740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-2	BAC-04-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-3	BAC-13-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-4	BAC-03-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-5	MW-6-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-6	DUP-006-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-7	BAC-23-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-8	EB-001-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-9	MW-1-F-20240322-01	Total Recoverable	Water	6010D	607610
240-201699-10	BAC-21-F-20240322-01	Total Recoverable	Water	6010D	607610
240-201699-11	BAC-22-F-20240322-01	Total Recoverable	Water	6010D	607610
MB 240-607610/1-A	Method Blank	Total Recoverable	Water	6010D	607610

Metals (Continued)

Analysis Batch: 607740 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-607610/2-A	Lab Control Sample	Total Recoverable	Water	6010D	607610
240-201699-1 MS	BAC-05-F-20240321-01	Total Recoverable	Water	6010D	607610
240-201699-1 MSD	BAC-05-F-20240321-01	Total Recoverable	Water	6010D	607610

Analysis Batch: 607763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	7470A	607612
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	7470A	607612
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	7470A	607612
MB 240-607612/1-A	Method Blank	Total/NA	Water	7470A	607612
LCS 240-607612/2-A	Lab Control Sample	Total/NA	Water	7470A	607612
240-201699-1 MS	BAC-05-F-20240321-01	Total/NA	Water	7470A	607612
240-201699-1 MSD	BAC-05-F-20240321-01	Total/NA	Water	7470A	607612

Analysis Batch: 607809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-2	BAC-04-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-3	BAC-13-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-4	BAC-03-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-5	MW-6-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-6	DUP-006-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-7	BAC-23-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-8	EB-001-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-9	MW-1-F-20240322-01	Total Recoverable	Water	6020B	607610
240-201699-10	BAC-21-F-20240322-01	Total Recoverable	Water	6020B	607610
240-201699-11	BAC-22-F-20240322-01	Total Recoverable	Water	6020B	607610
MB 240-607610/1-A	Method Blank	Total Recoverable	Water	6020B	607610
LCS 240-607610/3-A	Lab Control Sample	Total Recoverable	Water	6020B	607610
240-201699-1 MS	BAC-05-F-20240321-01	Total Recoverable	Water	6020B	607610
240-201699-1 MSD	BAC-05-F-20240321-01	Total Recoverable	Water	6020B	607610

General Chemistry

Analysis Batch: 607607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	SM 2540C	
MB 240-607607/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607607/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 607708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	SM 2540C	
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	SM 2540C	
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	SM 2540C	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	SM 2540C	
MB 240-607708/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-607708/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 608090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	2320B-1997	
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	2320B-1997	
MB 240-608090/30	Method Blank	Total/NA	Water	2320B-1997	
MB 240-608090/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608090/29	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-608090/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-201699-5 DU	MW-6-F-20240321-01	Total/NA	Water	2320B-1997	

Analysis Batch: 608207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	2320B-1997	
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	2320B-1997	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	2320B-1997	
MB 240-608207/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-608207/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 609344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	300.0	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	300.0	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	300.0	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	300.0	
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	300.0	
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	300.0	
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	300.0	
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	300.0	
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	300.0	
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	300.0	
MB 240-609344/3	Method Blank	Total/NA	Water	300.0	
LCS 240-609344/4	Lab Control Sample	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 609487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	300.0	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	300.0	
MB 240-609487/3	Method Blank	Total/NA	Water	300.0	
LCS 240-609487/4	Lab Control Sample	Total/NA	Water	300.0	
240-201699-1 MS	BAC-05-F-20240321-01	Total/NA	Water	300.0	
240-201699-1 MSD	BAC-05-F-20240321-01	Total/NA	Water	300.0	

Analysis Batch: 609495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	300.0	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	300.0	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	300.0	
MB 240-609495/3	Method Blank	Total/NA	Water	300.0	
LCS 240-609495/4	Lab Control Sample	Total/NA	Water	300.0	
240-201699-10 MS	BAC-21-F-20240322-01	Total/NA	Water	300.0	
240-201699-10 MSD	BAC-21-F-20240322-01	Total/NA	Water	300.0	

Rad

Prep Batch: 654479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	PrecSep-21	
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	PrecSep-21	
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	PrecSep-21	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	PrecSep-21	
MB 160-654479/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-654479/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 654480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-201699-1	BAC-05-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-2	BAC-04-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-3	BAC-13-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-4	BAC-03-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-5	MW-6-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-6	DUP-006-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-7	BAC-23-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-8	EB-001-F-20240321-01	Total/NA	Water	PrecSep_0	
240-201699-9	MW-1-F-20240322-01	Total/NA	Water	PrecSep_0	
240-201699-10	BAC-21-F-20240322-01	Total/NA	Water	PrecSep_0	
240-201699-11	BAC-22-F-20240322-01	Total/NA	Water	PrecSep_0	
MB 160-654480/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-654480/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Client Sample ID: BAC-05-F-20240321-01

Lab Sample ID: 240-201699-1

Date Collected: 03/21/24 10:13

Matrix: Water

Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 10:34
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 15:54
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:11
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 12:40
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 09:47
Total/NA	Analysis	300.0		5	609487	JWW	EET CLE	04/13/24 02:23
Total/NA	Analysis	SM 2540C		1	607607	C5SV	EET CLE	03/27/24 11:00
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:12
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:03
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: BAC-04-F-20240321-01

Lab Sample ID: 240-201699-2

Date Collected: 03/21/24 11:17

Matrix: Water

Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 10:59
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 16:48
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:19
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 12:35
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 10:08
Total/NA	Analysis	300.0		5	609487	JWW	EET CLE	04/13/24 03:28
Total/NA	Analysis	SM 2540C		1	607607	C5SV	EET CLE	03/27/24 11:00
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:12
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:03
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: BAC-13-F-20240321-01

Lab Sample ID: 240-201699-3

Date Collected: 03/21/24 12:02

Matrix: Water

Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 11:04

Client Sample ID: BAC-13-F-20240321-01
Lab Sample ID: 240-201699-3

Date Collected: 03/21/24 12:02
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 16:51
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:21
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 12:31
Total/NA	Analysis	300.0		5	609344	JWW	EET CLE	04/12/24 10:30
Total/NA	Analysis	300.0		25	609344	JWW	EET CLE	04/12/24 10:52
Total/NA	Analysis	SM 2540C		1	607607	C5SV	EET CLE	03/27/24 11:00
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:12
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:04
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: BAC-03-F-20240321-01
Lab Sample ID: 240-201699-4

Date Collected: 03/21/24 13:26
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:01
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 16:53
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:24
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 12:26
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 11:57
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:12
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:04
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: MW-6-F-20240321-01
Lab Sample ID: 240-201699-5

Date Collected: 03/21/24 14:22
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:05
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 16:56

Client Sample ID: MW-6-F-20240321-01
Lab Sample ID: 240-201699-5

Date Collected: 03/21/24 14:22
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:27
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:59
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 12:19
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:13
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:04
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: DUP-006-F-20240321-01
Lab Sample ID: 240-201699-6

Date Collected: 03/21/24 00:00
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:10
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 17:03
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:34
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 11:46
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 12:41
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:13
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:04
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: BAC-23-F-20240321-01
Lab Sample ID: 240-201699-7

Date Collected: 03/21/24 15:21
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:14
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 17:06
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:37
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 12:48
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 13:02

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201699-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-23-F-20240321-01
Lab Sample ID: 240-201699-7

Date Collected: 03/21/24 15:21
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:13
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:04
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: EB-001-F-20240321-01
Lab Sample ID: 240-201699-8

Date Collected: 03/21/24 15:30
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:18
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 17:08
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:39
Total/NA	Analysis	2320B-1997		1	608090	QUY8	EET CLE	04/01/24 12:44
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 13:24
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:14
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:04
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: MW-1-F-20240322-01
Lab Sample ID: 240-201699-9

Date Collected: 03/22/24 09:41
Matrix: Water
Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:23
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 17:11
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:42
Total/NA	Analysis	2320B-1997		1	608207	QUY8	EET CLE	04/02/24 10:37
Total/NA	Analysis	300.0		1	609344	JWW	EET CLE	04/12/24 13:46
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:14

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Client Sample ID: MW-1-F-20240322-01

Lab Sample ID: 240-201699-9

Date Collected: 03/22/24 09:41

Matrix: Water

Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	657955	SCB	EET SL	04/22/24 12:42
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: BAC-21-F-20240322-01

Lab Sample ID: 240-201699-10

Date Collected: 03/22/24 10:55

Matrix: Water

Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:36
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 17:13
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:44
Total/NA	Analysis	2320B-1997		1	608207	QUY8	EET CLE	04/02/24 09:56
Total/NA	Analysis	300.0		1	609495	JWW	EET CLE	04/13/24 11:48
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:14
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	658078	EMH	EET SL	04/22/24 12:17
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Client Sample ID: BAC-22-F-20240322-01

Lab Sample ID: 240-201699-11

Date Collected: 03/22/24 11:49

Matrix: Water

Date Received: 03/25/24 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6010D		1	607740	RKT	EET CLE	03/28/24 12:40
Total Recoverable	Prep	3005A			607610	BN	EET CLE	03/27/24 14:00
Total Recoverable	Analysis	6020B		1	607809	AJC	EET CLE	03/28/24 17:16
Total/NA	Prep	7470A			607612	BN	EET CLE	03/27/24 14:00
Total/NA	Analysis	7470A		1	607763	TQ6W	EET CLE	03/28/24 10:47
Total/NA	Analysis	2320B-1997		1	608207	QUY8	EET CLE	04/02/24 09:51
Total/NA	Analysis	300.0		1	609495	JWW	EET CLE	04/13/24 12:53
Total/NA	Analysis	300.0		5	609495	JWW	EET CLE	04/13/24 13:15
Total/NA	Analysis	SM 2540C		1	607708	C5SV	EET CLE	03/28/24 09:02
Total/NA	Prep	PrecSep-21			654479	KAK	EET SL	03/28/24 09:14
Total/NA	Analysis	9315		1	658164	SWS	EET SL	04/23/24 09:15
Total/NA	Prep	PrecSep_0			654480	KAK	EET SL	03/28/24 09:22
Total/NA	Analysis	9320		1	658078	EMH	EET SL	04/22/24 12:17
Total/NA	Analysis	Ra226_Ra228		1	658819	FLC	EET SL	04/26/24 09:16

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-201699-1

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201699-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-201699-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins
Environment Testing

Client Information	Sampler: Bobby Lasko	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID	Analysis Requested		Job #:
Address: 7397 OH-7	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra228, 9320_Ra226, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-05-F-20240321-01	3-21-24	1013	G	Water	N		1	1	2	1	1		
BAC-04-F-20240321-01	3-21-24	1117	G	Water	N		1	1	2	1	1		
BAC-13-F-20240321-01	3-21-24	1202	G	Water	N		1	1	2	1	1		
BAC-03-F-20240321-01	3-21-24	1326	G	Water	N		1	1	2	1	1		
MW-6-F-20240321-01	3-21-24	1422	G	Water	N		1	1	2	1	1		
DUP-006-F-20240321-01	3-21-24	—	G	Water	N		1	1	2	1	1		
BAC-23-F-20240321-01	3-21-24	1521	G	Water	N		1	1	2	1	1		
EB-001-F-20240321-01	3-21-24	1530	G	Water	N		1	1	2	1	1		
MW-1-F-20240322-01	3-22-24	0941	G	Water	N		1	1	2	1	1		
BAC-21-F-20240322-01	3-22-24	1055	G	Water	N		1	1	2	1	1		
BAC-22-F-20240322-01	3-22-24	1149	G	Water	N		1	1	2	1	1		

240-201699 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Ryan Smith	3-25-24/0945	KEI/WSP	Tom Edwards	3-25-24 11:30 hrs	Hub Options
2	Tom Edwards	3-25-24 15:25 hrs	Hub Options		Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3-25-24 15:30	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins - Cleveland Sample Receipt Form/Narrative — Login #: 201699
Barberton Facility

Client Lightstone — Site Name ____ — Cooler unpacked by: [signature]

Cooler Received on 3-25-24 — Opened on 3-26-24

FedEx: 1st Grd Exp UPS FAS Waypoint (Client Drop Off) Eurofins Courier Other ____

Receipt After-hours Drop-off Date/Time ____ Storage Location ____

Eurofins Cooler # 6 — (Foam Box) Client Cooler Box Other ____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other ____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt — (X) See Multiple Cooler Form

IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp ____ °C Corrected Cooler Temp. ____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	(No)
4. Did custody papers accompany the sample(s)?	(Yes)	No
5 Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes)	No
7 Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	(Y)	(Y) (Y)
10 Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11 Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	Yes	(No)
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC316719
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? ____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by:

19 SAMPLE CONDITION

Sample(s) ____ were received after the recommended holding time had expired

Sample(s) ____ were received in a broken container

Sample(s) ____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory

Time preserved ____ Preservative(s) added/Lot number(s): ____

VOA Sample Preservation - Date/Time VOAs Frozen. ____

Login # : 201699

4/26/2024

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 22	3.3	3.3	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	3.2	3.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	1.5	1.5	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 22	2.2	2.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	

3/26/2024

Login Container Summary Report

240-201699

4/26/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-05-F-20240321-01	240-201699-A-1	Plastic 60 mL - unpreserved				
BAC-05-F-20240321-01	240-201699-B-1	Plastic 60 mL - unpreserved				
BAC-05-F-20240321-01	240-201699-C-1	Plastic 500ml - unpreserved				
BAC-05-F-20240321-01	240-201699-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-05-F-20240321-01	240-201699-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20240321-01	240-201699-F-1	Plastic 1 liter - Nitric Acid	<2			
BAC-04-F-20240321-01	240-201699-A 2	Plastic 60 mL - unpreserved				
BAC-04-F-20240321-01	240-201699-B-2	Plastic 60 mL - unpreserved				
BAC-04-F-20240321-01	240-201699-C-2	Plastic 500ml - unpreserved				
BAC-04 F-20240321-01	240-201699-D-2	Plastic 500ml - with Nitric Acid	<2			
BAC-04-F-20240321-01	240-201699 E-2	Plastic 1 liter - Nitric Acid	<2			
BAC-04-F-20240321-01	240-201699-F-2	Plastic 1 liter - Nitric Acid	<2			
BAC-13-F-20240321-01	240-201699-A-3	Plastic 60 mL - unpreserved				
BAC-13-F-20240321-01	240-201699-B-3	Plastic 60 mL - unpreserved				
BAC-13-F-20240321-01	240-201699-C-3	Plastic 500ml - unpreserved				
BAC-13-F-20240321-01	240-201699-D-3	Plastic 500ml - with Nitric Acid	<2			
BAC-13 F-20240321-01	240-201699-E-3	Plastic 1 liter - Nitric Acid	<2			
BAC-13-F-20240321-01	240-201699-F-3	Plastic 1 liter - Nitric Acid	<2			
BAC-03-F-20240321-01	240-201699-A-4	Plastic 60 mL - unpreserved				
BAC-03-F-20240321-01	240-201699-B-4	Plastic 60 mL - unpreserved				
BAC-03-F-20240321-01	240-201699-C-4	Plastic 500ml - unpreserved				
BAC-03-F-20240321-01	240-201699-D-4	Plastic 500ml - with Nitric Acid	<2			
BAC-03-F-20240321-01	240-201699-E-4	Plastic 1 liter - Nitric Acid	<2			
BAC-03-F-20240321-01	240-201699-F-4	Plastic 1 liter - Nitric Acid	<2			
MW-6-F-20240321-01	240-201699-A-5	Plastic 60 mL - unpreserved				
MW-6-F-20240321-01	240-201699-B-5	Plastic 60 mL - unpreserved				
MW-6-F-20240321-01	240 201699-C-5	Plastic 500ml - unpreserved				
MW-6-F-20240321-01	240-201699-D-5	Plastic 500ml - with Nitric Acid	<2			
MW-6-F-20240321-01	240-201699-E-5	Plastic 1 liter - Nitric Acid	<2			
MW-6-F-20240321-01	240-201699-F 5	Plastic 1 liter - Nitric Acid	<2			
DUP-006-F-20240321-01	240-201699-A-6	Plastic 60 mL - unpreserved				
DUP-006-F 20240321-01	240-201699-B-6	Plastic 60 mL - unpreserved				
DUP-006-F-20240321-01	240-201699-C-6	Plastic 500ml - unpreserved				
DUP-006-F 20240321-01	240 201699-D-6	Plastic 500ml - with Nitric Acid	<2			
DUP-006-F-20240321-01	240-201699-E-6	Plastic 1 liter - Nitric Acid	<2			

4/26/2024

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
DUP-006-F-20240321-01	240-201699-F-6	Plastic 1 liter - Nitric Acid	<2			
BAC-23-F-20240321-01	240-201699-A-7	Plastic 60 mL - unpreserved				
BAC-23-F-20240321-01	240-201699-B-7	Plastic 60 mL - unpreserved				
BAC-23-F-20240321-01	240-201699-C-7	Plastic 500ml - unpreserved				
BAC-23-F-20240321-01	240-201699-D-7	Plastic 500ml - with Nitric Acid	<2			
BAC-23-F-20240321-01	240-201699-E-7	Plastic 1 liter - Nitric Acid	<2			
BAC-23-F-20240321-01	240-201699-F-7	Plastic 1 liter - Nitric Acid	<2			
EB-001-F-20240321-01	240-201699-A-8	Plastic 60 mL - unpreserved				
EB-001-F-20240321-01	240-201699-B-8	Plastic 60 mL - unpreserved				
EB-001-F-20240321-01	240-201699-C-8	Plastic 500ml - unpreserved				
EB-001-F-20240321-01	240-201699-D-8	Plastic 500ml - with Nitric Acid	<2			
EB-001-F-20240321-01	240-201699-E-8	Plastic 1 liter - Nitric Acid	<2			
EB-001-F-20240321-01	240-201699-F-8	Plastic 1 liter - Nitric Acid	<2			
MW-1-F-20240322-01	240-201699-A-9	Plastic 60 mL - unpreserved				
MW-1-F-20240322-01	240-201699-B-9	Plastic 60 mL - unpreserved				
MW-1-F-20240322-01	240-201699-C-9	Plastic 500ml - unpreserved				
MW-1-F-20240322-01	240-201699-D-9	Plastic 500ml - with Nitric Acid	<2			
MW-1-F-20240322-01	240-201699-E-9	Plastic 1 liter - Nitric Acid	<2			
MW-1-F-20240322-01	240-201699-F-9	Plastic 1 liter - Nitric Acid	<2			
BAC-21-F-20240322-01	240-201699-A-10	Plastic 60 mL - unpreserved				
BAC-21-F-20240322-01	240-201699-B-10	Plastic 60 mL - unpreserved				
BAC-21 F-20240322-01	240-201699-C-10	Plastic 500ml - unpreserved				
BAC-21-F-20240322-01	240-201699-D-10	Plastic 500ml - with Nitric Acid	<2			
BAC-21-F-20240322-01	240-201699-E-10	Plastic 1 liter - Nitric Acid	<2			
BAC-21-F-20240322-01	240-201699-F-10	Plastic 1 liter - Nitric Acid	<2			
BAC-22-F-20240322-01	240-201699-A-11	Plastic 60 mL - unpreserved				
BAC-22-F-20240322-01	240-201699-B-11	Plastic 60 mL - unpreserved				
BAC-22-F-20240322-01	240-201699-C-11	Plastic 500ml - unpreserved				
BAC-22-F-20240322-01	240-201699-D-11	Plastic 500ml - with Nitric Acid	<2			
BAC-22-F-20240322-01	240-201699-E-11	Plastic 1 liter - Nitric Acid	<2			
BAC-22-F-20240322-01	240-201699-F-11	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-182290.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-201699-1
Address: 13715 Rider Trail North,	Due Date Requested: 4/8/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Federal GWM Wells	Project #: 24019633			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BAC-05-F-20240321-01 (240-201699-1)	3/21/24	10:13 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-04-F-20240321-01 (240-201699-2)	3/21/24	11:17 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-13-F-20240321-01 (240-201699-3)	3/21/24	12:02 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-03-F-20240321-01 (240-201699-4)	3/21/24	13:26 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
MW-6-F-20240321-01 (240-201699-5)	3/21/24	14:22 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
DUP-006-F-20240321-01 (240-201699-6)	3/21/24	Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-23-F-20240321-01 (240-201699-7)	3/21/24	15:21 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
EB-001-F-20240321-01 (240-201699-8)	3/21/24	15:30 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
MW-1-F-20240322-01 (240-201699-9)	3/21/24	09:41 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Rachelle Marcic	3/26/24 920	PEI/NC	M. Pinette	MAR 27 2024 0920	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-182290.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-201699-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 4/8/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Federal GWM Wells	Project #: 24019633			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BAC-21-F-20240322-01 (240-201699-10)	3/21/24	10:55 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet
BAC-22-F-20240322-01 (240-201699-11)	3/21/24	11:49 Eastern		Water			X	X	X	2	, Recount of TAR after 21 day ingrowth if > action limit; save planchet

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Rachelle Hauser	03.26.24 920	ETNC			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				M. Pinette	MAR 27 2024 0920	
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-201699-1

Login Number: 201699
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 03/27/24 03:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 11/4/2024 2:10:21 PM

JOB DESCRIPTION

Gavin CCR

JOB NUMBER

240-212422-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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11/4/2024 2:10:21 PM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-212422-1 — Eurofins Cleveland

Job Narrative
240-212422-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/4/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.6°C and 3.7°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9320_Ra228: Radium 228 Batch 682567

The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences

BAC-17-F-20241001-01 (240-212422-1) and BAC-15-F-20241002-01 (240-212422-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-212422-1	BAC-17-F-20241001-01	Water	10/01/24 12:30	10/04/24 08:00
240-212422-2	BAC-16-F-20241001-01	Water	10/01/24 14:05	10/04/24 08:00
240-212422-3	BAC-12-F-20241002-01	Water	10/02/24 13:10	10/04/24 08:00
240-212422-4	BAC-15-F-20241002-01	Water	10/02/24 14:10	10/04/24 08:00
240-212422-5	BAC-14-F-20241002-01	Water	10/02/24 15:20	10/04/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-17-F-20241001-01 — Lab Sample ID: 240-212422-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4100		100	57	ug/L	1		6010D	Total Recoverable
Barium	29		5.0	0.77	ug/L	1		6020B	Total Recoverable
Beryllium	0.45	J	1.0	0.27	ug/L	1		6020B	Total Recoverable
Cadmium	0.34	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	44000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	64		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	4.9	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	25000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	790	J	1000	220	ug/L	1		6020B	Total Recoverable
Sodium	20000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	27		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	27		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	22		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.073		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	240		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	430		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-16-F-20241001-01 — Lab Sample ID: 240-212422-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1400		100	57	ug/L	1		6010D	Total Recoverable
Barium	39		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.10	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	110000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.81	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	6.5	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	22000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1400		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	0.92	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	140		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	140		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.096		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	190		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	490		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-12-F-20241002-01 — Lab Sample ID: 240-212422-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1700		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	3.5	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	83		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.24	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	87000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	1.7	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	4.4		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	0.88	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	8.9		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	18000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2500		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	0.98	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	30000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	89		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	89		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	66		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.085		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	200		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	490		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-15-F-20241002-01 — Lab Sample ID: 240-212422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	490		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	3.8	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	76		5.0	0.77	ug/L	1		6020B	Total Recoverable
Beryllium	0.59	J	1.0	0.27	ug/L	1		6020B	Total Recoverable
Cadmium	0.42	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	30000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	9.8		5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	8.7		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	6.5		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	9.4		8.0	3.4	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Client Sample ID: BAC-15-F-20241002-01 (Continued)
Lab Sample ID: 240-212422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	11000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2000		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	11000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	38		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	38		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	0.88	J	1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.046	J	0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	99		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	240		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-14-F-20241002-01
Lab Sample ID: 240-212422-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2700		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.1	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	84		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	75000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.6		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	6.0	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	20000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	82		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	82		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	34		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.069		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	240		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	470		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-17-F-20241001-01
Date Collected: 10/01/24 12:30
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4100		100	57	ug/L		10/07/24 14:00	10/09/24 23:01	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/07/24 14:00	10/08/24 21:29	1
Arsenic	ND		5.0	0.75	ug/L		10/07/24 14:00	10/08/24 21:29	1
Barium	29		5.0	0.77	ug/L		10/07/24 14:00	10/08/24 21:29	1
Beryllium	0.45	J	1.0	0.27	ug/L		10/07/24 14:00	10/08/24 21:29	1
Cadmium	0.34	J	1.0	0.077	ug/L		10/07/24 14:00	10/08/24 21:29	1
Calcium	44000		1000	250	ug/L		10/07/24 14:00	10/08/24 21:29	1
Chromium	ND		5.0	1.2	ug/L		10/07/24 14:00	10/08/24 21:29	1
Cobalt	64		1.0	0.086	ug/L		10/07/24 14:00	10/08/24 21:29	1
Lead	ND		1.0	0.45	ug/L		10/07/24 14:00	10/08/24 21:29	1
Lithium	4.9	J	8.0	3.4	ug/L		10/07/24 14:00	10/09/24 12:38	1
Magnesium	25000		1000	61	ug/L		10/07/24 14:00	10/08/24 21:29	1
Molybdenum	ND		5.0	1.1	ug/L		10/07/24 14:00	10/08/24 21:29	1
Potassium	790	J	1000	220	ug/L		10/07/24 14:00	10/08/24 21:29	1
Selenium	ND		5.0	0.89	ug/L		10/07/24 14:00	10/08/24 21:29	1
Sodium	20000		1000	880	ug/L		10/07/24 14:00	10/08/24 21:29	1
Thallium	ND		1.0	0.51	ug/L		10/07/24 14:00	10/09/24 12:38	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/07/24 14:00	10/08/24 09:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	27		5.0	2.6	mg/L			10/07/24 18:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	27		5.0	2.6	mg/L			10/07/24 18:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/07/24 18:27	1
Chloride (EPA 300.0)	22		1.0	0.13	mg/L			10/10/24 15:36	1
Fluoride (EPA 300.0)	0.073		0.050	0.024	mg/L			10/10/24 15:36	1
Sulfate (EPA 300.0)	240		5.0	1.7	mg/L			10/23/24 18:33	5
Total Dissolved Solids (SM 2540C)	430		10	7.8	mg/L			10/07/24 10:19	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.453		0.140	0.146	1.00	0.117	pCi/L	10/08/24 07:41	10/30/24 22:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.1*		*30 - 110*	*10/08/24 07:41*	*10/30/24 22:52*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.18	G	0.732	0.740	1.00	1.09	pCi/L	10/08/24 07:49	10/18/24 14:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-17-F-20241001-01
Date Collected: 10/01/24 12:30
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.1*		*30 - 110*	*10/08/24 07:49*	*10/18/24 14:03*	*1*
Y Carrier	*82.2*		*30 - 110*	*10/08/24 07:49*	*10/18/24 14:03*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.63**		0.745	0.754	5.00	1.09	pCi/L		11/04/24 13:00	1

Client Sample ID: BAC-16-F-20241001-01
Date Collected: 10/01/24 14:05
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1400		100	57	ug/L		10/07/24 14:00	10/09/24 23:05	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/07/24 14:00	10/08/24 21:33	1
Arsenic	ND		5.0	0.75	ug/L		10/07/24 14:00	10/08/24 21:33	1
Barium	39		5.0	0.77	ug/L		10/07/24 14:00	10/08/24 21:33	1
Beryllium	ND		1.0	0.27	ug/L		10/07/24 14:00	10/08/24 21:33	1
Cadmium	0.10	J	1.0	0.077	ug/L		10/07/24 14:00	10/08/24 21:33	1
Calcium	110000		1000	250	ug/L		10/07/24 14:00	10/08/24 21:33	1
Chromium	ND		5.0	1.2	ug/L		10/07/24 14:00	10/08/24 21:33	1
Cobalt	0.81	J	1.0	0.086	ug/L		10/07/24 14:00	10/08/24 21:33	1
Lead	ND		1.0	0.45	ug/L		10/07/24 14:00	10/08/24 21:33	1
Lithium	6.5	J	8.0	3.4	ug/L		10/07/24 14:00	10/09/24 12:41	1
Magnesium	22000		1000	61	ug/L		10/07/24 14:00	10/08/24 21:33	1
Molybdenum	ND		5.0	1.1	ug/L		10/07/24 14:00	10/08/24 21:33	1
Potassium	1400		1000	220	ug/L		10/07/24 14:00	10/08/24 21:33	1
Selenium	0.92	J	5.0	0.89	ug/L		10/07/24 14:00	10/08/24 21:33	1
Sodium	15000		1000	880	ug/L		10/07/24 14:00	10/08/24 21:33	1
Thallium	ND		1.0	0.51	ug/L		10/07/24 14:00	10/09/24 12:41	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/07/24 14:00	10/08/24 09:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	140		5.0	2.6	mg/L			10/07/24 18:31	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	140		5.0	2.6	mg/L			10/07/24 18:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/07/24 18:31	1
Chloride (EPA 300.0)	26		1.0	0.13	mg/L			10/10/24 15:56	1
Fluoride (EPA 300.0)	0.096		0.050	0.024	mg/L			10/10/24 15:56	1
Sulfate (EPA 300.0)	190		1.0	0.35	mg/L			10/10/24 15:56	1
Total Dissolved Solids (SM 2540C)	490		10	7.8	mg/L			10/07/24 10:19	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0488	U	0.0524	0.0526	1.00	0.0815	pCi/L	10/08/24 07:41	10/30/24 22:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*30 - 110*	*10/08/24 07:41*	*10/30/24 22:52*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0842	U	0.479	0.479	1.00	0.866	pCi/L	10/08/24 07:49	10/18/24 14:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-16-F-20241001-01
Date Collected: 10/01/24 14:05
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-2
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*30 - 110*	*10/08/24 07:49*	*10/18/24 14:03*	*1*
Y Carrier	*81.5*		*30 - 110*	*10/08/24 07:49*	*10/18/24 14:03*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.133	U	0.482	0.482	5.00	0.866	pCi/L		11/04/24 13:00	1

Client Sample ID: BAC-12-F-20241002-01

Lab Sample ID: 240-212422-3

Date Collected: 10/02/24 13:10

Matrix: Water

Date Received: 10/04/24 08:00

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1700		100	57	ug/L		10/07/24 14:00	10/09/24 23:10	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/07/24 14:00	10/08/24 21:38	1
Arsenic	3.5	J	5.0	0.75	ug/L		10/07/24 14:00	10/08/24 21:38	1
Barium	83		5.0	0.77	ug/L		10/07/24 14:00	10/08/24 21:38	1
Beryllium	ND		1.0	0.27	ug/L		10/07/24 14:00	10/08/24 21:38	1
Cadmium	0.24	J	1.0	0.077	ug/L		10/07/24 14:00	10/08/24 21:38	1
Calcium	87000		1000	250	ug/L		10/07/24 14:00	10/08/24 21:38	1
Chromium	1.7	J	5.0	1.2	ug/L		10/07/24 14:00	10/08/24 21:38	1
Cobalt	4.4		1.0	0.086	ug/L		10/07/24 14:00	10/08/24 21:38	1
Lead	0.88	J	1.0	0.45	ug/L		10/07/24 14:00	10/08/24 21:38	1
Lithium	8.9		8.0	3.4	ug/L		10/07/24 14:00	10/09/24 12:44	1
Magnesium	18000		1000	61	ug/L		10/07/24 14:00	10/08/24 21:38	1
Molybdenum	ND		5.0	1.1	ug/L		10/07/24 14:00	10/08/24 21:38	1
Potassium	2500		1000	220	ug/L		10/07/24 14:00	10/08/24 21:38	1
Selenium	0.98	J	5.0	0.89	ug/L		10/07/24 14:00	10/08/24 21:38	1
Sodium	30000		1000	880	ug/L		10/07/24 14:00	10/08/24 21:38	1
Thallium	ND		1.0	0.51	ug/L		10/07/24 14:00	10/09/24 12:44	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/07/24 14:00	10/08/24 09:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	89		5.0	2.6	mg/L			10/07/24 18:37	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	89		5.0	2.6	mg/L			10/07/24 18:37	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/07/24 18:37	1
Chloride (EPA 300.0)	66		1.0	0.13	mg/L			10/10/24 16:15	1
Fluoride (EPA 300.0)	0.085		0.050	0.024	mg/L			10/10/24 16:15	1
Sulfate (EPA 300.0)	200		5.0	1.7	mg/L			10/23/24 18:53	5
Total Dissolved Solids (SM 2540C)	490		10	7.8	mg/L			10/07/24 10:19	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132		0.0790	0.0799	1.00	0.102	pCi/L	10/08/24 07:41	10/30/24 22:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.7*		*30 - 110*	*10/08/24 07:41*	*10/30/24 22:52*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0896	U	0.390	0.390	1.00	0.749	pCi/L	10/08/24 07:49	10/18/24 14:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-12-F-20241002-01
Date Collected: 10/02/24 13:10
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-3
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.3*		*30 - 110*	*10/08/24 07:49*	*10/18/24 14:03*	*1*
Y Carrier	*86.4*		*30 - 110*	*10/08/24 07:49*	*10/18/24 14:03*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0424	U	0.398	0.398	5.00	0.749	pCi/L		11/04/24 13:00	1

Client Sample ID: BAC-15-F-20241002-01
Date Collected: 10/02/24 14:10
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-4
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	490		100	57	ug/L		10/07/24 14:00	10/09/24 23:14	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/07/24 14:00	10/08/24 21:42	1
Arsenic	3.8	J	5.0	0.75	ug/L		10/07/24 14:00	10/08/24 21:42	1
Barium	76		5.0	0.77	ug/L		10/07/24 14:00	10/08/24 21:42	1
Beryllium	0.59	J	1.0	0.27	ug/L		10/07/24 14:00	10/08/24 21:42	1
Cadmium	0.42	J	1.0	0.077	ug/L		10/07/24 14:00	10/08/24 21:42	1
Calcium	30000		1000	250	ug/L		10/07/24 14:00	10/08/24 21:42	1
Chromium	9.8		5.0	1.2	ug/L		10/07/24 14:00	10/08/24 21:42	1
Cobalt	8.7		1.0	0.086	ug/L		10/07/24 14:00	10/08/24 21:42	1
Lead	6.5		1.0	0.45	ug/L		10/07/24 14:00	10/08/24 21:42	1
Lithium	9.4		8.0	3.4	ug/L		10/07/24 14:00	10/09/24 12:46	1
Magnesium	11000		1000	61	ug/L		10/07/24 14:00	10/08/24 21:42	1
Molybdenum	ND		5.0	1.1	ug/L		10/07/24 14:00	10/08/24 21:42	1
Potassium	2000		1000	220	ug/L		10/07/24 14:00	10/08/24 21:42	1
Selenium	ND		5.0	0.89	ug/L		10/07/24 14:00	10/08/24 21:42	1
Sodium	11000		1000	880	ug/L		10/07/24 14:00	10/08/24 21:42	1
Thallium	ND		1.0	0.51	ug/L		10/07/24 14:00	10/09/24 12:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/07/24 14:00	10/08/24 09:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	38		5.0	2.6	mg/L			10/07/24 18:42	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	38		5.0	2.6	mg/L			10/07/24 18:42	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/07/24 18:42	1
Chloride (EPA 300.0)	0.88	J	1.0	0.13	mg/L			10/10/24 16:35	1
Fluoride (EPA 300.0)	0.046	J	0.050	0.024	mg/L			10/10/24 16:35	1
Sulfate (EPA 300.0)	99		1.0	0.35	mg/L			10/10/24 16:35	1
Total Dissolved Solids (SM 2540C)	240		10	7.8	mg/L			10/07/24 10:19	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.584		0.198	0.205	1.00	0.159	pCi/L	10/08/24 09:03	10/30/24 22:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*30 - 110*	*10/08/24 09:03*	*10/30/24 22:53*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.70	G	0.963	0.976	1.00	1.37	pCi/L	10/08/24 15:42	10/18/24 14:03	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-15-F-20241002-01
Date Collected: 10/02/24 14:10
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-4
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		30 - 110	10/08/24 15:42	10/18/24 14:03	1
Y Carrier	87.1		30 - 110	10/08/24 15:42	10/18/24 14:03	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.28		0.983	0.997	5.00	1.37	pCi/L		11/04/24 13:00	1

Client Sample ID: BAC-14-F-20241002-01
Date Collected: 10/02/24 15:20
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-5
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2700		100	57	ug/L		10/07/24 14:00	10/09/24 23:18	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/07/24 14:00	10/08/24 21:47	1
Arsenic	2.1	J	5.0	0.75	ug/L		10/07/24 14:00	10/08/24 21:47	1
Barium	84		5.0	0.77	ug/L		10/07/24 14:00	10/08/24 21:47	1
Beryllium	ND		1.0	0.27	ug/L		10/07/24 14:00	10/08/24 21:47	1
Cadmium	ND		1.0	0.077	ug/L		10/07/24 14:00	10/08/24 21:47	1
Calcium	75000		1000	250	ug/L		10/07/24 14:00	10/08/24 21:47	1
Chromium	ND		5.0	1.2	ug/L		10/07/24 14:00	10/08/24 21:47	1
Cobalt	1.6		1.0	0.086	ug/L		10/07/24 14:00	10/08/24 21:47	1
Lead	ND		1.0	0.45	ug/L		10/07/24 14:00	10/08/24 21:47	1
Lithium	6.0	J	8.0	3.4	ug/L		10/07/24 14:00	10/09/24 12:49	1
Magnesium	19000		1000	61	ug/L		10/07/24 14:00	10/08/24 21:47	1
Molybdenum	ND		5.0	1.1	ug/L		10/07/24 14:00	10/08/24 21:47	1
Potassium	1200		1000	220	ug/L		10/07/24 14:00	10/08/24 21:47	1
Selenium	ND		5.0	0.89	ug/L		10/07/24 14:00	10/08/24 21:47	1
Sodium	20000		1000	880	ug/L		10/07/24 14:00	10/08/24 21:47	1
Thallium	ND		1.0	0.51	ug/L		10/07/24 14:00	10/09/24 12:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/07/24 14:00	10/08/24 09:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	82		5.0	2.6	mg/L			10/07/24 19:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	82		5.0	2.6	mg/L			10/07/24 19:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/07/24 19:41	1
Chloride (EPA 300.0)	34		1.0	0.13	mg/L			10/10/24 16:55	1
Fluoride (EPA 300.0)	0.069		0.050	0.024	mg/L			10/10/24 16:55	1
Sulfate (EPA 300.0)	240		5.0	1.7	mg/L			10/23/24 19:13	5
Total Dissolved Solids (SM 2540C)	470		10	7.8	mg/L			10/07/24 10:19	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.263		0.110	0.112	1.00	0.123	pCi/L	10/09/24 08:16	11/01/24 09:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.6*		*30 - 110*	*10/09/24 08:16*	*11/01/24 09:33*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.32		0.551	0.564	1.00	0.712	pCi/L	10/09/24 08:23	10/25/24 11:49	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Client Sample ID: BAC-14-F-20241002-01
Date Collected: 10/02/24 15:20
Date Received: 10/04/24 08:00

Lab Sample ID: 240-212422-5
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		30 - 110	10/09/24 08:23	10/25/24 11:49	1
Y Carrier	62.8		30 - 110	10/09/24 08:23	10/25/24 11:49	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.58		0.562	0.575	5.00	0.712	pCi/L		11/04/24 13:00	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-212422-1	BAC-17-F-20241001-01	87.1
240-212422-2	BAC-16-F-20241001-01	81.4
240-212422-3	BAC-12-F-20241002-01	81.7
240-212422-3 DU	BAC-12-F-20241002-01	85.3
240-212422-4	BAC-15-F-20241002-01	81.4
240-212422-5	BAC-14-F-20241002-01	85.6
LCS 160-682566/2-A	Lab Control Sample	97.4
LCS 160-682845/2-A	Lab Control Sample	86.3
MB 160-682566/1-A	Method Blank	88.9
MB 160-682845/1-A	Method Blank	84.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-212422-1	BAC-17-F-20241001-01	87.1	82.2
240-212422-2	BAC-16-F-20241001-01	81.4	81.5
240-212422-3	BAC-12-F-20241002-01	85.3	86.4
240-212422-3 DU	BAC-12-F-20241002-01	81.7	76.3
240-212422-4	BAC-15-F-20241002-01	81.4	87.1
240-212422-5	BAC-14-F-20241002-01	85.6	62.8
LCS 160-682567/2-A	Lab Control Sample	97.4	83.4
LCS 160-682846/2-A	Lab Control Sample	86.3	76.3
MB 160-682567/1-A	Method Blank	88.9	84.9
MB 160-682846/1-A	Method Blank	84.8	89.3

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-629743/1-A
Matrix: Water
Analysis Batch: 630095

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		10/07/24 14:00	10/09/24 22:28	1

Lab Sample ID: LCS 240-629743/2-A
Matrix: Water
Analysis Batch: 630095

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	989		ug/L		99	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-629743/1-A
Matrix: Water
Analysis Batch: 630026

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/07/24 14:00	10/08/24 20:38	1
Arsenic	ND		5.0	0.75	ug/L		10/07/24 14:00	10/08/24 20:38	1
Barium	ND		5.0	0.77	ug/L		10/07/24 14:00	10/08/24 20:38	1
Beryllium	ND		1.0	0.27	ug/L		10/07/24 14:00	10/08/24 20:38	1
Cadmium	ND		1.0	0.077	ug/L		10/07/24 14:00	10/08/24 20:38	1
Calcium	ND		1000	250	ug/L		10/07/24 14:00	10/08/24 20:38	1
Chromium	ND		5.0	1.2	ug/L		10/07/24 14:00	10/08/24 20:38	1
Cobalt	ND		1.0	0.086	ug/L		10/07/24 14:00	10/08/24 20:38	1
Lead	ND		1.0	0.45	ug/L		10/07/24 14:00	10/08/24 20:38	1
Magnesium	ND		1000	61	ug/L		10/07/24 14:00	10/08/24 20:38	1
Molybdenum	ND		5.0	1.1	ug/L		10/07/24 14:00	10/08/24 20:38	1
Potassium	ND		1000	220	ug/L		10/07/24 14:00	10/08/24 20:38	1
Selenium	ND		5.0	0.89	ug/L		10/07/24 14:00	10/08/24 20:38	1
Sodium	ND		1000	880	ug/L		10/07/24 14:00	10/08/24 20:38	1

Lab Sample ID: MB 240-629743/1-A
Matrix: Water
Analysis Batch: 630125

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		8.0	3.4	ug/L		10/07/24 14:00	10/09/24 12:14	1
Thallium	ND		1.0	0.51	ug/L		10/07/24 14:00	10/09/24 12:14	1

Lab Sample ID: LCS 240-629743/3-A
Matrix: Water
Analysis Batch: 630026

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	101		ug/L		101	80 - 120
Arsenic	1000	994		ug/L		99	80 - 120
Barium	1000	1080		ug/L		108	80 - 120
Beryllium	500	521		ug/L		104	80 - 120
Cadmium	500	484		ug/L		97	80 - 120
Calcium	25000	24900		ug/L		100	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-629743/3-A
Matrix: Water
Analysis Batch: 630026

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	500	522		ug/L		104	80 - 120
Cobalt	500	543		ug/L		109	80 - 120
Lead	500	547		ug/L		109	80 - 120
Magnesium	25000	24900		ug/L		100	80 - 120
Molybdenum	500	539		ug/L		108	80 - 120
Potassium	25000	25200		ug/L		101	80 - 120
Selenium	1000	976		ug/L		98	80 - 120
Sodium	25000	24900		ug/L		100	80 - 120

Lab Sample ID: LCS 240-629743/3-A
Matrix: Water
Analysis Batch: 630125

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 629743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	500	502		ug/L		100	80 - 120
Thallium	1000	936		ug/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-629748/1-A
Matrix: Water
Analysis Batch: 629951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629748

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/07/24 14:00	10/08/24 09:14	1

Lab Sample ID: LCS 240-629748/2-A
Matrix: Water
Analysis Batch: 629951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.87		ug/L		97	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-629930/28
Matrix: Water
Analysis Batch: 629930

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/07/24 19:13	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/07/24 19:13	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/07/24 19:13	1

Lab Sample ID: MB 240-629930/4
Matrix: Water
Analysis Batch: 629930

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/07/24 17:24	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-629930/4
Matrix: Water
Analysis Batch: 629930

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/07/24 17:24	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/07/24 17:24	1

Lab Sample ID: LCS 240-629930/3
Matrix: Water
Analysis Batch: 629930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	280	255		mg/L		91	86 - 123

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-630113/3
Matrix: Water
Analysis Batch: 630113

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/10/24 13:57	1
Fluoride	ND		0.050	0.024	mg/L			10/10/24 13:57	1
Sulfate	ND		1.0	0.35	mg/L			10/10/24 13:57	1

Lab Sample ID: LCS 240-630113/4
Matrix: Water
Analysis Batch: 630113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	51.0		mg/L		102	90 - 110
Fluoride	2.50	2.66		mg/L		106	90 - 110
Sulfate	50.0	52.8		mg/L		106	90 - 110

Lab Sample ID: MB 240-632129/4
Matrix: Water
Analysis Batch: 632129

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/23/24 13:57	1
Fluoride	ND		0.050	0.024	mg/L			10/23/24 13:57	1
Sulfate	ND		1.0	0.35	mg/L			10/23/24 13:57	1

Lab Sample ID: LCS 240-632129/5
Matrix: Water
Analysis Batch: 632129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.9		mg/L		98	90 - 110
Fluoride	2.50	2.53		mg/L		101	90 - 110
Sulfate	50.0	51.1		mg/L		102	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-629757/1
Matrix: Water
Analysis Batch: 629757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/07/24 10:19	1

Lab Sample ID: LCS 240-629757/2
Matrix: Water
Analysis Batch: 629757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	721	699		mg/L		97	80 - 120

Lab Sample ID: 240-212422-5 DU
Matrix: Water
Analysis Batch: 629757

Client Sample ID: BAC-14-F-20241002-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	470		464		mg/L		2	20

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-682566/1-A
Matrix: Water
Analysis Batch: 685958

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682566

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02635	U	0.0552	0.0553	1.00	0.100	pCi/L	10/08/24 07:41	10/30/24 21:14	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.9*		*30 - 110*	*10/08/24 07:41*	*10/30/24 21:14*	*1*

Lab Sample ID: LCS 160-682566/2-A
Matrix: Water
Analysis Batch: 685958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682566

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	9.151		0.971	1.00	0.119	pCi/L	96	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.4*		*30 - 110*

Lab Sample ID: 240-212422-3 DU
Matrix: Water
Analysis Batch: 685861

Client Sample ID: BAC-12-F-20241002-01
Prep Type: Total/NA
Prep Batch: 682566

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.132		0.1793		0.0853	1.00	0.0923	pCi/L	0.29	1

Method: 9315 - Radium 226 by GFPC (Continued)

Lab Sample ID: 240-212422-3 DU
Matrix: Water
Analysis Batch: 685861

Client Sample ID: BAC-12-F-20241002-01
Prep Type: Total/NA
Prep Batch: 682566

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	85.3		30 - 110

Lab Sample ID: MB 160-682845/1-A
Matrix: Water
Analysis Batch: 686242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682845

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04956	U	0.0718	0.0719	1.00	0.122	pCi/L	10/09/24 08:16	11/01/24 07:48	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110	10/09/24 08:16	11/01/24 07:48	1

Lab Sample ID: LCS 160-682845/2-A
Matrix: Water
Analysis Batch: 686242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682845

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.58	9.438		1.04	1.00	0.154	pCi/L	99	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.3		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-682567/1-A
Matrix: Water
Analysis Batch: 684107

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682567

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.006897	U	0.316	0.316	1.00	0.587	pCi/L	10/08/24 07:49	10/18/24 12:14	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		30 - 110	10/08/24 07:49	10/18/24 12:14	1
Y Carrier	84.9		30 - 110	10/08/24 07:49	10/18/24 12:14	1

Lab Sample ID: LCS 160-682567/2-A
Matrix: Water
Analysis Batch: 684107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682567

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.42	9.387		1.29	1.00	0.594	pCi/L	111	75 - 125		

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-682567/2-A
Matrix: Water
Analysis Batch: 684107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682567

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.4		30 - 110
Y Carrier	83.4		30 - 110

Lab Sample ID: 240-212422-3 DU
Matrix: Water
Analysis Batch: 684107

Client Sample ID: BAC-12-F-20241002-01
Prep Type: Total/NA
Prep Batch: 682567

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	-0.0896	U		0.03028	U	0.417	1.00	0.779	pCi/L			0.15	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	81.7		30 - 110
Y Carrier	76.3		30 - 110

Lab Sample ID: MB 160-682846/1-A
Matrix: Water
Analysis Batch: 685112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682846

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.8104		0.398	0.405	1.00	0.550	pCi/L	10/09/24 08:23	10/25/24 11:52	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110	10/09/24 08:23	10/25/24 11:52	1
Y Carrier	89.3		30 - 110	10/09/24 08:23	10/25/24 11:52	1

Lab Sample ID: LCS 160-682846/2-A
Matrix: Water
Analysis Batch: 685112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682846

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.40	9.467		1.35	1.00	0.591	pCi/L	113	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.3		30 - 110
Y Carrier	76.3		30 - 110

Metals

Prep Batch: 629743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total Recoverable	Water	3005A	
240-212422-2	BAC-16-F-20241001-01	Total Recoverable	Water	3005A	
240-212422-3	BAC-12-F-20241002-01	Total Recoverable	Water	3005A	
240-212422-4	BAC-15-F-20241002-01	Total Recoverable	Water	3005A	
240-212422-5	BAC-14-F-20241002-01	Total Recoverable	Water	3005A	
MB 240-629743/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-629743/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-629743/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 629748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	7470A	
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	7470A	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	7470A	
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	7470A	
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	7470A	
MB 240-629748/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-629748/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 629951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	7470A	629748
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	7470A	629748
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	7470A	629748
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	7470A	629748
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	7470A	629748
MB 240-629748/1-A	Method Blank	Total/NA	Water	7470A	629748
LCS 240-629748/2-A	Lab Control Sample	Total/NA	Water	7470A	629748

Analysis Batch: 630026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total Recoverable	Water	6020B	629743
240-212422-2	BAC-16-F-20241001-01	Total Recoverable	Water	6020B	629743
240-212422-3	BAC-12-F-20241002-01	Total Recoverable	Water	6020B	629743
240-212422-4	BAC-15-F-20241002-01	Total Recoverable	Water	6020B	629743
240-212422-5	BAC-14-F-20241002-01	Total Recoverable	Water	6020B	629743
MB 240-629743/1-A	Method Blank	Total Recoverable	Water	6020B	629743
LCS 240-629743/3-A	Lab Control Sample	Total Recoverable	Water	6020B	629743

Analysis Batch: 630095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total Recoverable	Water	6010D	629743
240-212422-2	BAC-16-F-20241001-01	Total Recoverable	Water	6010D	629743
240-212422-3	BAC-12-F-20241002-01	Total Recoverable	Water	6010D	629743
240-212422-4	BAC-15-F-20241002-01	Total Recoverable	Water	6010D	629743
240-212422-5	BAC-14-F-20241002-01	Total Recoverable	Water	6010D	629743
MB 240-629743/1-A	Method Blank	Total Recoverable	Water	6010D	629743
LCS 240-629743/2-A	Lab Control Sample	Total Recoverable	Water	6010D	629743

Metals

Analysis Batch: 630125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total Recoverable	Water	6020B	629743
240-212422-2	BAC-16-F-20241001-01	Total Recoverable	Water	6020B	629743
240-212422-3	BAC-12-F-20241002-01	Total Recoverable	Water	6020B	629743
240-212422-4	BAC-15-F-20241002-01	Total Recoverable	Water	6020B	629743
240-212422-5	BAC-14-F-20241002-01	Total Recoverable	Water	6020B	629743
MB 240-629743/1-A	Method Blank	Total Recoverable	Water	6020B	629743
LCS 240-629743/3-A	Lab Control Sample	Total Recoverable	Water	6020B	629743

General Chemistry

Analysis Batch: 629757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	SM 2540C	
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	SM 2540C	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	SM 2540C	
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	SM 2540C	
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	SM 2540C	
MB 240-629757/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-629757/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-212422-5 DU	BAC-14-F-20241002-01	Total/NA	Water	SM 2540C	

Analysis Batch: 629930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	2320B-1997	
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	2320B-1997	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	2320B-1997	
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	2320B-1997	
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	2320B-1997	
MB 240-629930/28	Method Blank	Total/NA	Water	2320B-1997	
MB 240-629930/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-629930/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 630113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	300.0	
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	300.0	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	300.0	
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	300.0	
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	300.0	
MB 240-630113/3	Method Blank	Total/NA	Water	300.0	
LCS 240-630113/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 632129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	300.0	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	300.0	
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	300.0	
MB 240-632129/4	Method Blank	Total/NA	Water	300.0	
LCS 240-632129/5	Lab Control Sample	Total/NA	Water	300.0	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212422-1

Rad

Prep Batch: 682566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	PrecSep-21	
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	PrecSep-21	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	PrecSep-21	
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	PrecSep-21	
MB 160-682566/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-682566/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-212422-3 DU	BAC-12-F-20241002-01	Total/NA	Water	PrecSep-21	

Prep Batch: 682567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-1	BAC-17-F-20241001-01	Total/NA	Water	PrecSep_0	
240-212422-2	BAC-16-F-20241001-01	Total/NA	Water	PrecSep_0	
240-212422-3	BAC-12-F-20241002-01	Total/NA	Water	PrecSep_0	
240-212422-4	BAC-15-F-20241002-01	Total/NA	Water	PrecSep_0	
MB 160-682567/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-682567/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-212422-3 DU	BAC-12-F-20241002-01	Total/NA	Water	PrecSep_0	

Prep Batch: 682845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	PrecSep-21	
MB 160-682845/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-682845/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 682846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212422-5	BAC-14-F-20241002-01	Total/NA	Water	PrecSep_0	
MB 160-682846/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-682846/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212422-1
Project/Site: Gavin CCR

Client Sample ID: BAC-17-F-20241001-01
Lab Sample ID: 240-212422-1

Date Collected: 10/01/24 12:30
Matrix: Water
Date Received: 10/04/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 23:01
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630026	DSH	EET CLE	10/08/24 21:29
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 12:38
Total/NA	Prep	7470A			629748	S4FJ	EET CLE	10/07/24 14:00
Total/NA	Analysis	7470A		1	629951	TQ6W	EET CLE	10/08/24 09:23
Total/NA	Analysis	2320B-1997		1	629930	GZF4	EET CLE	10/07/24 18:27
Total/NA	Analysis	300.0		1	630113	JMR	EET CLE	10/10/24 15:36
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 18:33
Total/NA	Analysis	SM 2540C		1	629757	AAP	EET CLE	10/07/24 10:19
Total/NA	Prep	PrecSep-21			682566	BCE	EET SL	10/08/24 07:41
Total/NA	Analysis	9315		1	685861	FLC	EET SL	10/30/24 22:52
Total/NA	Prep	PrecSep_0			682567	BCE	EET SL	10/08/24 07:49
Total/NA	Analysis	9320		1	684107	EMH	EET SL	10/18/24 14:03
Total/NA	Analysis	Ra226_Ra228		1	686788	FLC	EET SL	11/04/24 13:00

Client Sample ID: BAC-16-F-20241001-01
Lab Sample ID: 240-212422-2

Date Collected: 10/01/24 14:05
Matrix: Water
Date Received: 10/04/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 23:05
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630026	DSH	EET CLE	10/08/24 21:33
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 12:41
Total/NA	Prep	7470A			629748	S4FJ	EET CLE	10/07/24 14:00
Total/NA	Analysis	7470A		1	629951	TQ6W	EET CLE	10/08/24 09:24
Total/NA	Analysis	2320B-1997		1	629930	GZF4	EET CLE	10/07/24 18:31
Total/NA	Analysis	300.0		1	630113	JMR	EET CLE	10/10/24 15:56
Total/NA	Analysis	SM 2540C		1	629757	AAP	EET CLE	10/07/24 10:19
Total/NA	Prep	PrecSep-21			682566	BCE	EET SL	10/08/24 07:41
Total/NA	Analysis	9315		1	685861	FLC	EET SL	10/30/24 22:52
Total/NA	Prep	PrecSep_0			682567	BCE	EET SL	10/08/24 07:49
Total/NA	Analysis	9320		1	684107	EMH	EET SL	10/18/24 14:03
Total/NA	Analysis	Ra226_Ra228		1	686788	FLC	EET SL	11/04/24 13:00

Client Sample ID: BAC-12-F-20241002-01

Lab Sample ID: 240-212422-3

Date Collected: 10/02/24 13:10

Matrix: Water

Date Received: 10/04/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 23:10
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630026	DSH	EET CLE	10/08/24 21:38
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 12:44
Total/NA	Prep	7470A			629748	S4FJ	EET CLE	10/07/24 14:00
Total/NA	Analysis	7470A		1	629951	TQ6W	EET CLE	10/08/24 09:26
Total/NA	Analysis	2320B-1997		1	629930	GZF4	EET CLE	10/07/24 18:37
Total/NA	Analysis	300.0		1	630113	JMR	EET CLE	10/10/24 16:15
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 18:53
Total/NA	Analysis	SM 2540C		1	629757	AAP	EET CLE	10/07/24 10:19
Total/NA	Prep	PrecSep-21			682566	BCE	EET SL	10/08/24 07:41
Total/NA	Analysis	9315		1	685861	FLC	EET SL	10/30/24 22:52
Total/NA	Prep	PrecSep_0			682567	BCE	EET SL	10/08/24 07:49
Total/NA	Analysis	9320		1	684107	EMH	EET SL	10/18/24 14:03
Total/NA	Analysis	Ra226_Ra228		1	686788	FLC	EET SL	11/04/24 13:00

Client Sample ID: BAC-15-F-20241002-01

Lab Sample ID: 240-212422-4

Date Collected: 10/02/24 14:10

Matrix: Water

Date Received: 10/04/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 23:14
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630026	DSH	EET CLE	10/08/24 21:42
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 12:46
Total/NA	Prep	7470A			629748	S4FJ	EET CLE	10/07/24 14:00
Total/NA	Analysis	7470A		1	629951	TQ6W	EET CLE	10/08/24 09:28
Total/NA	Analysis	2320B-1997		1	629930	GZF4	EET CLE	10/07/24 18:42
Total/NA	Analysis	300.0		1	630113	JMR	EET CLE	10/10/24 16:35
Total/NA	Analysis	SM 2540C		1	629757	AAP	EET CLE	10/07/24 10:19
Total/NA	Prep	PrecSep-21			682566	BCE	EET SL	10/08/24 09:03
Total/NA	Analysis	9315		1	685861	FLC	EET SL	10/30/24 22:53
Total/NA	Prep	PrecSep_0			682567	BCE	EET SL	10/08/24 15:42
Total/NA	Analysis	9320		1	684107	EMH	EET SL	10/18/24 14:03
Total/NA	Analysis	Ra226_Ra228		1	686788	FLC	EET SL	11/04/24 13:00

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212422-1
Project/Site: Gavin CCR

Client Sample ID: BAC-14-F-20241002-01
Lab Sample ID: 240-212422-5

Date Collected: 10/02/24 15:20
Matrix: Water
Date Received: 10/04/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 23:18
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630026	DSH	EET CLE	10/08/24 21:47
Total Recoverable	Prep	3005A			629743	S4FJ	EET CLE	10/07/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 12:49
Total/NA	Prep	7470A			629748	S4FJ	EET CLE	10/07/24 14:00
Total/NA	Analysis	7470A		1	629951	TQ6W	EET CLE	10/08/24 09:33
Total/NA	Analysis	2320B-1997		1	629930	GZF4	EET CLE	10/07/24 19:41
Total/NA	Analysis	300.0		1	630113	JMR	EET CLE	10/10/24 16:55
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 19:13
Total/NA	Analysis	SM 2540C		1	629757	AAP	EET CLE	10/07/24 10:19
Total/NA	Prep	PrecSep-21			682845	BCE	EET SL	10/09/24 08:16
Total/NA	Analysis	9315		1	686243	SWS	EET SL	11/01/24 09:33
Total/NA	Prep	PrecSep_0			682846	BCE	EET SL	10/09/24 08:23
Total/NA	Analysis	9320		1	685112	SWS	EET SL	10/25/24 11:49
Total/NA	Analysis	Ra226_Ra228		1	686788	FLC	EET SL	11/04/24 13:00

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212422-1
Project/Site: Gavin CCR

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	12-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212422-1
Project/Site: Gavin CCR

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbus 209

eurofins Environment Testing

Client Information	Sampler: Bobby Coste	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra228, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-17-F-2024 1001-01	10-1-24	1230	G	Water	N		1	1	2	1	1		
BAC-16-F-2024 1001-01	10-1-24	1405	G	Water	N		1	1	2	1	1		
BAC-12-F-2024 1002-01	10-2-24	1310	G	Water	N		1	1	2	1	1		
BAC-15-F-2024 1002-01	10-2-24	1410	G	Water	N		1	1	2	1	1		
BAC-14-F-2024 1002-01	10-2-24	1520	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-212422 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	10-3-24/0915	KEMRON	Ashley Deal	10.3.24 1256	ETA
Ashley Deal	10.3.24 1700	ETA	[signature]	10/4/24 0800	OSM
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative Login # :
Barberton Facility

Client Lightstone Flavin Site Name

Cooler Received on 10/4/24 Opened on 10/4/24

Cooler unpacked by: JMOROSKO

FedEx. 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used. Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☒ See Multiple Cooler Form

IR GUN # 17 (CF 1.1 °C) Observed Cooler Temp. °C Corrected Cooler Temp °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC447997
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
17 Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19 SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container
Sample(s) were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory
Time preserved: *Preservative(s) added/Lot number(s).*

VOA Sample Preservation - Date/Time VOAs Frozen

11/4/2024

Login # : _____

11/4/2024

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 11	2.5	2.6	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 13	3.0	3.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	

10/4/2024

Login Container Summary Report

240-212422

11/4/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-17-F-20241001-01	240-212422-A-1	Plastic 60 mL - unpreserved				
BAC-17-F-20241001-01	240-212422-B-1	Plastic 60 mL - unpreserved				
BAC-17-F-20241001-01	240-212422-C-1	Plastic 500ml - unpreserved				
BAC-17-F-20241001-01	240-212422-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-17-F-20241001-01	240-212422-G-1	Plastic 1 liter - Nitric Acid				
BAC-17-F-20241001-01	240-212422-H-1	Plastic 1 liter - Nitric Acid				
BAC-16-F-20241001-01	240-212422-A-2	Plastic 60 mL - unpreserved				
BAC-16-F-20241001-01	240-212422-B-2	Plastic 60 mL - unpreserved				
BAC-16-F-20241001-01	240-212422-C-2	Plastic 500ml - unpreserved				
BAC-16-F-20241001-01	240-212422-D-2	Plastic 500ml - with Nitric Acid	<2			
BAC-16-F-20241001-01	240-212422-E-2	Plastic 1 liter - Nitric Acid				
BAC-16-F-20241001-01	240-212422-F-2	Plastic 1 liter - Nitric Acid				
BAC-12-F-20241002-01	240-212422-A-3	Plastic 60 mL - unpreserved				
BAC-12-F-20241002-01	240-212422-B-3	Plastic 60 mL - unpreserved				
BAC-12-F-20241002-01	240-212422-C-3	Plastic 500ml - unpreserved				
BAC-12-F-20241002-01	240-212422-D-3	Plastic 500ml - with Nitric Acid	<2			
BAC-12-F-20241002-01	240-212422-E-3	Plastic 1 liter - Nitric Acid				
BAC-12-F-20241002-01	240-212422-F-3	Plastic 1 liter - Nitric Acid				
BAC-15-F-20241002-01	240-212422-A-4	Plastic 60 mL - unpreserved				
BAC-15-F-20241002-01	240-212422-B-4	Plastic 60 mL - unpreserved				
BAC-15-F-20241002-01	240-212422-C-4	Plastic 500ml - unpreserved				
BAC-15-F-20241002-01	240-212422-D-4	Plastic 500ml - with Nitric Acid	<2			
BAC-15-F-20241002-01	240-212422-E-4	Plastic 1 liter - Nitric Acid				
BAC-15-F-20241002-01	240-212422-F-4	Plastic 1 liter - Nitric Acid				
BAC-14-F-20241002-01	240-212422-A-5	Plastic 60 mL - unpreserved				
BAC-14-F-20241002-01	240-212422-B-5	Plastic 60 mL - unpreserved				
BAC-14-F-20241002-01	240-212422-C-5	Plastic 500ml - unpreserved				
BAC-14-F-20241002-01	240-212422-D-5	Plastic 500ml - with Nitric Acid	<2			
BAC-14-F-20241002-01	240-212422-E-5	Plastic 1 liter - Nitric Acid				
BAC-14-F-20241002-01	240-212422-F-5	Plastic 1 liter - Nitric Acid				

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-191635.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-212422-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/3/2024			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BAC-17-F-20241001-01 (240-212422-1)	10/1/24	12:30 Eastern	G	Water			X	X	X	2	
BAC-16-F-20241001-01 (240-212422-2)	10/1/24	14:05 Eastern	G	Water			X	X	X	2	
BAC-12-F-20241002-01 (240-212422-3)	10/2/24	13:10 Eastern	G	Water			X	X	X	2	
BAC-15-F-20241002-01 (240-212422-4)	10/2/24	14:10 Eastern	G	Water			X	X	X	2	
BAC-14-F-20241002-01 (240-212422-5)	10/2/24	15:20 Eastern	G	Water			X	X	X	2	

Preservation Codes: -

Other:

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	MELISSA LOAR	10.4.24		Sierra Worthington	10/7 08:30	ETA-STL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 05/06/2024

11/4/2024

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-212422-1

Login Number: 212422
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/07/24 12:24 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

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JOB DESCRIPTION

Gavin CCR

JOB NUMBER

240-212570-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212570-1
Project/Site: Gavin CCR

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-212570-1 — Eurofins Cleveland

Job Narrative
240-212570-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/8/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3°C, 3.5°C and 4.1°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9320_Ra228: Radium-228 batch 683226
The detection goal was not met for the following sample due to the reduced sample volume attributed to the presence of matrix interferences: BAC-09-F-20241004-01 (240-212570-6). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212570-1
Project/Site: Gavin CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-212570-1	MW-1-F-20241003-01	Water	10/03/24 10:35	10/08/24 08:00
240-212570-2	BAC-21-F-20241003-01	Water	10/03/24 12:00	10/08/24 08:00
240-212570-3	BAC-22-F-20241003-01	Water	10/03/24 14:45	10/08/24 08:00
240-212570-4	DUP-005-F-20241003-01	Water	10/03/24 00:00	10/08/24 08:00
240-212570-5	BAC-01-F-20241004-01	Water	10/04/24 10:40	10/08/24 08:00
240-212570-6	BAC-09-F-20241004-01	Water	10/04/24 12:20	10/08/24 08:00
240-212570-7	MW-6-F-20241004-01	Water	10/04/24 14:05	10/08/24 08:00
240-212570-8	BAC-23-F-20241004-01	Water	10/04/24 15:30	10/08/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: MW-1-F-20241003-01 — Lab Sample ID: 240-212570-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	79	J	100	57	ug/L	1		6010D	Total Recoverable
Antimony	0.81	J	2.0	0.57	ug/L	1		6020B	Total Recoverable
Barium	120		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.20	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.64	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	5.4	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	15000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	1.2	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	1600		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	1.9	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	19000		1000	880	ug/L	1		6020B	Total Recoverable
Thallium	0.66	J	1.0	0.51	ug/L	1		6020B	Total Recoverable
Total Alkalinity	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	35		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.10		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	130		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	440		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-21-F-20241003-01 — Lab Sample ID: 240-212570-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	430		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	3.6	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	170		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.23	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	2.0	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	1.1		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	1.2		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	7.5	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	16000		1000	61	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-21-F-20241003-01 (Continued)
Lab Sample ID: 240-212570-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	1.5	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	2700		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	1.5	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	35000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	71		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.084		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	140		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	530		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-22-F-20241003-01
Lab Sample ID: 240-212570-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	210		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.9	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	130		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.087	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	150000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.83	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	5.1	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	20000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	20000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	38		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.092		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	250		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	600		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-005-F-20241003-01
Lab Sample ID: 240-212570-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	210		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.7	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	140		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	150000		1000	250	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP-005-F-20241003-01 (Continued)

Lab Sample ID: 240-212570-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.89	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	5.1	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	20000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	38		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.092		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	250		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	610		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-01-F-20241004-01

Lab Sample ID: 240-212570-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	120		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.1	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	72		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	100000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.61	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	1.1		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	3.9	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	12000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1600		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	13000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	220		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	220		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	24		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.12		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	83		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	370		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-09-F-20241004-01

Lab Sample ID: 240-212570-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	210		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.6	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	5400		50	7.7	ug/L	10		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-09-F-20241004-01 (Continued)

Lab Sample ID: 240-212570-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	400000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	3.0	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	1.2		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	1.1		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	75		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	97000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	14		5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	5800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	1600000		10000	8800	ug/L	10		6020B	Total Recoverable
Total Alkalinity	150		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	150		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	3300		25	3.2	mg/L	25		300.0	Total/NA
Fluoride	0.44		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	54		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	6100		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-6-F-20241004-01

Lab Sample ID: 240-212570-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	61	J	100	57	ug/L	1		6010D	Total Recoverable
Barium	130		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	110000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.35	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	5.2	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	13000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1700		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	28		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.094		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	120		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	440		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-23-F-20241004-01

Lab Sample ID: 240-212570-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	260		100	57	ug/L	1		6010D	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-23-F-20241004-01 (Continued)
Lab Sample ID: 240-212570-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.87	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	130		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.77	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Magnesium	15000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2000		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	19000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	220		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	220		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	40		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.14		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	150		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	480		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1-F-20241003-01
Date Collected: 10/03/24 10:35
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	79	J	100	57	ug/L		10/08/24 14:00	10/09/24 19:50	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.81	J	2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:06	1
Arsenic	ND		5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:06	1
Barium	120		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 10:06	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:06	1
Cadmium	0.20	J	1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:06	1
Calcium	130000		1000	250	ug/L		10/08/24 14:00	10/09/24 10:06	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:06	1
Cobalt	0.64	J	1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:06	1
Lead	ND		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:06	1
Lithium	5.4	J	8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:06	1
Magnesium	15000		1000	61	ug/L		10/08/24 14:00	10/09/24 10:06	1
Molybdenum	1.2	J	5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:06	1
Potassium	1600		1000	220	ug/L		10/08/24 14:00	10/09/24 10:06	1
Selenium	1.9	J	5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:06	1
Sodium	19000		1000	880	ug/L		10/08/24 14:00	10/09/24 10:06	1
Thallium	0.66	J	1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	240		5.0	2.6	mg/L			10/08/24 17:57	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	240		5.0	2.6	mg/L			10/08/24 17:57	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 17:57	1
Chloride (EPA 300.0)	35		1.0	0.13	mg/L			10/11/24 07:03	1
Fluoride (EPA 300.0)	0.10		0.050	0.024	mg/L			10/11/24 07:03	1
Sulfate (EPA 300.0)	130		1.0	0.35	mg/L			10/11/24 07:03	1
Total Dissolved Solids (SM 2540C)	440		10	7.8	mg/L			10/08/24 13:16	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.196		0.108	0.109	1.00	0.141	pCi/L	10/11/24 08:10	11/04/24 09:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*30 - 110*	*10/11/24 08:10*	*11/04/24 09:37*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.896		0.431	0.439	1.00	0.582	pCi/L	10/11/24 08:22	10/28/24 12:21	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: MW-1-F-20241003-01
Date Collected: 10/03/24 10:35
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-1
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.2		30 - 110	10/11/24 08:22	10/28/24 12:21	1
Y Carrier	71.4		30 - 110	10/11/24 08:22	10/28/24 12:21	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.09		0.444	0.452	5.00	0.582	pCi/L		11/06/24 14:15	1

Client Sample ID: BAC-21-F-20241003-01
Date Collected: 10/03/24 12:00
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	430		100	57	ug/L		10/08/24 14:00	10/09/24 19:30	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 09:46	1
Arsenic	3.6	J	5.0	0.75	ug/L		10/08/24 14:00	10/09/24 09:46	1
Barium	170		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 09:46	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 09:46	1
Cadmium	0.23	J	1.0	0.077	ug/L		10/08/24 14:00	10/09/24 09:46	1
Calcium	130000		1000	250	ug/L		10/08/24 14:00	10/09/24 09:46	1
Chromium	2.0	J	5.0	1.2	ug/L		10/08/24 14:00	10/09/24 09:46	1
Cobalt	1.1		1.0	0.086	ug/L		10/08/24 14:00	10/09/24 09:46	1
Lead	1.2		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 09:46	1
Lithium	7.5	J	8.0	3.4	ug/L		10/08/24 14:00	10/09/24 09:46	1
Magnesium	16000		1000	61	ug/L		10/08/24 14:00	10/09/24 09:46	1
Molybdenum	1.5	J	5.0	1.1	ug/L		10/08/24 14:00	10/09/24 09:46	1
Potassium	2700		1000	220	ug/L		10/08/24 14:00	10/09/24 09:46	1
Selenium	1.5	J	5.0	0.89	ug/L		10/08/24 14:00	10/09/24 09:46	1
Sodium	35000		1000	880	ug/L		10/08/24 14:00	10/09/24 09:46	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 09:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	230		5.0	2.6	mg/L			10/08/24 18:02	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	230		5.0	2.6	mg/L			10/08/24 18:02	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:02	1
Chloride (EPA 300.0)	71		1.0	0.13	mg/L			10/11/24 05:05	1
Fluoride (EPA 300.0)	0.084		0.050	0.024	mg/L			10/11/24 05:05	1
Sulfate (EPA 300.0)	140		1.0	0.35	mg/L			10/11/24 05:05	1
Total Dissolved Solids (SM 2540C)	530		10	7.8	mg/L			10/08/24 13:16	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.225		0.115	0.117	1.00	0.136	pCi/L	10/11/24 08:10	11/04/24 09:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*30 - 110*	*10/11/24 08:10*	*11/04/24 09:37*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.616	U	0.481	0.485	1.00	0.740	pCi/L	10/11/24 08:22	10/28/24 12:21	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: BAC-21-F-20241003-01
Date Collected: 10/03/24 12:00
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-2
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		30 - 110	10/11/24 08:22	10/28/24 12:21	1
Y Carrier	77.0		30 - 110	10/11/24 08:22	10/28/24 12:21	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.842		0.495	0.499	5.00	0.740	pCi/L		11/06/24 14:15	1

Client Sample ID: BAC-22-F-20241003-01
Date Collected: 10/03/24 14:45
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-3
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	210		100	57	ug/L		10/08/24 14:00	10/09/24 19:54	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:14	1
Arsenic	1.9	J	5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:14	1
Barium	130		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 10:14	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:14	1
Cadmium	0.087	J	1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:14	1
Calcium	150000		1000	250	ug/L		10/08/24 14:00	10/09/24 10:14	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:14	1
Cobalt	0.83	J	1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:14	1
Lead	ND		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:14	1
Lithium	5.1	J	8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:14	1
Magnesium	20000		1000	61	ug/L		10/08/24 14:00	10/09/24 10:14	1
Molybdenum	ND		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:14	1
Potassium	2800		1000	220	ug/L		10/08/24 14:00	10/09/24 10:14	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:14	1
Sodium	20000		1000	880	ug/L		10/08/24 14:00	10/09/24 10:14	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:14	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	230		5.0	2.6	mg/L			10/08/24 18:07	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	230		5.0	2.6	mg/L			10/08/24 18:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:07	1
Chloride (EPA 300.0)	38		1.0	0.13	mg/L			10/11/24 07:23	1
Fluoride (EPA 300.0)	0.092		0.050	0.024	mg/L			10/11/24 07:23	1
Sulfate (EPA 300.0)	250		5.0	1.7	mg/L			10/11/24 08:22	5
Total Dissolved Solids (SM 2540C)	600		10	7.8	mg/L			10/09/24 08:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.133		0.0884	0.0892	1.00	0.123	pCi/L	10/11/24 08:10	11/04/24 09:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/11/24 08:10*	*11/04/24 09:38*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0915	U	0.371	0.371	1.00	0.666	pCi/L	10/11/24 08:22	10/28/24 12:22	1

Client Sample ID: BAC-22-F-20241003-01
Date Collected: 10/03/24 14:45
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-3
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*
Y Carrier	*72.1*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.224	U	0.381	0.382	5.00	0.666	pCi/L		11/06/24 14:15	1

Client Sample ID: DUP-005-F-20241003-01
Date Collected: 10/03/24 00:00
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-4
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**210**		100	57	ug/L		10/08/24 14:00	10/09/24 19:59	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:17	1
Arsenic	**1.7**	**J**	5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:17	1
Barium	**140**		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 10:17	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:17	1
Cadmium	ND		1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:17	1
Calcium	**150000**		1000	250	ug/L		10/08/24 14:00	10/09/24 10:17	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:17	1
Cobalt	**0.89**	**J**	1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:17	1
Lead	ND		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:17	1
Lithium	**5.1**	**J**	8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:17	1
Magnesium	**19000**		1000	61	ug/L		10/08/24 14:00	10/09/24 10:17	1
Molybdenum	ND		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:17	1
Potassium	**2800**		1000	220	ug/L		10/08/24 14:00	10/09/24 10:17	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:17	1
Sodium	**20000**		1000	880	ug/L		10/08/24 14:00	10/09/24 10:17	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:17	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**230**		5.0	2.6	mg/L			10/08/24 18:12	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**230**		5.0	2.6	mg/L			10/08/24 18:12	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:12	1
Chloride (EPA 300.0)	**38**		1.0	0.13	mg/L			10/11/24 08:42	1
Fluoride (EPA 300.0)	**0.092**		0.050	0.024	mg/L			10/11/24 08:42	1
Sulfate (EPA 300.0)	**250**		5.0	1.7	mg/L			10/11/24 09:02	5
Total Dissolved Solids (SM 2540C)	**610**		10	7.8	mg/L			10/09/24 08:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.277**		0.151	0.153	1.00	0.200	pCi/L	10/11/24 08:10	11/04/24 09:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.2*		*30 - 110*	*10/11/24 08:10*	*11/04/24 09:38*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.847**		0.491	0.497	1.00	0.695	pCi/L	10/11/24 08:22	10/28/24 12:22	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: DUP-005-F-20241003-01
Date Collected: 10/03/24 00:00
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-4
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.2*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*
Y Carrier	*77.0*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.12**		0.514	0.520	5.00	0.695	pCi/L		11/06/24 14:15	1

Client Sample ID: BAC-01-F-20241004-01
Date Collected: 10/04/24 10:40
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-5
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**120**		100	57	ug/L		10/08/24 14:00	10/09/24 20:03	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:19	1
Arsenic	**1.1**	**J**	5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:19	1
Barium	**72**		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 10:19	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:19	1
Cadmium	ND		1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:19	1
Calcium	**100000**		1000	250	ug/L		10/08/24 14:00	10/09/24 10:19	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:19	1
Cobalt	**0.61**	**J**	1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:19	1
Lead	**1.1**		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:19	1
Lithium	**3.9**	**J**	8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:19	1
Magnesium	**12000**		1000	61	ug/L		10/08/24 14:00	10/09/24 10:19	1
Molybdenum	ND		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:19	1
Potassium	**1600**		1000	220	ug/L		10/08/24 14:00	10/09/24 10:19	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:19	1
Sodium	**13000**		1000	880	ug/L		10/08/24 14:00	10/09/24 10:19	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**220**		5.0	2.6	mg/L			10/08/24 18:17	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**220**		5.0	2.6	mg/L			10/08/24 18:17	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:17	1
Chloride (EPA 300.0)	**24**		1.0	0.13	mg/L			10/11/24 09:21	1
Fluoride (EPA 300.0)	**0.12**		0.050	0.024	mg/L			10/11/24 09:21	1
Sulfate (EPA 300.0)	**83**		1.0	0.35	mg/L			10/11/24 09:21	1
Total Dissolved Solids (SM 2540C)	**370**		10	7.8	mg/L			10/09/24 08:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0131	U	0.0841	0.0841	1.00	0.163	pCi/L	10/11/24 08:10	11/04/24 09:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*30 - 110*	*10/11/24 08:10*	*11/04/24 09:34*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.149	U	0.402	0.402	1.00	0.718	pCi/L	10/11/24 08:22	10/28/24 12:22	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: BAC-01-F-20241004-01
Date Collected: 10/04/24 10:40
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-5
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*
Y Carrier	*74.8*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.162	U	0.411	0.411	5.00	0.718	pCi/L		11/06/24 14:15	1

Client Sample ID: BAC-09-F-20241004-01
Date Collected: 10/04/24 12:20
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-6
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	210		100	57	ug/L		10/08/24 14:00	10/09/24 20:07	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:22	1
Arsenic	1.6	J	5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:22	1
Barium	5400		50	7.7	ug/L		10/08/24 14:00	10/09/24 15:01	10
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:22	1
Cadmium	ND		1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:22	1
Calcium	400000		1000	250	ug/L		10/08/24 14:00	10/09/24 10:22	1
Chromium	3.0	J	5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:22	1
Cobalt	1.2		1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:22	1
Lead	1.1		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:22	1
Lithium	75		8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:22	1
Magnesium	97000		1000	61	ug/L		10/08/24 14:00	10/09/24 10:22	1
Molybdenum	14		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:22	1
Potassium	5800		1000	220	ug/L		10/08/24 14:00	10/09/24 10:22	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:22	1
Sodium	1600000		10000	8800	ug/L		10/08/24 14:00	10/09/24 15:01	10
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:22	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	150		5.0	2.6	mg/L			10/08/24 18:22	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	150		5.0	2.6	mg/L			10/08/24 18:22	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:22	1
Chloride (EPA 300.0)	3300		25	3.2	mg/L			10/28/24 21:21	25
Fluoride (EPA 300.0)	0.44		0.050	0.024	mg/L			10/11/24 09:41	1
Sulfate (EPA 300.0)	54		1.0	0.35	mg/L			10/11/24 09:41	1
Total Dissolved Solids (SM 2540C)	6100		50	39	mg/L			10/09/24 08:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.58		0.448	0.552	1.00	0.194	pCi/L	10/11/24 08:10	11/04/24 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*30 - 110*	*10/11/24 08:10*	*11/04/24 14:59*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.93	G	1.12	1.25	1.00	1.04	pCi/L	10/11/24 08:22	10/28/24 12:22	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: BAC-09-F-20241004-01
Date Collected: 10/04/24 12:20
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-6
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*
Y Carrier	*77.0*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**9.50**		1.21	1.37	5.00	1.04	pCi/L		11/06/24 14:15	1

Client Sample ID: MW-6-F-20241004-01

Date Collected: 10/04/24 14:05
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-7

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**61**	**J**	100	57	ug/L		10/08/24 14:00	10/09/24 20:20	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:25	1
Arsenic	ND		5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:25	1
Barium	**130**		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 10:25	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:25	1
Cadmium	ND		1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:25	1
Calcium	**110000**		1000	250	ug/L		10/08/24 14:00	10/09/24 10:25	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:25	1
Cobalt	**0.35**	**J**	1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:25	1
Lead	ND		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:25	1
Lithium	**5.2**	**J**	8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:25	1
Magnesium	**13000**		1000	61	ug/L		10/08/24 14:00	10/09/24 10:25	1
Molybdenum	ND		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:25	1
Potassium	**1700**		1000	220	ug/L		10/08/24 14:00	10/09/24 10:25	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:25	1
Sodium	**15000**		1000	880	ug/L		10/08/24 14:00	10/09/24 10:25	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**240**		5.0	2.6	mg/L			10/08/24 18:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**240**		5.0	2.6	mg/L			10/08/24 18:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:27	1
Chloride (EPA 300.0)	**28**		1.0	0.13	mg/L			10/11/24 10:20	1
Fluoride (EPA 300.0)	**0.094**		0.050	0.024	mg/L			10/11/24 10:20	1
Sulfate (EPA 300.0)	**120**		1.0	0.35	mg/L			10/11/24 10:20	1
Total Dissolved Solids (SM 2540C)	**440**		10	7.8	mg/L			10/09/24 08:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0658	U	0.0748	0.0750	1.00	0.121	pCi/L	10/11/24 08:10	11/04/24 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*30 - 110*	*10/11/24 08:10*	*11/04/24 14:59*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.153	U	0.307	0.307	1.00	0.630	pCi/L	10/11/24 08:22	10/28/24 12:22	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: MW-6-F-20241004-01
Date Collected: 10/04/24 14:05
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-7
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*
Y Carrier	*68.4*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0875	U	0.316	0.316	5.00	0.630	pCi/L		11/06/24 14:15	1

Client Sample ID: BAC-23-F-20241004-01
Date Collected: 10/04/24 15:30
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-8
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**260**		100	57	ug/L		10/08/24 14:00	10/09/24 20:25	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 10:28	1
Arsenic	**0.87**	**J**	5.0	0.75	ug/L		10/08/24 14:00	10/09/24 10:28	1
Barium	**130**		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 10:28	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 10:28	1
Cadmium	ND		1.0	0.077	ug/L		10/08/24 14:00	10/09/24 10:28	1
Calcium	**130000**		1000	250	ug/L		10/08/24 14:00	10/09/24 10:28	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 10:28	1
Cobalt	**0.77**	**J**	1.0	0.086	ug/L		10/08/24 14:00	10/09/24 10:28	1
Lead	ND		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 10:28	1
Lithium	ND		8.0	3.4	ug/L		10/08/24 14:00	10/09/24 10:28	1
Magnesium	**15000**		1000	61	ug/L		10/08/24 14:00	10/09/24 10:28	1
Molybdenum	ND		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 10:28	1
Potassium	**2000**		1000	220	ug/L		10/08/24 14:00	10/09/24 10:28	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 10:28	1
Sodium	**19000**		1000	880	ug/L		10/08/24 14:00	10/09/24 10:28	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 10:28	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 10:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**220**		5.0	2.6	mg/L			10/08/24 18:40	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**220**		5.0	2.6	mg/L			10/08/24 18:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/08/24 18:40	1
Chloride (EPA 300.0)	**40**		1.0	0.13	mg/L			10/11/24 11:00	1
Fluoride (EPA 300.0)	**0.14**		0.050	0.024	mg/L			10/11/24 11:00	1
Sulfate (EPA 300.0)	**150**		1.0	0.35	mg/L			10/11/24 11:00	1
Total Dissolved Solids (SM 2540C)	**480**		10	7.8	mg/L			10/09/24 08:00	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.118	U	0.0913	0.0919	1.00	0.134	pCi/L	10/11/24 08:10	11/04/24 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.1*		*30 - 110*	*10/11/24 08:10*	*11/04/24 14:59*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.402	U	0.445	0.446	1.00	0.727	pCi/L	10/11/24 08:22	10/28/24 12:22	1

Client Sample ID: BAC-23-F-20241004-01
Date Collected: 10/04/24 15:30
Date Received: 10/08/24 08:00

Lab Sample ID: 240-212570-8
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.1*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*
Y Carrier	*77.0*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:22*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.520	U	0.454	0.455	5.00	0.727	pCi/L		11/06/24 14:15	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-212570-1	MW-1-F-20241003-01	95.2
240-212570-2	BAC-21-F-20241003-01	94.9
240-212570-2 MS	BAC-21-F-20241003-01	81.0
240-212570-2 MSD	BAC-21-F-20241003-01	94.7
240-212570-3	BAC-22-F-20241003-01	94.4
240-212570-4	DUP-005-F-20241003-01	94.2
240-212570-5	BAC-01-F-20241004-01	97.7
240-212570-6	BAC-09-F-20241004-01	109
240-212570-7	MW-6-F-20241004-01	95.9
240-212570-8	BAC-23-F-20241004-01	91.1
LCS 160-683225/2-A	Lab Control Sample	100
MB 160-683225/1-A	Method Blank	99.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-212570-1	MW-1-F-20241003-01	95.2	71.4
240-212570-2	BAC-21-F-20241003-01	94.9	77.0
240-212570-2 MS	BAC-21-F-20241003-01	81.0	72.5
240-212570-2 MSD	BAC-21-F-20241003-01	94.7	72.5
240-212570-3	BAC-22-F-20241003-01	94.4	72.1
240-212570-4	DUP-005-F-20241003-01	94.2	77.0
240-212570-5	BAC-01-F-20241004-01	97.7	74.8
240-212570-6	BAC-09-F-20241004-01	109	77.0
240-212570-7	MW-6-F-20241004-01	95.9	68.4
240-212570-8	BAC-23-F-20241004-01	91.1	77.0
LCS 160-683226/2-A	Lab Control Sample	100	80.0
MB 160-683226/1-A	Method Blank	99.7	78.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-629919/1-A
Matrix: Water
Analysis Batch: 630095

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		10/08/24 14:00	10/09/24 19:13	1

Lab Sample ID: LCS 240-629919/2-A
Matrix: Water
Analysis Batch: 630095

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron			1000	1010		ug/L		101	80 - 120		

Lab Sample ID: 240-212570-2 MS
Matrix: Water
Analysis Batch: 630095

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	430		1000	1380		ug/L		95	75 - 125		

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 630095

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	430		1000	1400		ug/L		97	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-629919/1-A
Matrix: Water
Analysis Batch: 630125

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/08/24 14:00	10/09/24 09:41	1
Arsenic	ND		5.0	0.75	ug/L		10/08/24 14:00	10/09/24 09:41	1
Barium	ND		5.0	0.77	ug/L		10/08/24 14:00	10/09/24 09:41	1
Beryllium	ND		1.0	0.27	ug/L		10/08/24 14:00	10/09/24 09:41	1
Cadmium	ND		1.0	0.077	ug/L		10/08/24 14:00	10/09/24 09:41	1
Calcium	ND		1000	250	ug/L		10/08/24 14:00	10/09/24 09:41	1
Chromium	ND		5.0	1.2	ug/L		10/08/24 14:00	10/09/24 09:41	1
Cobalt	ND		1.0	0.086	ug/L		10/08/24 14:00	10/09/24 09:41	1
Lead	ND		1.0	0.45	ug/L		10/08/24 14:00	10/09/24 09:41	1
Lithium	ND		8.0	3.4	ug/L		10/08/24 14:00	10/09/24 09:41	1
Magnesium	ND		1000	61	ug/L		10/08/24 14:00	10/09/24 09:41	1
Molybdenum	ND		5.0	1.1	ug/L		10/08/24 14:00	10/09/24 09:41	1
Potassium	ND		1000	220	ug/L		10/08/24 14:00	10/09/24 09:41	1
Selenium	ND		5.0	0.89	ug/L		10/08/24 14:00	10/09/24 09:41	1
Sodium	ND		1000	880	ug/L		10/08/24 14:00	10/09/24 09:41	1
Thallium	ND		1.0	0.51	ug/L		10/08/24 14:00	10/09/24 09:41	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-629919/3-A
Matrix: Water
Analysis Batch: 630125

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			100	98.5		ug/L		99	80 - 120		
Arsenic			1000	965		ug/L		96	80 - 120		
Barium			1000	957		ug/L		96	80 - 120		
Beryllium			500	447		ug/L		89	80 - 120		
Cadmium			500	482		ug/L		96	80 - 120		
Calcium			25000	23900		ug/L		96	80 - 120		
Chromium			500	485		ug/L		97	80 - 120		
Cobalt			500	488		ug/L		98	80 - 120		
Lead			500	466		ug/L		93	80 - 120		
Lithium			500	480		ug/L		96	80 - 120		
Magnesium			25000	24300		ug/L		97	80 - 120		
Molybdenum			500	483		ug/L		97	80 - 120		
Potassium			25000	24700		ug/L		99	80 - 120		
Selenium			1000	958		ug/L		96	80 - 120		
Sodium			25000	24700		ug/L		99	80 - 120		
Thallium			1000	923		ug/L		92	80 - 120		

Lab Sample ID: 240-212570-2 MS
Matrix: Water
Analysis Batch: 630125

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		100	100		ug/L		100	80 - 120		
Arsenic	3.6	J	1000	957		ug/L		95	80 - 120		
Barium	170		1000	1120		ug/L		95	80 - 120		
Beryllium	ND		500	441		ug/L		88	80 - 120		
Cadmium	0.23	J	500	471		ug/L		94	80 - 120		
Calcium	130000		25000	148000	4	ug/L		60	80 - 120		
Chromium	2.0	J	500	480		ug/L		96	80 - 120		
Cobalt	1.1		500	482		ug/L		96	80 - 120		
Lead	1.2		500	465		ug/L		93	80 - 120		
Lithium	7.5	J	500	490		ug/L		97	80 - 120		
Magnesium	16000		25000	38500		ug/L		91	80 - 120		
Molybdenum	1.5	J	500	487		ug/L		97	80 - 120		
Potassium	2700		25000	27000		ug/L		97	80 - 120		
Selenium	1.5	J	1000	961		ug/L		96	80 - 120		
Sodium	35000		25000	57300		ug/L		90	80 - 120		
Thallium	ND		1000	926		ug/L		93	80 - 120		

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 630125

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		100	101		ug/L		101	80 - 120	1	20
Arsenic	3.6	J	1000	999		ug/L		100	80 - 120	4	20
Barium	170		1000	1150		ug/L		98	80 - 120	3	20
Beryllium	ND		500	449		ug/L		90	80 - 120	2	20
Cadmium	0.23	J	500	491		ug/L		98	80 - 120	4	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 630125

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total Recoverable
Prep Batch: 629919

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	130000		25000	150000	4	ug/L		66	80 - 120	1	20
Chromium	2.0	J	500	494		ug/L		98	80 - 120	3	20
Cobalt	1.1		500	492		ug/L		98	80 - 120	2	20
Lead	1.2		500	473		ug/L		94	80 - 120	2	20
Lithium	7.5	J	500	502		ug/L		99	80 - 120	2	20
Magnesium	16000		25000	39200		ug/L		94	80 - 120	2	20
Molybdenum	1.5	J	500	499		ug/L		99	80 - 120	2	20
Potassium	2700		25000	27600		ug/L		100	80 - 120	2	20
Selenium	1.5	J	1000	978		ug/L		98	80 - 120	2	20
Sodium	35000		25000	58200		ug/L		93	80 - 120	2	20
Thallium	ND		1000	942		ug/L		94	80 - 120	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-629914/1-A
Matrix: Water
Analysis Batch: 630093

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629914

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/08/24 14:00	10/09/24 09:40	1

Lab Sample ID: LCS 240-629914/2-A
Matrix: Water
Analysis Batch: 630093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.03		ug/L		101	80 - 120

Lab Sample ID: 240-212570-2 MS
Matrix: Water
Analysis Batch: 630093

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA
Prep Batch: 629914

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	1.03		ug/L		103	80 - 120

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 630093

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA
Prep Batch: 629914

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		1.00	1.02		ug/L		102	80 - 120	1	20

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-630072/28
Matrix: Water
Analysis Batch: 630072

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/08/24 18:52	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-630072/28
Matrix: Water
Analysis Batch: 630072

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/08/24 18:52	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/08/24 18:52	1

Lab Sample ID: MB 240-630072/4
Matrix: Water
Analysis Batch: 630072

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/08/24 16:52	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/08/24 16:52	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/08/24 16:52	1

Lab Sample ID: LCS 240-630072/27
Matrix: Water
Analysis Batch: 630072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	274		mg/L		98	86 - 123		

Lab Sample ID: LCS 240-630072/3
Matrix: Water
Analysis Batch: 630072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	272		mg/L		97	86 - 123		

Lab Sample ID: 240-212570-8 DU
Matrix: Water
Analysis Batch: 630072

Client Sample ID: BAC-23-F-20241004-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	220			221		mg/L				0.4	20
Bicarbonate Alkalinity as CaCO3	220			221		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: MB 240-630123/4
Matrix: Water
Analysis Batch: 630123

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/09/24 13:14	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/09/24 13:14	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/09/24 13:14	1

Lab Sample ID: LCS 240-630123/3
Matrix: Water
Analysis Batch: 630123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	273		mg/L		97	86 - 123		

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: 240-212570-2 DU
Matrix: Water
Analysis Batch: 630123

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity	230		230		mg/L		0.2	20
Bicarbonate Alkalinity as CaCO3	230		230		mg/L		0.2	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: MB 240-630962/28
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/15/24 17:03	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 17:03	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 17:03	1

Lab Sample ID: MB 240-630962/4
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/15/24 14:55	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 14:55	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 14:55	1

Lab Sample ID: LCS 240-630962/27
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	280	282		mg/L		101	86 - 123

Lab Sample ID: LCS 240-630962/3
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	280	276		mg/L		98	86 - 123

Lab Sample ID: MB 240-631151/4
Matrix: Water
Analysis Batch: 631151

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/16/24 13:31	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/16/24 13:31	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/16/24 13:31	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: LCS 240-631151/3
Matrix: Water
Analysis Batch: 631151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	275		mg/L		98	86 - 123		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-630119/3
Matrix: Water
Analysis Batch: 630119

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/11/24 04:25	1
Fluoride	ND		0.050	0.024	mg/L			10/11/24 04:25	1
Sulfate	ND		1.0	0.35	mg/L			10/11/24 04:25	1

Lab Sample ID: LCS 240-630119/4
Matrix: Water
Analysis Batch: 630119

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	51.0		mg/L		102	90 - 110		
Fluoride			2.50	2.68		mg/L		107	90 - 110		
Sulfate			50.0	52.9		mg/L		106	90 - 110		

Lab Sample ID: 240-212570-2 MS
Matrix: Water
Analysis Batch: 630119

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	71		50.0	117		mg/L		93	80 - 120		
Fluoride	0.084		2.50	2.73		mg/L		106	80 - 120		
Sulfate	140		50.0	191		mg/L		92	80 - 120		

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 630119

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	71		50.0	118		mg/L		94	80 - 120	0	15
Fluoride	0.084		2.50	2.76		mg/L		107	80 - 120	1	15
Sulfate	140		50.0	191		mg/L		93	80 - 120	0	15

Lab Sample ID: MB 240-632129/4
Matrix: Water
Analysis Batch: 632129

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/23/24 13:57	1
Fluoride	ND		0.050	0.024	mg/L			10/23/24 13:57	1
Sulfate	ND		1.0	0.35	mg/L			10/23/24 13:57	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-632129/5
Matrix: Water
Analysis Batch: 632129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.9		mg/L		98	90 - 110
Fluoride	2.50	2.53		mg/L		101	90 - 110
Sulfate	50.0	51.1		mg/L		102	90 - 110

Lab Sample ID: MB 240-632823/3
Matrix: Water
Analysis Batch: 632823

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/28/24 18:47	1
Fluoride	ND		0.050	0.024	mg/L			10/28/24 18:47	1
Sulfate	ND		1.0	0.35	mg/L			10/28/24 18:47	1

Lab Sample ID: LCS 240-632823/4
Matrix: Water
Analysis Batch: 632823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.7		mg/L		101	90 - 110
Fluoride	2.50	2.52		mg/L		101	90 - 110
Sulfate	50.0	51.3		mg/L		103	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-629961/1
Matrix: Water
Analysis Batch: 629961

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/08/24 13:16	1

Lab Sample ID: LCS 240-629961/2
Matrix: Water
Analysis Batch: 629961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	721	632		mg/L		88	80 - 120

Lab Sample ID: MB 240-630021/1
Matrix: Water
Analysis Batch: 630021

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/09/24 08:00	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 240-630021/2
Matrix: Water
Analysis Batch: 630021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	721	675		mg/L		94	80 - 120

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-683225/1-A
Matrix: Water
Analysis Batch: 686661

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683225

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.05181	U	0.0476	0.0478	1.00	0.125	pCi/L	10/11/24 08:10	11/04/24 09:37	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*30 - 110*	*10/11/24 08:10*	*11/04/24 09:37*	*1*

Lab Sample ID: LCS 160-683225/2-A
Matrix: Water
Analysis Batch: 686661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683225

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	9.211		0.986	1.00	0.126	pCi/L	96	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*30 - 110*

Lab Sample ID: 240-212570-2 MS
Matrix: Water
Analysis Batch: 686661

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA
Prep Batch: 683225

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	0.225		12.7	12.15		1.35	1.00	0.205	pCi/L	94	60 - 140

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*81.0*		*30 - 110*

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 686661

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA
Prep Batch: 683225

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.225		12.8	11.44		1.24	1.00	0.142	pCi/L	87	60 - 140	0.27	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-683226/1-A
Matrix: Water
Analysis Batch: 685393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683226

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.8044		0.397	0.404	1.00	0.550	pCi/L	10/11/24 08:22	10/28/24 12:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:21*	*1*
Y Carrier	*78.1*		*30 - 110*	*10/11/24 08:22*	*10/28/24 12:21*	*1*

Lab Sample ID: LCS 160-683226/2-A
Matrix: Water
Analysis Batch: 685393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683226

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.39	8.033		1.16	1.00	0.588	pCi/L	96	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*30 - 110*
Y Carrier	*80.0*		*30 - 110*

Lab Sample ID: 240-212570-2 MS
Matrix: Water
Analysis Batch: 685393

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA
Prep Batch: 683226

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228	0.616	U	11.2	13.50		1.96	1.00	0.867	pCi/L	115	60 - 140		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*81.0*		*30 - 110*
Y Carrier	*72.5*		*30 - 110*

Lab Sample ID: 240-212570-2 MSD
Matrix: Water
Analysis Batch: 685393

Client Sample ID: BAC-21-F-20241003-01
Prep Type: Total/NA
Prep Batch: 683226

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	0.616	U	11.2	12.87		1.82	1.00	0.835	pCi/L	109	60 - 140	0.16	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*30 - 110*
Y Carrier	*72.5*		*30 - 110*

Metals

Prep Batch: 629914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	7470A	
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	7470A	
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	7470A	
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	7470A	
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	7470A	
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	7470A	
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	7470A	
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	7470A	
MB 240-629914/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-629914/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-212570-2 MS	BAC-21-F-20241003-01	Total/NA	Water	7470A	
240-212570-2 MSD	BAC-21-F-20241003-01	Total/NA	Water	7470A	

Prep Batch: 629919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-2	BAC-21-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-3	BAC-22-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-4	DUP-005-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-5	BAC-01-F-20241004-01	Total Recoverable	Water	3005A	
240-212570-6	BAC-09-F-20241004-01	Total Recoverable	Water	3005A	
240-212570-7	MW-6-F-20241004-01	Total Recoverable	Water	3005A	
240-212570-8	BAC-23-F-20241004-01	Total Recoverable	Water	3005A	
MB 240-629919/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-629919/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-629919/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-212570-2 MS	BAC-21-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-2 MS	BAC-21-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-2 MSD	BAC-21-F-20241003-01	Total Recoverable	Water	3005A	
240-212570-2 MSD	BAC-21-F-20241003-01	Total Recoverable	Water	3005A	

Analysis Batch: 630093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	7470A	629914
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	7470A	629914
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	7470A	629914
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	7470A	629914
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	7470A	629914
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	7470A	629914
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	7470A	629914
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	7470A	629914
MB 240-629914/1-A	Method Blank	Total/NA	Water	7470A	629914
LCS 240-629914/2-A	Lab Control Sample	Total/NA	Water	7470A	629914
240-212570-2 MS	BAC-21-F-20241003-01	Total/NA	Water	7470A	629914
240-212570-2 MSD	BAC-21-F-20241003-01	Total/NA	Water	7470A	629914

Analysis Batch: 630095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total Recoverable	Water	6010D	629919
240-212570-2	BAC-21-F-20241003-01	Total Recoverable	Water	6010D	629919
240-212570-3	BAC-22-F-20241003-01	Total Recoverable	Water	6010D	629919

Metals (Continued)

Analysis Batch: 630095 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-4	DUP-005-F-20241003-01	Total Recoverable	Water	6010D	629919
240-212570-5	BAC-01-F-20241004-01	Total Recoverable	Water	6010D	629919
240-212570-6	BAC-09-F-20241004-01	Total Recoverable	Water	6010D	629919
240-212570-7	MW-6-F-20241004-01	Total Recoverable	Water	6010D	629919
240-212570-8	BAC-23-F-20241004-01	Total Recoverable	Water	6010D	629919
MB 240-629919/1-A	Method Blank	Total Recoverable	Water	6010D	629919
LCS 240-629919/2-A	Lab Control Sample	Total Recoverable	Water	6010D	629919
240-212570-2 MS	BAC-21-F-20241003-01	Total Recoverable	Water	6010D	629919
240-212570-2 MSD	BAC-21-F-20241003-01	Total Recoverable	Water	6010D	629919

Analysis Batch: 630125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total Recoverable	Water	6020B	629919
240-212570-2	BAC-21-F-20241003-01	Total Recoverable	Water	6020B	629919
240-212570-3	BAC-22-F-20241003-01	Total Recoverable	Water	6020B	629919
240-212570-4	DUP-005-F-20241003-01	Total Recoverable	Water	6020B	629919
240-212570-5	BAC-01-F-20241004-01	Total Recoverable	Water	6020B	629919
240-212570-6	BAC-09-F-20241004-01	Total Recoverable	Water	6020B	629919
240-212570-6	BAC-09-F-20241004-01	Total Recoverable	Water	6020B	629919
240-212570-7	MW-6-F-20241004-01	Total Recoverable	Water	6020B	629919
240-212570-8	BAC-23-F-20241004-01	Total Recoverable	Water	6020B	629919
MB 240-629919/1-A	Method Blank	Total Recoverable	Water	6020B	629919
LCS 240-629919/3-A	Lab Control Sample	Total Recoverable	Water	6020B	629919
240-212570-2 MS	BAC-21-F-20241003-01	Total Recoverable	Water	6020B	629919
240-212570-2 MSD	BAC-21-F-20241003-01	Total Recoverable	Water	6020B	629919

General Chemistry

Analysis Batch: 629961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	SM 2540C	
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	SM 2540C	
MB 240-629961/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-629961/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 630021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	SM 2540C	
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	SM 2540C	
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	SM 2540C	
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	SM 2540C	
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	SM 2540C	
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	SM 2540C	
MB 240-630021/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630021/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 630072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	2320B-1997	
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	2320B-1997	
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	2320B-1997	

General Chemistry (Continued)

Analysis Batch: 630072 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	2320B-1997	
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	2320B-1997	
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	2320B-1997	
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	2320B-1997	
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	2320B-1997	
MB 240-630072/28	Method Blank	Total/NA	Water	2320B-1997	
MB 240-630072/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-630072/27	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-630072/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-212570-8 DU	BAC-23-F-20241004-01	Total/NA	Water	2320B-1997	

Analysis Batch: 630119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	300.0	
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	300.0	
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	300.0	
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	300.0	
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	300.0	
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	300.0	
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	300.0	
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	300.0	
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	300.0	
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	300.0	
MB 240-630119/3	Method Blank	Total/NA	Water	300.0	
LCS 240-630119/4	Lab Control Sample	Total/NA	Water	300.0	
240-212570-2 MS	BAC-21-F-20241003-01	Total/NA	Water	300.0	
240-212570-2 MSD	BAC-21-F-20241003-01	Total/NA	Water	300.0	

Analysis Batch: 630123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-630123/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-630123/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-212570-2 DU	BAC-21-F-20241003-01	Total/NA	Water	2320B-1997	

Analysis Batch: 630962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-630962/28	Method Blank	Total/NA	Water	2320B-1997	
MB 240-630962/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-630962/27	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-630962/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 631151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-631151/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-631151/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 632129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-632129/4	Method Blank	Total/NA	Water	300.0	
LCS 240-632129/5	Lab Control Sample	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 632823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	300.0	
MB 240-632823/3	Method Blank	Total/NA	Water	300.0	
LCS 240-632823/4	Lab Control Sample	Total/NA	Water	300.0	

Rad

Prep Batch: 683225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	PrecSep-21	
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	PrecSep-21	
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	PrecSep-21	
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	PrecSep-21	
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	PrecSep-21	
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	PrecSep-21	
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	PrecSep-21	
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	PrecSep-21	
MB 160-683225/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-683225/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-212570-2 MS	BAC-21-F-20241003-01	Total/NA	Water	PrecSep-21	
240-212570-2 MSD	BAC-21-F-20241003-01	Total/NA	Water	PrecSep-21	

Prep Batch: 683226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212570-1	MW-1-F-20241003-01	Total/NA	Water	PrecSep_0	
240-212570-2	BAC-21-F-20241003-01	Total/NA	Water	PrecSep_0	
240-212570-3	BAC-22-F-20241003-01	Total/NA	Water	PrecSep_0	
240-212570-4	DUP-005-F-20241003-01	Total/NA	Water	PrecSep_0	
240-212570-5	BAC-01-F-20241004-01	Total/NA	Water	PrecSep_0	
240-212570-6	BAC-09-F-20241004-01	Total/NA	Water	PrecSep_0	
240-212570-7	MW-6-F-20241004-01	Total/NA	Water	PrecSep_0	
240-212570-8	BAC-23-F-20241004-01	Total/NA	Water	PrecSep_0	
MB 160-683226/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-683226/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-212570-2 MS	BAC-21-F-20241003-01	Total/NA	Water	PrecSep_0	
240-212570-2 MSD	BAC-21-F-20241003-01	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212570-1
Project/Site: Gavin CCR

Client Sample ID: MW-1-F-20241003-01
Lab Sample ID: 240-212570-1

Date Collected: 10/03/24 10:35
Matrix: Water
Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 19:50
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:06
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:23
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 17:57
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 07:03
Total/NA	Analysis	SM 2540C		1	629961	TAV2	EET CLE	10/08/24 13:16
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 09:37
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:21
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: BAC-21-F-20241003-01
Lab Sample ID: 240-212570-2

Date Collected: 10/03/24 12:00
Matrix: Water
Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 19:30
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 09:46
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:14
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:02
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 05:05
Total/NA	Analysis	SM 2540C		1	629961	TAV2	EET CLE	10/08/24 13:16
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 09:37
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:21
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: BAC-22-F-20241003-01
Lab Sample ID: 240-212570-3

Date Collected: 10/03/24 14:45
Matrix: Water
Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 19:54
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:14

Client Sample ID: BAC-22-F-20241003-01

Lab Sample ID: 240-212570-3

Date Collected: 10/03/24 14:45

Matrix: Water

Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:25
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:07
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 07:23
Total/NA	Analysis	300.0		5	630119	JMR	EET CLE	10/11/24 08:22
Total/NA	Analysis	SM 2540C		1	630021	TAV2	EET CLE	10/09/24 08:00
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 09:38
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:22
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: DUP-005-F-20241003-01

Lab Sample ID: 240-212570-4

Date Collected: 10/03/24 00:00

Matrix: Water

Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 19:59
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:17
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:26
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:12
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 08:42
Total/NA	Analysis	300.0		5	630119	JMR	EET CLE	10/11/24 09:02
Total/NA	Analysis	SM 2540C		1	630021	TAV2	EET CLE	10/09/24 08:00
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 09:38
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:22
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: BAC-01-F-20241004-01

Lab Sample ID: 240-212570-5

Date Collected: 10/04/24 10:40

Matrix: Water

Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 20:03
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:19
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:28

Client Sample ID: BAC-01-F-20241004-01

Lab Sample ID: 240-212570-5

Date Collected: 10/04/24 10:40

Matrix: Water

Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:17
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 09:21
Total/NA	Analysis	SM 2540C		1	630021	TAV2	EET CLE	10/09/24 08:00
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686662	CMM	EET SL	11/04/24 09:34
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:22
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: BAC-09-F-20241004-01

Lab Sample ID: 240-212570-6

Date Collected: 10/04/24 12:20

Matrix: Water

Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 20:07
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:22
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		10	630125	AJC	EET CLE	10/09/24 15:01
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:30
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:22
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 09:41
Total/NA	Analysis	300.0		25	632823	JMR	EET CLE	10/28/24 21:21
Total/NA	Analysis	SM 2540C		1	630021	TAV2	EET CLE	10/09/24 08:00
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 14:59
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:22
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: MW-6-F-20241004-01

Lab Sample ID: 240-212570-7

Date Collected: 10/04/24 14:05

Matrix: Water

Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 20:20
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:25
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:32
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:27

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-212570-1

Client Sample ID: MW-6-F-20241004-01

Lab Sample ID: 240-212570-7

Date Collected: 10/04/24 14:05
Matrix: Water
Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 10:20
Total/NA	Analysis	SM 2540C		1	630021	TAV2	EET CLE	10/09/24 08:00
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 14:59
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:22
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Client Sample ID: BAC-23-F-20241004-01

Lab Sample ID: 240-212570-8

Date Collected: 10/04/24 15:30
Matrix: Water
Date Received: 10/08/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6010D		1	630095	RKT	EET CLE	10/09/24 20:25
Total Recoverable	Prep	3005A			629919	S4FJ	EET CLE	10/08/24 14:00
Total Recoverable	Analysis	6020B		1	630125	AJC	EET CLE	10/09/24 10:28
Total/NA	Prep	7470A			629914	S4FJ	EET CLE	10/08/24 14:00
Total/NA	Analysis	7470A		1	630093	TQ6W	EET CLE	10/09/24 10:33
Total/NA	Analysis	2320B-1997		1	630072	GZF4	EET CLE	10/08/24 18:40
Total/NA	Analysis	300.0		1	630119	JMR	EET CLE	10/11/24 11:00
Total/NA	Analysis	SM 2540C		1	630021	TAV2	EET CLE	10/09/24 08:00
Total/NA	Prep	PrecSep-21			683225	BCE	EET SL	10/11/24 08:10
Total/NA	Analysis	9315		1	686661	SWS	EET SL	11/04/24 14:59
Total/NA	Prep	PrecSep_0			683226	BCE	EET SL	10/11/24 08:22
Total/NA	Analysis	9320		1	685393	FLC	EET SL	10/28/24 12:22
Total/NA	Analysis	Ra226_Ra228		1	686854	FLC	EET SL	11/06/24 14:15

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212570-1
Project/Site: Gavin CCR

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	12-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212570-1
Project/Site: Gavin CCR

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Columbus
209

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing

Client Information	Sampler: Bobby Cesto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastestl, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
MW-1-F-20241003-01	10-3-24	1035	G	Water	N		1	1	2	1	1		
BAC-21-F-20241003-01	10-3-24	1200	G	Water	N		1	1	2	1	1		
BAC-21-F-20241003-MS-01	10-3-24	1200	G	Water	N	Y	1	1	2	1	1		
BAC-21-F-20241003-MSD-01	10-3-24	1200	G	Water	N	Y	1	1	2	1	1		
BAC-22-F-20241003-01	10-3-24	1445	G	Water	N		1	1	2	1	1		
DUP-005-F-20241003-01	10-3-24	—	G	Water	N		1	1	2	1	1		
BAC-01-F-20241004-01	10-4-24	1040	G	Water	N		1	1	2	1	1		
BAC-09-F-20241004-01	10-4-24	1220	G	Water	N		1	1	2	1	1		
MW-6-F-20241004-01	10-4-24	1405	G	Water	N		1	1	2	1	1		
BAC-23-F-20241004-01	10-4-24	1530	G	Water	N		1	1	2	1	1		
				Water									

240-212570 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Bobby Cesto	10-7-24 / 0915	Kemron	Cameron Morley	10/07/24 12:41	Eurofins
2	Cameron Morley	10/07/24 17:00	Eurofins		10-8-24 800	EC
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client Lightstone Gavin Power Site Name _____ Cooler unpacked by:

Cooler Received on 10-8-24 Opened on 10-8-24

FedEx. 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☑ See Multiple Cooler Form

IR GUN # 17 (CF +0.1 °C) Observed Cooler Temp. 3 °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 3	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC447997
14 Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page | Samples processed by:

_____

_____

_____

_____

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container
Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory
Time preserved. _____ Preservative(s) added/Lot number(s). _____

VOA Sample Preservation - Date/Time VOAs Frozen. _____

Login # : _____

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: _____	3.2	3.3	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	4.0	4.1	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	3.4	3.5	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice. Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-191790.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-212570-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/7/2024			Preservation Codes: -
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site:	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Special Instructions/Note:
MW-1-F-20241003-01 (240-212570-1)	10/3/24	10:35 Eastern	G	Water	X	X	X	
BAC-21-F-20241003-01 (240-212570-2)	10/3/24	12:00 Eastern	G	Water	X	X	X	
BAC-21-F-20241003-01 (240-212570-2MS)	10/3/24	12:00 Eastern	G	Water	X	X	X	
BAC-21-F-20241003-01 (240-212570-2MSD)	10/3/24	12:00 Eastern	G	Water	X	X	X	
BAC-22-F-20241003-01 (240-212570-3)	10/3/24	14:45 Eastern	G	Water	X	X	X	
DUP-005-F-20241003-01 (240-212570-4)	10/3/24	Eastern	G	Water	X	X	X	
BAC-01-F-20241004-01 (240-212570-5)	10/4/24	10:40 Eastern	G	Water	X	X	X	
BAC-09-F-20241004-01 (240-212570-6)	10/4/24	12:20 Eastern	G	Water	X	X	X	
MW-6-F-20241004-01 (240-212570-7)	10/4/24	14:05 Eastern	G	Water	X	X	X	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
JMOROSKO		GTAL			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 05/06/2024

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-191790.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-212570-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/7/2024	Analysis Requested		Preservation Codes: -
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site:	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Special Instructions/Note:
BAC-23-F-20241004-01 (240-212570-8)	10/4/24	15:30 Eastern	G	Water	X	X	X	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
JMOROSKO		ETN			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 05/06/2024

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-212570-1

Login Number: 212570
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/09/24 05:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 11/8/2024 6:08:56 PM

JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-212873-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
240-212873-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/11/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.9°C, 1.2°C, 1.8°C, 2.8°C and 3.0°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 2540C_Calcd: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to the weight being over the 200 mg residue limit. : BAC-11-F-20241008-01 (240-212873-7).

Method 300.0_28D: The following sample was diluted due to the nature of the sample matrix: BAC-11-F-20241008-01 (240-212873-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9320_Ra228: Radium 228 Batch 683582

The MDC for the following sample(s) is flagged as failing; The laboratory considers the detection goal (requested limit) met when rounding to the appropriate place value.

Method 9320_Ra228: Radium 228 Batch 683582

The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences. BAC-02-F-20241008-01 (240-212873-8)

Method 9320_Ra228: Radium 228 Batch 683582

The method blank (MB) exhibits activity above the requested limit (RL) for Radium-228. Associated sample(s) have activity below the RL. The data for the following samples have been reported with this narrative: (MB 160-683582/1-A)

Method 9320_Ra228: Radium 228 prep batch 160-685749

The barium carrier recovery is outside the upper control limit (110%) for the following sample: BAC-11-F-20241008-01 (240-212873-7). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

Method 9320_Ra228: Radium-228 batch 685749
The following sample has a barium carrier recovery above the 110% QC limit. Affected samples had a barium correction applied, however, there is significant concentrations of salt-like compounds (i.e. calcium, magnesium, sodium, and strontium) that can interfere with a barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. BAC-11-F-20241008-01 (240-212873-7)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-212873-1	BAC-08-F-20241007-01	Water	10/07/24 11:05	10/11/24 08:00
240-212873-2	BAC-07-F-20241007-01	Water	10/07/24 12:15	10/11/24 08:00
240-212873-3	BAC-19-F-20241007-01	Water	10/07/24 14:05	10/11/24 08:00
240-212873-4	BAC-18-F-20241007-01	Water	10/07/24 15:30	10/11/24 08:00
240-212873-5	BAC-06-F-20241008-01	Water	10/08/24 10:45	10/11/24 08:00
240-212873-6	DUP-006-F-20241008-01	Water	10/08/24 00:00	10/11/24 08:00
240-212873-7	BAC-11-F-20241008-01	Water	10/08/24 12:30	10/11/24 08:00
240-212873-8	BAC-02-F-20241008-01	Water	10/08/24 13:50	10/11/24 08:00
240-212873-9	BAC-10-F-20241008-01	Water	10/08/24 15:35	10/11/24 08:00
240-212873-10	DUP-007-F-20241008-01	Water	10/08/24 00:00	10/11/24 08:00
240-212873-11	BAC-05-F-20241009-01	Water	10/09/24 10:00	10/11/24 08:00
240-212873-12	BAC-04-F-20241009-01	Water	10/09/24 12:45	10/11/24 08:00
240-212873-13	BAC-13-F-20241009-01	Water	10/09/24 14:10	10/11/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-08-F-20241007-01

Lab Sample ID: 240-212873-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	100		100	57	ug/L	1		6010D	Total Recoverable
Barium	74		5.0	0.77	ug/L	1		6020B	Total Recoverable
Beryllium	0.27	J	1.0	0.27	ug/L	1		6020B	Total Recoverable
Cadmium	0.080	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	74000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	1.2	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	0.96	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	4.1	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	12000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1100		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	12000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	180		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	180		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	15		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.15		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	78		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	340		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-07-F-20241007-01

Lab Sample ID: 240-212873-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	57	ug/L	1		6010D	Total Recoverable
Barium	37		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	84000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.98	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	6.8	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1300		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	16000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	120		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	120		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	27		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.082		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	180		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	400		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-19-F-20241007-01 — Lab Sample ID: 240-212873-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	230		100	57	ug/L	1		6010D	Total Recoverable
Barium	620		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	100000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.34	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	32		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	20000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	6.0		5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	3000		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	550000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	170		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	170		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	1000		10	1.3	mg/L	10		300.0	Total/NA
Fluoride	0.51		0.10	0.048	mg/L	2		300.0	Total/NA
Sulfate	11		2.0	0.70	mg/L	2		300.0	Total/NA
Total Dissolved Solids	1300		20	16	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-18-F-20241007-01 — Lab Sample ID: 240-212873-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1300		100	57	ug/L	1		6010D	Total Recoverable
Barium	24		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	76000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.54	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	6.8	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	19000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	15000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	96		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	96		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	25		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.058		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	190		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	360		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-06-F-20241008-01 — Lab Sample ID: 240-212873-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1600		100	57	ug/L	1		6010D	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Client Sample ID: BAC-06-F-20241008-01 (Continued)

Lab Sample ID: 240-212873-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.0	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	110		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	120000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	2.6		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	6.8	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	25000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	17000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	210		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	210		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.096		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	210		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	500		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-006-F-20241008-01

Lab Sample ID: 240-212873-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1600		100	57	ug/L	1		6010D	Total Recoverable
Barium	140		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	120000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	2.8		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	6.7	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	25000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	21000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	210		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	210		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.093		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	210		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	510		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-11-F-20241008-01

Lab Sample ID: 240-212873-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	340		100	57	ug/L	1		6010D	Total Recoverable
Barium	150000		250	39	ug/L	50		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-11-F-20241008-01 (Continued)

Lab Sample ID: 240-212873-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	2900000		50000	13000	ug/L	50		6020B	Total Recoverable
Chromium	1.9	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	0.90	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	0.46	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	280		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	790000		50000	3100	ug/L	50		6020B	Total Recoverable
Molybdenum	4.5	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	22000		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	0.94	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	11000000		50000	44000	ug/L	50		6020B	Total Recoverable
Total Alkalinity	24		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	24		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	25000		1000	130	mg/L	1000		300.0	Total/NA
Total Dissolved Solids	35000	H	1000	780	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-02-F-20241008-01

Lab Sample ID: 240-212873-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1500		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.3	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	67		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.23	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	140000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	2.5	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	1.8		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	2.0		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	4.4	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	38000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	3400		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	83000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	290		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	290		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	69		2.0	0.26	mg/L	2		300.0	Total/NA
Fluoride	0.17		0.10	0.048	mg/L	2		300.0	Total/NA
Sulfate	320		2.0	0.70	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-02-F-20241008-01 (Continued)

Lab Sample ID: 240-212873-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	810		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-10-F-20241008-01

Lab Sample ID: 240-212873-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	810		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	0.80	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	52		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.14	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.88	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	0.60	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	5.2	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	31000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2100		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	67000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	260		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	260		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	59		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.17		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	300		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	730		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-007-F-20241008-01

Lab Sample ID: 240-212873-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	790		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	0.96	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	49		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.15	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	130000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.93	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	0.60	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	5.2	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	31000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2000		1000	220	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP-007-F-20241008-01 (Continued)

Lab Sample ID: 240-212873-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	66000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	260		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	260		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	59		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.16		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	310		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	730		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-05-F-20241009-01

Lab Sample ID: 240-212873-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2500		100	57	ug/L	1		6010D	Total Recoverable
Barium	31		5.0	0.77	ug/L	1		6020B	Total Recoverable
Beryllium	0.30	J	1.0	0.27	ug/L	1		6020B	Total Recoverable
Cadmium	0.45	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	80000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	6.6		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	11		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	22000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	1.4	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	29000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	70		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	70		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	35		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.10		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	310		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	520		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-04-F-20241009-01

Lab Sample ID: 240-212873-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2300		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	0.87	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	42		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	96000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	1.1		1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	7.1	J	8.0	3.4	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-04-F-20241009-01 (Continued)
Lab Sample ID: 240-212873-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	20000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	1800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	27000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	110		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	110		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	40		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.082		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	250		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	500		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-13-F-20241009-01
Lab Sample ID: 240-212873-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	390		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	2.7	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	3100		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	180000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.18	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	49		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	38000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	11		5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	5800		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	980000		10000	8800	ug/L	10		6020B	Total Recoverable
Total Alkalinity	83		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	83		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	1700		20	2.6	mg/L	20		300.0	Total/NA
Fluoride	0.92		0.10	0.048	mg/L	2		300.0	Total/NA
Sulfate	2.1		2.0	0.70	mg/L	2		300.0	Total/NA
Total Dissolved Solids	1700		40	31	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BAC-08-F-20241007-01
Date Collected: 10/07/24 11:05
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**100**		100	57	ug/L		10/11/24 14:00	10/16/24 20:51	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:29	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:29	1
Barium	**74**		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:29	1
Beryllium	**0.27**	**J**	1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:29	1
Cadmium	**0.080**	**J**	1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:29	1
Calcium	**74000**		1000	250	ug/L		10/11/24 14:00	10/15/24 00:29	1
Chromium	**1.2**	**J**	5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:29	1
Cobalt	**0.96**	**J**	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:29	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:29	1
Lithium	**4.1**	**J**	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:29	1
Magnesium	**12000**		1000	61	ug/L		10/11/24 14:00	10/15/24 00:29	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:29	1
Potassium	**1100**		1000	220	ug/L		10/11/24 14:00	10/15/24 00:29	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:29	1
Sodium	**12000**		1000	880	ug/L		10/11/24 14:00	10/15/24 00:29	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**180**		5.0	2.6	mg/L			10/16/24 14:02	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**180**		5.0	2.6	mg/L			10/16/24 14:02	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/16/24 14:02	1
Chloride (EPA 300.0)	**15**		1.0	0.13	mg/L			10/19/24 01:06	1
Fluoride (EPA 300.0)	**0.15**		0.050	0.024	mg/L			10/19/24 01:06	1
Sulfate (EPA 300.0)	**78**		1.0	0.35	mg/L			10/19/24 01:06	1
Total Dissolved Solids (SM 2540C)	**340**		10	7.8	mg/L			10/14/24 07:18	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0740	U	0.0703	0.0706	1.00	0.108	pCi/L	10/15/24 08:45	11/06/24 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.3*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.229	U G	0.568	0.568	1.00	1.01	pCi/L	10/15/24 08:49	10/27/24 18:04	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-08-F-20241007-01
Date Collected: 10/07/24 11:05
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.3*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:04*	*1*
Y Carrier	*81.5*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:04*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.303	U	0.572	0.572	5.00	1.01	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-07-F-20241007-01
Date Collected: 10/07/24 12:15
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-2
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1100		100	57	ug/L		10/11/24 14:00	10/16/24 20:55	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:32	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:32	1
Barium	37		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:32	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:32	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:32	1
Calcium	84000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:32	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:32	1
Cobalt	0.98	J	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:32	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:32	1
Lithium	6.8	J	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:32	1
Magnesium	19000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:32	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:32	1
Potassium	1300		1000	220	ug/L		10/11/24 14:00	10/15/24 00:32	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:32	1
Sodium	16000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:32	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:32	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	120		5.0	2.6	mg/L			10/15/24 16:05	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	120		5.0	2.6	mg/L			10/15/24 16:05	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:05	1
Chloride (EPA 300.0)	27		1.0	0.13	mg/L			10/19/24 02:05	1
Fluoride (EPA 300.0)	0.082		0.050	0.024	mg/L			10/19/24 02:05	1
Sulfate (EPA 300.0)	180		1.0	0.35	mg/L			10/19/24 02:05	1
Total Dissolved Solids (SM 2540C)	400		10	7.8	mg/L			10/14/24 07:18	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.253		0.106	0.109	1.00	0.120	pCi/L	10/15/24 08:45	11/06/24 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.109	U	0.305	0.305	1.00	0.541	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client Sample ID: BAC-07-F-20241007-01
Date Collected: 10/07/24 12:15
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-2
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.2*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*
Y Carrier	*81.9*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.362	U	0.323	0.324	5.00	0.541	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-19-F-20241007-01
Date Collected: 10/07/24 14:05
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-3
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	230		100	57	ug/L		10/11/24 14:00	10/16/24 21:00	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:40	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:40	1
Barium	620		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:40	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:40	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:40	1
Calcium	100000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:40	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:40	1
Cobalt	0.34	J	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:40	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:40	1
Lithium	32		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:40	1
Magnesium	20000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:40	1
Molybdenum	6.0		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:40	1
Potassium	3000		1000	220	ug/L		10/11/24 14:00	10/15/24 00:40	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:40	1
Sodium	550000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:40	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	170		5.0	2.6	mg/L			10/15/24 16:09	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	170		5.0	2.6	mg/L			10/15/24 16:09	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:09	1
Chloride (EPA 300.0)	1000		10	1.3	mg/L			10/19/24 02:44	10
Fluoride (EPA 300.0)	0.51		0.10	0.048	mg/L			10/19/24 02:25	2
Sulfate (EPA 300.0)	11		2.0	0.70	mg/L			10/19/24 02:25	2
Total Dissolved Solids (SM 2540C)	1300		20	16	mg/L			10/14/24 07:18	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.992		0.186	0.206	1.00	0.133	pCi/L	10/15/24 08:45	11/06/24 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.445	0.455	1.00	0.599	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-19-F-20241007-01
Date Collected: 10/07/24 14:05
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-3
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		30 - 110	10/29/24 08:41	11/07/24 11:51	1
Y Carrier	77.0		30 - 110	10/29/24 08:41	11/07/24 11:51	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.02		0.482	0.499	5.00	0.599	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-18-F-20241007-01
Date Collected: 10/07/24 15:30
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-4
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1300**		100	57	ug/L		10/11/24 14:00	10/16/24 21:04	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:43	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:43	1
Barium	**24**		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:43	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:43	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:43	1
Calcium	**76000**		1000	250	ug/L		10/11/24 14:00	10/15/24 00:43	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:43	1
Cobalt	**0.54**	**J**	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:43	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:43	1
Lithium	**6.8**	**J**	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:43	1
Magnesium	**19000**		1000	61	ug/L		10/11/24 14:00	10/15/24 00:43	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:43	1
Potassium	**1200**		1000	220	ug/L		10/11/24 14:00	10/15/24 00:43	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:43	1
Sodium	**15000**		1000	880	ug/L		10/11/24 14:00	10/15/24 00:43	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:43	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**96**		5.0	2.6	mg/L			10/15/24 16:14	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**96**		5.0	2.6	mg/L			10/15/24 16:14	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:14	1
Chloride (EPA 300.0)	**25**		1.0	0.13	mg/L			10/19/24 03:04	1
Fluoride (EPA 300.0)	**0.058**		0.050	0.024	mg/L			10/19/24 03:04	1
Sulfate (EPA 300.0)	**190**		1.0	0.35	mg/L			10/19/24 03:04	1
Total Dissolved Solids (SM 2540C)	**360**		10	7.8	mg/L			10/14/24 07:18	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.114**		0.0802	0.0809	1.00	0.113	pCi/L	10/15/24 08:45	11/06/24 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.1*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.329	U	0.578	0.579	1.00	0.999	pCi/L	10/15/24 08:49	10/27/24 18:04	1

Client Sample ID: BAC-18-F-20241007-01
Date Collected: 10/07/24 15:30
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-4
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.1*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:04*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:04*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.443	U	0.584	0.585	5.00	0.999	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-06-F-20241008-01

Lab Sample ID: 240-212873-5

Date Collected: 10/08/24 10:45

Matrix: Water

Date Received: 10/11/24 08:00

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1600		100	57	ug/L		10/11/24 14:00	10/16/24 21:09	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:45	1
Arsenic	1.0	J	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:45	1
Barium	110		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:45	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:45	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:45	1
Calcium	120000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:45	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:45	1
Cobalt	2.6		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:45	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:45	1
Lithium	6.8	J	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:45	1
Magnesium	25000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:45	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:45	1
Potassium	1500		1000	220	ug/L		10/11/24 14:00	10/15/24 00:45	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:45	1
Sodium	17000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:45	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	210		5.0	2.6	mg/L			10/15/24 16:19	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	210		5.0	2.6	mg/L			10/15/24 16:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:19	1
Chloride (EPA 300.0)	26		1.0	0.13	mg/L			10/19/24 04:03	1
Fluoride (EPA 300.0)	0.096		0.050	0.024	mg/L			10/19/24 04:03	1
Sulfate (EPA 300.0)	210		5.0	1.7	mg/L			10/23/24 19:52	5
Total Dissolved Solids (SM 2540C)	500		10	7.8	mg/L			10/14/24 09:56	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.235		0.108	0.110	1.00	0.128	pCi/L	10/15/24 08:45	11/06/24 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.7*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:25*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.222	U	0.351	0.352	1.00	0.598	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client Sample ID: BAC-06-F-20241008-01
Date Collected: 10/08/24 10:45
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-5
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*
Y Carrier	*75.1*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.457	U	0.367	0.369	5.00	0.598	pCi/L		11/08/24 16:41	1

Client Sample ID: DUP-006-F-20241008-01
Date Collected: 10/08/24 00:00
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-6
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1600		100	57	ug/L		10/11/24 14:00	10/16/24 21:27	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:51	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:51	1
Barium	140		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:51	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:51	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:51	1
Calcium	120000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:51	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:51	1
Cobalt	2.8		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:51	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:51	1
Lithium	6.7	J	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:51	1
Magnesium	25000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:51	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:51	1
Potassium	1500		1000	220	ug/L		10/11/24 14:00	10/15/24 00:51	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:51	1
Sodium	21000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:51	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	210		5.0	2.6	mg/L			10/15/24 16:24	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	210		5.0	2.6	mg/L			10/15/24 16:24	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:24	1
Chloride (EPA 300.0)	26		1.0	0.13	mg/L			10/19/24 04:23	1
Fluoride (EPA 300.0)	0.093		0.050	0.024	mg/L			10/19/24 04:23	1
Sulfate (EPA 300.0)	210		5.0	1.7	mg/L			10/23/24 20:12	5
Total Dissolved Solids (SM 2540C)	510		10	7.8	mg/L			10/14/24 09:56	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.428		0.132	0.138	1.00	0.128	pCi/L	10/15/24 08:45	11/06/24 07:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.3*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:29*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.241	U	0.311	0.311	1.00	0.517	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: DUP-006-F-20241008-01
Date Collected: 10/08/24 00:00
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-6
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*
Y Carrier	*79.3*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.669**		0.338	0.340	5.00	0.517	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-11-F-20241008-01
Date Collected: 10/08/24 12:30
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-7
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	340		100	57	ug/L		10/11/24 14:00	10/16/24 21:22	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:48	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:48	1
Barium	150000		250	39	ug/L		10/11/24 14:00	10/15/24 16:19	50
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:48	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:48	1
Calcium	2900000		50000	13000	ug/L		10/11/24 14:00	10/15/24 16:19	50
Chromium	1.9	J	5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:48	1
Cobalt	0.90	J	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:48	1
Lead	0.46	J	1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:48	1
Lithium	280		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:48	1
Magnesium	790000		50000	3100	ug/L		10/11/24 14:00	10/15/24 16:19	50
Molybdenum	4.5	J	5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:48	1
Potassium	22000		1000	220	ug/L		10/11/24 14:00	10/15/24 00:48	1
Selenium	0.94	J	5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:48	1
Sodium	11000000		50000	44000	ug/L		10/11/24 14:00	10/15/24 16:19	50
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	24		5.0	2.6	mg/L			10/15/24 16:29	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	24		5.0	2.6	mg/L			10/15/24 16:29	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:29	1
Chloride (EPA 300.0)	25000		1000	130	mg/L			10/19/24 05:02	1000
Fluoride (EPA 300.0)	ND		5.0	2.4	mg/L			10/19/24 04:43	100
Sulfate (EPA 300.0)	ND		100	35	mg/L			10/19/24 04:43	100
Total Dissolved Solids (SM 2540C)	35000	H	1000	780	mg/L			10/16/24 08:08	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.567		0.219	0.225	1.00	0.249	pCi/L	10/15/24 08:45	11/06/24 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*39.0*		*30 - 110*	*10/15/24 08:45*	*11/06/24 09:14*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	84.5		2.56	8.18	1.00	0.449	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-11-F-20241008-01
Date Collected: 10/08/24 12:30
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-7
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*178*	*X*	*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*
Y Carrier	*87.9*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**85.1**		2.57	8.18	5.00	0.449	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-02-F-20241008-01
Date Collected: 10/08/24 13:50
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-8
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1500		100	57	ug/L		10/11/24 14:00	10/16/24 21:32	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:54	1
Arsenic	2.3	J	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:54	1
Barium	67		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:54	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:54	1
Cadmium	0.23	J	1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:54	1
Calcium	140000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:54	1
Chromium	2.5	J	5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:54	1
Cobalt	1.8		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:54	1
Lead	2.0		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:54	1
Lithium	4.4	J	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:54	1
Magnesium	38000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:54	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:54	1
Potassium	3400		1000	220	ug/L		10/11/24 14:00	10/15/24 00:54	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:54	1
Sodium	83000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:54	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	290		5.0	2.6	mg/L			10/15/24 16:33	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	290		5.0	2.6	mg/L			10/15/24 16:33	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:33	1
Chloride (EPA 300.0)	69		2.0	0.26	mg/L			10/19/24 05:22	2
Fluoride (EPA 300.0)	0.17		0.10	0.048	mg/L			10/19/24 05:22	2
Sulfate (EPA 300.0)	320		2.0	0.70	mg/L			10/19/24 05:22	2
Total Dissolved Solids (SM 2540C)	810		10	7.8	mg/L			10/14/24 09:56	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0949	U	0.143	0.143	1.00	0.245	pCi/L	10/15/24 08:45	11/06/24 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*30 - 110*	*10/15/24 08:45*	*11/06/24 09:14*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.334	U G *	1.22	1.22	1.00	2.35	pCi/L	10/15/24 08:49	10/27/24 18:09	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-02-F-20241008-01
Date Collected: 10/08/24 13:50
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-8
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:09*	*1*
Y Carrier	*84.5*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:09*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.239	U	1.23	1.23	5.00	2.35	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-10-F-20241008-01
Date Collected: 10/08/24 15:35
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-9
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**810**		100	57	ug/L		10/11/24 14:00	10/16/24 21:36	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:56	1
Arsenic	**0.80**	**J**	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:56	1
Barium	**52**		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:56	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:56	1
Cadmium	**0.14**	**J**	1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:56	1
Calcium	**130000**		1000	250	ug/L		10/11/24 14:00	10/15/24 00:56	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:56	1
Cobalt	**0.88**	**J**	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:56	1
Lead	**0.60**	**J**	1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:56	1
Lithium	**5.2**	**J**	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:56	1
Magnesium	**31000**		1000	61	ug/L		10/11/24 14:00	10/15/24 00:56	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:56	1
Potassium	**2100**		1000	220	ug/L		10/11/24 14:00	10/15/24 00:56	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:56	1
Sodium	**67000**		1000	880	ug/L		10/11/24 14:00	10/15/24 00:56	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**260**		5.0	2.6	mg/L			10/15/24 16:40	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**260**		5.0	2.6	mg/L			10/15/24 16:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:40	1
Chloride (EPA 300.0)	**59**		1.0	0.13	mg/L			10/19/24 08:00	1
Fluoride (EPA 300.0)	**0.17**		0.050	0.024	mg/L			10/19/24 08:00	1
Sulfate (EPA 300.0)	**300**		5.0	1.7	mg/L			10/19/24 08:20	5
Total Dissolved Solids (SM 2540C)	**730**		10	7.8	mg/L			10/14/24 09:56	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0747	U	0.0701	0.0704	1.00	0.108	pCi/L	10/15/24 08:45	11/06/24 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.6*		*30 - 110*	*10/15/24 08:45*	*11/06/24 09:15*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.219	U	0.287	0.288	1.00	0.479	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client Sample ID: BAC-10-F-20241008-01
Date Collected: 10/08/24 15:35
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-9
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.7*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*
Y Carrier	*85.2*		*30 - 110*	*10/29/24 08:41*	*11/07/24 11:51*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.294	U	0.295	0.296	5.00	0.479	pCi/L		11/08/24 16:41	1

Client Sample ID: DUP-007-F-20241008-01
Date Collected: 10/08/24 00:00
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-10
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**790**		100	57	ug/L		10/11/24 14:00	10/16/24 21:41	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:59	1
Arsenic	**0.96**	**J**	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:59	1
Barium	**49**		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:59	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:59	1
Cadmium	**0.15**	**J**	1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:59	1
Calcium	**130000**		1000	250	ug/L		10/11/24 14:00	10/15/24 00:59	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:59	1
Cobalt	**0.93**	**J**	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:59	1
Lead	**0.60**	**J**	1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:59	1
Lithium	**5.2**	**J**	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:59	1
Magnesium	**31000**		1000	61	ug/L		10/11/24 14:00	10/15/24 00:59	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:59	1
Potassium	**2000**		1000	220	ug/L		10/11/24 14:00	10/15/24 00:59	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:59	1
Sodium	**66000**		1000	880	ug/L		10/11/24 14:00	10/15/24 00:59	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**260**		5.0	2.6	mg/L			10/15/24 16:53	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**260**		5.0	2.6	mg/L			10/15/24 16:53	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 16:53	1
Chloride (EPA 300.0)	**59**		1.0	0.13	mg/L			10/19/24 08:40	1
Fluoride (EPA 300.0)	**0.16**		0.050	0.024	mg/L			10/19/24 08:40	1
Sulfate (EPA 300.0)	**310**		5.0	1.7	mg/L			10/19/24 08:59	5
Total Dissolved Solids (SM 2540C)	**730**		10	7.8	mg/L			10/14/24 09:56	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0332	U	0.0535	0.0535	1.00	0.0932	pCi/L	10/15/24 08:45	11/06/24 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/15/24 08:45*	*11/06/24 09:15*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.133	U * G	0.515	0.515	1.00	1.00	pCi/L	10/15/24 08:49	10/27/24 18:09	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: DUP-007-F-20241008-01
Date Collected: 10/08/24 00:00
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-10
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:09*	*1*
Y Carrier	*86.4*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:09*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0993	U	0.518	0.518	5.00	1.00	pCi/L		11/08/24 16:41	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-05-F-20241009-01
Date Collected: 10/09/24 10:00
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-11
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2500		100	57	ug/L		10/11/24 14:00	10/16/24 20:15	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:12	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:12	1
Barium	31		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:12	1
Beryllium	0.30	J	1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:12	1
Cadmium	0.45	J	1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:12	1
Calcium	80000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:12	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:12	1
Cobalt	6.6		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:12	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:12	1
Lithium	11		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:12	1
Magnesium	22000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:12	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:12	1
Potassium	1500		1000	220	ug/L		10/11/24 14:00	10/15/24 00:12	1
Selenium	1.4	J	5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:12	1
Sodium	29000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:12	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:12	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	70		5.0	2.6	mg/L			10/15/24 17:07	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	70		5.0	2.6	mg/L			10/15/24 17:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 17:07	1
Chloride (EPA 300.0)	35		1.0	0.13	mg/L			10/19/24 09:19	1
Fluoride (EPA 300.0)	0.10		0.050	0.024	mg/L			10/19/24 09:19	1
Sulfate (EPA 300.0)	310		5.0	1.7	mg/L			10/23/24 20:32	5
Total Dissolved Solids (SM 2540C)	520		10	7.8	mg/L			10/15/24 12:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.135		0.0768	0.0778	1.00	0.0983	pCi/L	10/15/24 08:45	11/06/24 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*30 - 110*	*10/15/24 08:45*	*11/06/24 09:15*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.242	U *	0.533	0.533	1.00	0.936	pCi/L	10/15/24 08:49	10/27/24 18:09	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-05-F-20241009-01
Date Collected: 10/09/24 10:00
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-11
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:09*	*1*
Y Carrier	*83.0*		*30 - 110*	*10/15/24 08:49*	*10/27/24 18:09*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.377	U	0.539	0.539	5.00	0.936	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-04-F-20241009-01
Date Collected: 10/09/24 12:45
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-12
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2300**		100	57	ug/L		10/11/24 14:00	10/16/24 21:45	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 01:02	1
Arsenic	**0.87**	**J**	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 01:02	1
Barium	**42**		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 01:02	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 01:02	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 01:02	1
Calcium	**96000**		1000	250	ug/L		10/11/24 14:00	10/15/24 01:02	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 01:02	1
Cobalt	**1.1**		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 01:02	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 01:02	1
Lithium	**7.1**	**J**	8.0	3.4	ug/L		10/11/24 14:00	10/15/24 01:02	1
Magnesium	**20000**		1000	61	ug/L		10/11/24 14:00	10/15/24 01:02	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 01:02	1
Potassium	**1800**		1000	220	ug/L		10/11/24 14:00	10/15/24 01:02	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 01:02	1
Sodium	**27000**		1000	880	ug/L		10/11/24 14:00	10/15/24 01:02	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 01:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**110**		5.0	2.6	mg/L			10/15/24 17:12	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**110**		5.0	2.6	mg/L			10/15/24 17:12	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 17:12	1
Chloride (EPA 300.0)	**40**		1.0	0.13	mg/L			10/19/24 10:18	1
Fluoride (EPA 300.0)	**0.082**		0.050	0.024	mg/L			10/19/24 10:18	1
Sulfate (EPA 300.0)	**250**		5.0	1.7	mg/L			10/23/24 22:10	5
Total Dissolved Solids (SM 2540C)	**500**		10	7.8	mg/L			10/15/24 12:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.102	U	0.0753	0.0758	1.00	0.108	pCi/L	10/15/24 08:45	11/06/24 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*30 - 110*	*10/15/24 08:45*	*11/06/24 09:15*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.768**		0.351	0.358	1.00	0.468	pCi/L	10/15/24 08:49	10/27/24 11:49	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-04-F-20241009-01
Date Collected: 10/09/24 12:45
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-12
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.4		30 - 110	10/15/24 08:49	10/27/24 11:49	1
Y Carrier	84.5		30 - 110	10/15/24 08:49	10/27/24 11:49	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.870		0.359	0.366	5.00	0.468	pCi/L		11/08/24 16:41	1

Client Sample ID: BAC-13-F-20241009-01
Date Collected: 10/09/24 14:10
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-13
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**390**		100	57	ug/L		10/11/24 14:00	10/16/24 21:50	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 01:05	1
Arsenic	**2.7**	**J**	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 01:05	1
Barium	**3100**		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 01:05	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 01:05	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 01:05	1
Calcium	**180000**		1000	250	ug/L		10/11/24 14:00	10/15/24 01:05	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 01:05	1
Cobalt	**0.18**	**J**	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 01:05	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 01:05	1
Lithium	**49**		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 01:05	1
Magnesium	**38000**		1000	61	ug/L		10/11/24 14:00	10/15/24 01:05	1
Molybdenum	**11**		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 01:05	1
Potassium	**5800**		1000	220	ug/L		10/11/24 14:00	10/15/24 01:05	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 01:05	1
Sodium	**980000**		10000	8800	ug/L		10/11/24 14:00	10/15/24 16:23	10
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 01:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**83**		5.0	2.6	mg/L			10/15/24 17:16	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**83**		5.0	2.6	mg/L			10/15/24 17:16	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/15/24 17:16	1
Chloride (EPA 300.0)	**1700**		20	2.6	mg/L			10/19/24 11:37	20
Fluoride (EPA 300.0)	**0.92**		0.10	0.048	mg/L			10/19/24 11:17	2
Sulfate (EPA 300.0)	**2.1**		2.0	0.70	mg/L			10/19/24 11:17	2
Total Dissolved Solids (SM 2540C)	**1700**		40	31	mg/L			10/15/24 14:48	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.94**		0.232	0.290	1.00	0.114	pCi/L	10/15/24 08:45	11/06/24 15:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*30 - 110*	*10/15/24 08:45*	*11/06/24 15:21*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.54**		0.439	0.461	1.00	0.491	pCi/L	10/29/24 08:41	11/07/24 11:51	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-13-F-20241009-01
Date Collected: 10/09/24 14:10
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212873-13
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		30 - 110	10/29/24 08:41	11/07/24 11:51	1
Y Carrier	77.0		30 - 110	10/29/24 08:41	11/07/24 11:51	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.48		0.497	0.545	5.00	0.491	pCi/L		11/08/24 16:41	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-212873-1	BAC-08-F-20241007-01	86.3
240-212873-2	BAC-07-F-20241007-01	83.3
240-212873-3	BAC-19-F-20241007-01	86.6
240-212873-4	BAC-18-F-20241007-01	90.1
240-212873-5	BAC-06-F-20241008-01	77.7
240-212873-6	DUP-006-F-20241008-01	81.3
240-212873-7	BAC-11-F-20241008-01	39.0
240-212873-8	BAC-02-F-20241008-01	85.8
240-212873-9	BAC-10-F-20241008-01	89.6
240-212873-10	DUP-007-F-20241008-01	94.4
240-212873-11	BAC-05-F-20241009-01	95.2
240-212873-11 MS	BAC-05-F-20241009-01	89.6
240-212873-11 MSD	BAC-05-F-20241009-01	96.7
240-212873-12	BAC-04-F-20241009-01	94.4
240-212873-13	BAC-13-F-20241009-01	99.2
LCS 160-683580/2-A	Lab Control Sample	88.4
MB 160-683580/1-A	Method Blank	94.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-212873-1	BAC-08-F-20241007-01	86.3	81.5
240-212873-2	BAC-07-F-20241007-01	92.2	81.9
240-212873-3	BAC-19-F-20241007-01	93.4	77.0
240-212873-4	BAC-18-F-20241007-01	90.1	78.9
240-212873-5	BAC-06-F-20241008-01	88.8	75.1
240-212873-6	DUP-006-F-20241008-01	94.4	79.3
240-212873-7	BAC-11-F-20241008-01	178 X	87.9
240-212873-8	BAC-02-F-20241008-01	85.8	84.5
240-212873-9	BAC-10-F-20241008-01	92.7	85.2
240-212873-10	DUP-007-F-20241008-01	94.4	86.4
240-212873-11	BAC-05-F-20241009-01	95.2	83.0
240-212873-11 MS	BAC-05-F-20241009-01	89.6	78.9
240-212873-11 MSD	BAC-05-F-20241009-01	96.7	81.9
240-212873-12	BAC-04-F-20241009-01	94.4	84.5
240-212873-13	BAC-13-F-20241009-01	109	77.0
LCS 160-683582/2-A	Lab Control Sample	88.4	75.9
LCS 160-685749/2-A	Lab Control Sample	92.9	77.0
MB 160-683582/1-A	Method Blank	94.7	75.5
MB 160-685749/1-A	Method Blank	97.3	84.5

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-630503/1-A
Matrix: Water
Analysis Batch: 631082

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		10/11/24 14:00	10/16/24 20:06	1

Lab Sample ID: LCS 240-630503/2-A
Matrix: Water
Analysis Batch: 631082

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	986		ug/L		99	80 - 120

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 631082

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2500		1000	3550		ug/L		107	75 - 125

Lab Sample ID: 240-212873-11 MSD
Matrix: Water
Analysis Batch: 631082

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	2500		1000	3480		ug/L		100	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-630503/1-A
Matrix: Water
Analysis Batch: 630799

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:07	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:07	1
Barium	ND		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:07	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:07	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:07	1
Calcium	ND		1000	250	ug/L		10/11/24 14:00	10/15/24 00:07	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:07	1
Cobalt	ND		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:07	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:07	1
Lithium	ND		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:07	1
Magnesium	ND		1000	61	ug/L		10/11/24 14:00	10/15/24 00:07	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:07	1
Potassium	ND		1000	220	ug/L		10/11/24 14:00	10/15/24 00:07	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:07	1
Sodium	ND		1000	880	ug/L		10/11/24 14:00	10/15/24 00:07	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:07	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-630503/3-A
Matrix: Water
Analysis Batch: 630799

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			100	97.5		ug/L		97	80 - 120		
Arsenic			1000	918		ug/L		92	80 - 120		
Barium			1000	942		ug/L		94	80 - 120		
Beryllium			500	424		ug/L		85	80 - 120		
Cadmium			500	480		ug/L		96	80 - 120		
Calcium			25000	23200		ug/L		93	80 - 120		
Chromium			500	463		ug/L		93	80 - 120		
Cobalt			500	459		ug/L		92	80 - 120		
Lead			500	460		ug/L		92	80 - 120		
Lithium			500	465		ug/L		93	80 - 120		
Magnesium			25000	22700		ug/L		91	80 - 120		
Molybdenum			500	459		ug/L		92	80 - 120		
Potassium			25000	23300		ug/L		93	80 - 120		
Selenium			1000	923		ug/L		92	80 - 120		
Sodium			25000	23800		ug/L		95	80 - 120		
Thallium			1000	903		ug/L		90	80 - 120		

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 630799

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		100	112		ug/L		112	80 - 120		
Arsenic	ND		1000	982		ug/L		98	80 - 120		
Barium	31		1000	1060		ug/L		103	80 - 120		
Beryllium	0.30	J	500	446		ug/L		89	80 - 120		
Cadmium	0.45	J	500	514		ug/L		103	80 - 120		
Calcium	80000		25000	105000		ug/L		103	80 - 120		
Chromium	ND		500	499		ug/L		100	80 - 120		
Cobalt	6.6		500	486		ug/L		96	80 - 120		
Lead	ND		500	494		ug/L		99	80 - 120		
Lithium	11		500	512		ug/L		100	80 - 120		
Magnesium	22000		25000	46100		ug/L		97	80 - 120		
Molybdenum	ND		500	506		ug/L		101	80 - 120		
Potassium	1500		25000	26600		ug/L		100	80 - 120		
Selenium	1.4	J	1000	965		ug/L		96	80 - 120		
Sodium	29000		25000	53900		ug/L		101	80 - 120		
Thallium	ND		1000	981		ug/L		98	80 - 120		

Lab Sample ID: 240-212873-11 MSD
Matrix: Water
Analysis Batch: 630799

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		100	106		ug/L		106	80 - 120	6	20
Arsenic	ND		1000	939		ug/L		94	80 - 120	4	20
Barium	31		1000	1030		ug/L		100	80 - 120	3	20
Beryllium	0.30	J	500	444		ug/L		89	80 - 120	0	20
Cadmium	0.45	J	500	498		ug/L		100	80 - 120	3	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-212873-11 MSD — **Client Sample ID: BAC-05-F-20241009-01**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 630799 — **Prep Batch: 630503**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	80000		25000	103000		ug/L		93	80 - 120	2	20
Chromium	ND		500	487		ug/L		97	80 - 120	2	20
Cobalt	6.6		500	468		ug/L		92	80 - 120	4	20
Lead	ND		500	481		ug/L		96	80 - 120	3	20
Lithium	11		500	501		ug/L		98	80 - 120	2	20
Magnesium	22000		25000	45100		ug/L		93	80 - 120	2	20
Molybdenum	ND		500	491		ug/L		98	80 - 120	3	20
Potassium	1500		25000	26100		ug/L		98	80 - 120	2	20
Selenium	1.4	J	1000	943		ug/L		94	80 - 120	2	20
Sodium	29000		25000	52600		ug/L		95	80 - 120	2	20
Thallium	ND		1000	954		ug/L		95	80 - 120	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-630508/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 630764 — **Prep Batch: 630508**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:18	1

Lab Sample ID: LCS 240-630508/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 630764 — **Prep Batch: 630508**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.87		ug/L		97	80 - 120

Lab Sample ID: 240-212873-11 MS — **Client Sample ID: BAC-05-F-20241009-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 630764 — **Prep Batch: 630508**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	0.953		ug/L		95	80 - 120

Lab Sample ID: 240-212873-11 MSD — **Client Sample ID: BAC-05-F-20241009-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 630764 — **Prep Batch: 630508**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		1.00	0.968		ug/L		97	80 - 120	1	20

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-630962/28 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 630962

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/15/24 17:03	1

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-630962/28
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 17:03	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 17:03	1

Lab Sample ID: MB 240-630962/4
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/15/24 14:55	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 14:55	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/15/24 14:55	1

Lab Sample ID: LCS 240-630962/27
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	282		mg/L		101	86 - 123		

Lab Sample ID: LCS 240-630962/3
Matrix: Water
Analysis Batch: 630962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	276		mg/L		98	86 - 123		

Lab Sample ID: 240-212873-10 DU
Matrix: Water
Analysis Batch: 630962

Client Sample ID: DUP-007-F-20241008-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	260			262		mg/L				0.4	20
Bicarbonate Alkalinity as CaCO3	260			262		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: MB 240-631151/4
Matrix: Water
Analysis Batch: 631151

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/16/24 13:31	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/16/24 13:31	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/16/24 13:31	1

Lab Sample ID: LCS 240-631151/3
Matrix: Water
Analysis Batch: 631151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Alkalinity			280	275		mg/L		98	86 - 123		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-631516/3
Matrix: Water
Analysis Batch: 631516

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/18/24 16:13	1
Fluoride	ND		0.050	0.024	mg/L			10/18/24 16:13	1
Sulfate	ND		1.0	0.35	mg/L			10/18/24 16:13	1

Lab Sample ID: LCS 240-631516/4
Matrix: Water
Analysis Batch: 631516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	50.9		mg/L		102	90 - 110		
Fluoride			2.50	2.65		mg/L		106	90 - 110		
Sulfate			50.0	53.0		mg/L		106	90 - 110		

Lab Sample ID: 240-212873-1 MS
Matrix: Water
Analysis Batch: 631516

Client Sample ID: BAC-08-F-20241007-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	15		50.0	65.4		mg/L		100	80 - 120		
Fluoride	0.15		2.50	2.78		mg/L		105	80 - 120		
Sulfate	78		50.0	127		mg/L		99	80 - 120		

Lab Sample ID: 240-212873-1 MSD
Matrix: Water
Analysis Batch: 631516

Client Sample ID: BAC-08-F-20241007-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	15		50.0	65.6		mg/L		101	80 - 120	0	15
Fluoride	0.15		2.50	2.79		mg/L		105	80 - 120	0	15
Sulfate	78		50.0	127		mg/L		99	80 - 120	0	15

Lab Sample ID: MB 240-631519/3
Matrix: Water
Analysis Batch: 631519

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/19/24 07:21	1
Fluoride	ND		0.050	0.024	mg/L			10/19/24 07:21	1
Sulfate	ND		1.0	0.35	mg/L			10/19/24 07:21	1

Lab Sample ID: LCS 240-631519/4
Matrix: Water
Analysis Batch: 631519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	51.1		mg/L		102	90 - 110		
Fluoride			2.50	2.66		mg/L		106	90 - 110		
Sulfate			50.0	53.3		mg/L		107	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 631519

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	35		50.0	83.4		mg/L		96	80 - 120		
Fluoride	0.10		2.50	2.61		mg/L		101	80 - 120		

Lab Sample ID: 240-212873-11 MSD
Matrix: Water
Analysis Batch: 631519

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	35		50.0	84.0		mg/L		97	80 - 120	1	15
Fluoride	0.10		2.50	2.64		mg/L		102	80 - 120	1	15

Lab Sample ID: MB 240-632129/4
Matrix: Water
Analysis Batch: 632129

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.35	mg/L			10/23/24 13:57	1

Lab Sample ID: LCS 240-632129/5
Matrix: Water
Analysis Batch: 632129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate	50.0	51.1		mg/L		102	90 - 110		

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 632129

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate	310		250	548		mg/L		97	80 - 120		

Lab Sample ID: 240-212873-11 MSD
Matrix: Water
Analysis Batch: 632129

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	310		250	551		mg/L		98	80 - 120	0	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-630607/1
Matrix: Water
Analysis Batch: 630607

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/14/24 07:18	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 240-630607/2
Matrix: Water
Analysis Batch: 630607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	515		mg/L		104	80 - 120

Lab Sample ID: MB 240-630666/1
Matrix: Water
Analysis Batch: 630666

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/14/24 09:56	1

Lab Sample ID: LCS 240-630666/2
Matrix: Water
Analysis Batch: 630666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	518		mg/L		105	80 - 120

Lab Sample ID: 240-212873-6 DU
Matrix: Water
Analysis Batch: 630666

Client Sample ID: DUP-006-F-20241008-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	510		506		mg/L		0.2	20

Lab Sample ID: MB 240-630886/1
Matrix: Water
Analysis Batch: 630886

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/15/24 12:28	1

Lab Sample ID: LCS 240-630886/2
Matrix: Water
Analysis Batch: 630886

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	560		mg/L		113	80 - 120

Lab Sample ID: 240-212873-11 DU
Matrix: Water
Analysis Batch: 630886

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	520		528		mg/L		1	20

Lab Sample ID: MB 240-630932/1
Matrix: Water
Analysis Batch: 630932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/15/24 14:48	1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 240-630932/2
Matrix: Water
Analysis Batch: 630932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	526		mg/L		106	80 - 120

Lab Sample ID: MB 240-630989/1
Matrix: Water
Analysis Batch: 630989

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/16/24 08:08	1

Lab Sample ID: LCS 240-630989/2
Matrix: Water
Analysis Batch: 630989

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	517		mg/L		104	80 - 120

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-683580/1-A
Matrix: Water
Analysis Batch: 687156

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683580

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1310		0.0877	0.0885	1.00	0.123	pCi/L	10/15/24 08:45	11/06/24 07:27	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.7*		*30 - 110*	*10/15/24 08:45*	*11/06/24 07:27*	*1*

Lab Sample ID: LCS 160-683580/2-A
Matrix: Water
Analysis Batch: 687156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683580

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	9.966		1.05	1.00	0.101	pCi/L	104	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*88.4*		*30 - 110*

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 687157

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA
Prep Batch: 683580

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	0.135		9.67	9.984		1.05	1.00	0.113	pCi/L	102	60 - 140

Method: 9315 - Radium 226 by GFPC (Continued)

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 687157

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA
Prep Batch: 683580

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	89.6		30 - 110

Lab Sample ID: 240-212873-11 MSD
Matrix: Water
Analysis Batch: 687157

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA
Prep Batch: 683580

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.135		9.57	9.447		0.994	1.00	0.122	pCi/L	97	60 - 140	0.26	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	96.7		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-683582/1-A
Matrix: Water
Analysis Batch: 685369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683582

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.408		0.453	0.472	1.00	0.529	pCi/L	10/15/24 08:49	10/27/24 11:48	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		30 - 110	10/15/24 08:49	10/27/24 11:48	1
Y Carrier	75.5		30 - 110	10/15/24 08:49	10/27/24 11:48	1

Lab Sample ID: LCS 160-683582/2-A
Matrix: Water
Analysis Batch: 685362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683582

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.39	10.06		1.83	1.00	1.31	pCi/L	120	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	88.4		30 - 110
Y Carrier	75.9		30 - 110

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 685370

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA
Prep Batch: 683582

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228	0.242	U *	8.47	12.95		1.64	1.00	0.561	pCi/L	138	60 - 140		

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 240-212873-11 MS
Matrix: Water
Analysis Batch: 685370

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA
Prep Batch: 683582

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	89.6		30 - 110
Y Carrier	78.9		30 - 110

Lab Sample ID: 240-212873-11 MSD
Matrix: Water
Analysis Batch: 685370

Client Sample ID: BAC-05-F-20241009-01
Prep Type: Total/NA
Prep Batch: 683582

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	0.242	U *	8.39	11.57		1.47	1.00	0.519	pCi/L	123	60 - 140	0.44	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	96.7		30 - 110
Y Carrier	81.9		30 - 110

Lab Sample ID: MB 160-685749/1-A
Matrix: Water
Analysis Batch: 687288

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 685749

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1791	U	0.333	0.333	1.00	0.571	pCi/L	10/29/24 08:41	11/07/24 11:43	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		30 - 110	10/29/24 08:41	11/07/24 11:43	1
Y Carrier	84.5		30 - 110	10/29/24 08:41	11/07/24 11:43	1

Lab Sample ID: LCS 160-685749/2-A
Matrix: Water
Analysis Batch: 687313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 685749

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.36	9.369		1.68	1.00	1.13	pCi/L	112	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	92.9		30 - 110
Y Carrier	77.0		30 - 110

Metals

Prep Batch: 630503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total Recoverable	Water	3005A	
240-212873-2	BAC-07-F-20241007-01	Total Recoverable	Water	3005A	
240-212873-3	BAC-19-F-20241007-01	Total Recoverable	Water	3005A	
240-212873-4	BAC-18-F-20241007-01	Total Recoverable	Water	3005A	
240-212873-5	BAC-06-F-20241008-01	Total Recoverable	Water	3005A	
240-212873-6	DUP-006-F-20241008-01	Total Recoverable	Water	3005A	
240-212873-7	BAC-11-F-20241008-01	Total Recoverable	Water	3005A	
240-212873-8	BAC-02-F-20241008-01	Total Recoverable	Water	3005A	
240-212873-9	BAC-10-F-20241008-01	Total Recoverable	Water	3005A	
240-212873-10	DUP-007-F-20241008-01	Total Recoverable	Water	3005A	
240-212873-11	BAC-05-F-20241009-01	Total Recoverable	Water	3005A	
240-212873-12	BAC-04-F-20241009-01	Total Recoverable	Water	3005A	
240-212873-13	BAC-13-F-20241009-01	Total Recoverable	Water	3005A	
MB 240-630503/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-630503/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-630503/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-212873-11 MS	BAC-05-F-20241009-01	Total Recoverable	Water	3005A	
240-212873-11 MS	BAC-05-F-20241009-01	Total Recoverable	Water	3005A	
240-212873-11 MSD	BAC-05-F-20241009-01	Total Recoverable	Water	3005A	
240-212873-11 MSD	BAC-05-F-20241009-01	Total Recoverable	Water	3005A	

Prep Batch: 630508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	7470A	
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	7470A	
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	7470A	
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	7470A	
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	7470A	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	7470A	
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	7470A	
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	7470A	
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	7470A	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	7470A	
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	7470A	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	7470A	
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	7470A	
MB 240-630508/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-630508/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-212873-11 MS	BAC-05-F-20241009-01	Total/NA	Water	7470A	
240-212873-11 MSD	BAC-05-F-20241009-01	Total/NA	Water	7470A	

Analysis Batch: 630764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	7470A	630508
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	7470A	630508
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	7470A	630508
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	7470A	630508
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	7470A	630508
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	7470A	630508
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	7470A	630508
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	7470A	630508

Metals (Continued)

Analysis Batch: 630764 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	7470A	630508
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	7470A	630508
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	7470A	630508
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	7470A	630508
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	7470A	630508
MB 240-630508/1-A	Method Blank	Total/NA	Water	7470A	630508
LCS 240-630508/2-A	Lab Control Sample	Total/NA	Water	7470A	630508
240-212873-11 MS	BAC-05-F-20241009-01	Total/NA	Water	7470A	630508
240-212873-11 MSD	BAC-05-F-20241009-01	Total/NA	Water	7470A	630508

Analysis Batch: 630799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total Recoverable	Water	6020B	630503
240-212873-2	BAC-07-F-20241007-01	Total Recoverable	Water	6020B	630503
240-212873-3	BAC-19-F-20241007-01	Total Recoverable	Water	6020B	630503
240-212873-4	BAC-18-F-20241007-01	Total Recoverable	Water	6020B	630503
240-212873-5	BAC-06-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-6	DUP-006-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-7	BAC-11-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-8	BAC-02-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-9	BAC-10-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-10	DUP-007-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-11	BAC-05-F-20241009-01	Total Recoverable	Water	6020B	630503
240-212873-12	BAC-04-F-20241009-01	Total Recoverable	Water	6020B	630503
240-212873-13	BAC-13-F-20241009-01	Total Recoverable	Water	6020B	630503
MB 240-630503/1-A	Method Blank	Total Recoverable	Water	6020B	630503
LCS 240-630503/3-A	Lab Control Sample	Total Recoverable	Water	6020B	630503
240-212873-11 MS	BAC-05-F-20241009-01	Total Recoverable	Water	6020B	630503
240-212873-11 MSD	BAC-05-F-20241009-01	Total Recoverable	Water	6020B	630503

Analysis Batch: 630986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-7	BAC-11-F-20241008-01	Total Recoverable	Water	6020B	630503
240-212873-13	BAC-13-F-20241009-01	Total Recoverable	Water	6020B	630503

Analysis Batch: 631082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total Recoverable	Water	6010D	630503
240-212873-2	BAC-07-F-20241007-01	Total Recoverable	Water	6010D	630503
240-212873-3	BAC-19-F-20241007-01	Total Recoverable	Water	6010D	630503
240-212873-4	BAC-18-F-20241007-01	Total Recoverable	Water	6010D	630503
240-212873-5	BAC-06-F-20241008-01	Total Recoverable	Water	6010D	630503
240-212873-6	DUP-006-F-20241008-01	Total Recoverable	Water	6010D	630503
240-212873-7	BAC-11-F-20241008-01	Total Recoverable	Water	6010D	630503
240-212873-8	BAC-02-F-20241008-01	Total Recoverable	Water	6010D	630503
240-212873-9	BAC-10-F-20241008-01	Total Recoverable	Water	6010D	630503
240-212873-10	DUP-007-F-20241008-01	Total Recoverable	Water	6010D	630503
240-212873-11	BAC-05-F-20241009-01	Total Recoverable	Water	6010D	630503
240-212873-12	BAC-04-F-20241009-01	Total Recoverable	Water	6010D	630503
240-212873-13	BAC-13-F-20241009-01	Total Recoverable	Water	6010D	630503
MB 240-630503/1-A	Method Blank	Total Recoverable	Water	6010D	630503

Metals (Continued)

Analysis Batch: 631082 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-630503/2-A	Lab Control Sample	Total Recoverable	Water	6010D	630503
240-212873-11 MS	BAC-05-F-20241009-01	Total Recoverable	Water	6010D	630503
240-212873-11 MSD	BAC-05-F-20241009-01	Total Recoverable	Water	6010D	630503

General Chemistry

Analysis Batch: 630607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	SM 2540C	
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	SM 2540C	
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	SM 2540C	
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	SM 2540C	
MB 240-630607/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630607/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 630666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	SM 2540C	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	SM 2540C	
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	SM 2540C	
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	SM 2540C	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	SM 2540C	
MB 240-630666/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630666/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-212873-6 DU	DUP-006-F-20241008-01	Total/NA	Water	SM 2540C	

Analysis Batch: 630886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	SM 2540C	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	SM 2540C	
MB 240-630886/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630886/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-212873-11 DU	BAC-05-F-20241009-01	Total/NA	Water	SM 2540C	

Analysis Batch: 630932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	SM 2540C	
MB 240-630932/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630932/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 630962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	2320B-1997	
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	2320B-1997	
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	2320B-1997	
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	2320B-1997	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	2320B-1997	
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	2320B-1997	
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	2320B-1997	
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	2320B-1997	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	2320B-1997	

General Chemistry (Continued)

Analysis Batch: 630962 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	2320B-1997	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	2320B-1997	
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	2320B-1997	
MB 240-630962/28	Method Blank	Total/NA	Water	2320B-1997	
MB 240-630962/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-630962/27	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-630962/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-212873-10 DU	DUP-007-F-20241008-01	Total/NA	Water	2320B-1997	

Analysis Batch: 630989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	SM 2540C	
MB 240-630989/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630989/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 631151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	2320B-1997	
MB 240-631151/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-631151/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 631516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	300.0	
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	300.0	
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	300.0	
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	300.0	
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	300.0	
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	300.0	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	300.0	
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	300.0	
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	300.0	
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	300.0	
MB 240-631516/3	Method Blank	Total/NA	Water	300.0	
LCS 240-631516/4	Lab Control Sample	Total/NA	Water	300.0	
240-212873-1 MS	BAC-08-F-20241007-01	Total/NA	Water	300.0	
240-212873-1 MSD	BAC-08-F-20241007-01	Total/NA	Water	300.0	

Analysis Batch: 631519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	300.0	
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	300.0	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	300.0	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	300.0	
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	300.0	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	300.0	
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	300.0	
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	300.0	
MB 240-631519/3	Method Blank	Total/NA	Water	300.0	
LCS 240-631519/4	Lab Control Sample	Total/NA	Water	300.0	
240-212873-11 MS	BAC-05-F-20241009-01	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 631519 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-11 MSD	BAC-05-F-20241009-01	Total/NA	Water	300.0	

Analysis Batch: 632129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	300.0	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	300.0	
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	300.0	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	300.0	
MB 240-632129/4	Method Blank	Total/NA	Water	300.0	
LCS 240-632129/5	Lab Control Sample	Total/NA	Water	300.0	
240-212873-11 MS	BAC-05-F-20241009-01	Total/NA	Water	300.0	
240-212873-11 MSD	BAC-05-F-20241009-01	Total/NA	Water	300.0	

Rad

Prep Batch: 683580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	PrecSep-21	
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	PrecSep-21	
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	PrecSep-21	
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	PrecSep-21	
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	PrecSep-21	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	PrecSep-21	
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	PrecSep-21	
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	PrecSep-21	
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	PrecSep-21	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	PrecSep-21	
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	PrecSep-21	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	PrecSep-21	
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	PrecSep-21	
MB 160-683580/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-683580/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-212873-11 MS	BAC-05-F-20241009-01	Total/NA	Water	PrecSep-21	
240-212873-11 MSD	BAC-05-F-20241009-01	Total/NA	Water	PrecSep-21	

Prep Batch: 683582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-1	BAC-08-F-20241007-01	Total/NA	Water	PrecSep_0	
240-212873-4	BAC-18-F-20241007-01	Total/NA	Water	PrecSep_0	
240-212873-8	BAC-02-F-20241008-01	Total/NA	Water	PrecSep_0	
240-212873-10	DUP-007-F-20241008-01	Total/NA	Water	PrecSep_0	
240-212873-11	BAC-05-F-20241009-01	Total/NA	Water	PrecSep_0	
240-212873-12	BAC-04-F-20241009-01	Total/NA	Water	PrecSep_0	
MB 160-683582/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-683582/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-212873-11 MS	BAC-05-F-20241009-01	Total/NA	Water	PrecSep_0	
240-212873-11 MSD	BAC-05-F-20241009-01	Total/NA	Water	PrecSep_0	

Prep Batch: 685749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-2	BAC-07-F-20241007-01	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 685749 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212873-3	BAC-19-F-20241007-01	Total/NA	Water	PrecSep_0	
240-212873-5	BAC-06-F-20241008-01	Total/NA	Water	PrecSep_0	
240-212873-6	DUP-006-F-20241008-01	Total/NA	Water	PrecSep_0	
240-212873-7	BAC-11-F-20241008-01	Total/NA	Water	PrecSep_0	
240-212873-9	BAC-10-F-20241008-01	Total/NA	Water	PrecSep_0	
240-212873-13	BAC-13-F-20241009-01	Total/NA	Water	PrecSep_0	
MB 160-685749/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-685749/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Client Sample ID: BAC-08-F-20241007-01
Lab Sample ID: 240-212873-1

Date Collected: 10/07/24 11:05
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 20:51
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:29
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:32
Total/NA	Analysis	2320B-1997		1	631151	GZF4	EET CLE	10/16/24 14:02
Total/NA	Analysis	300.0		1	631516	JMR	EET CLE	10/19/24 01:06
Total/NA	Analysis	SM 2540C		1	630607	TAV2	EET CLE	10/14/24 07:18
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 07:25
Total/NA	Prep	PrecSep_0			683582	BCE	EET SL	10/15/24 08:49
Total/NA	Analysis	9320		1	685362	FLC	EET SL	10/27/24 18:04
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-07-F-20241007-01
Lab Sample ID: 240-212873-2

Date Collected: 10/07/24 12:15
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 20:55
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:32
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:34
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:05
Total/NA	Analysis	300.0		1	631516	JMR	EET CLE	10/19/24 02:05
Total/NA	Analysis	SM 2540C		1	630607	TAV2	EET CLE	10/14/24 07:18
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 07:25
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-19-F-20241007-01
Lab Sample ID: 240-212873-3

Date Collected: 10/07/24 14:05
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:00
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:40

Client Sample ID: BAC-19-F-20241007-01
Lab Sample ID: 240-212873-3

Date Collected: 10/07/24 14:05
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:35
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:09
Total/NA	Analysis	300.0		2	631516	JMR	EET CLE	10/19/24 02:25
Total/NA	Analysis	300.0		10	631516	JMR	EET CLE	10/19/24 02:44
Total/NA	Analysis	SM 2540C		1	630607	TAV2	EET CLE	10/14/24 07:18
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 07:25
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-18-F-20241007-01
Lab Sample ID: 240-212873-4

Date Collected: 10/07/24 15:30
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:04
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:43
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:37
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:14
Total/NA	Analysis	300.0		1	631516	JMR	EET CLE	10/19/24 03:04
Total/NA	Analysis	SM 2540C		1	630607	TAV2	EET CLE	10/14/24 07:18
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 07:25
Total/NA	Prep	PrecSep_0			683582	BCE	EET SL	10/15/24 08:49
Total/NA	Analysis	9320		1	685362	FLC	EET SL	10/27/24 18:04
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-06-F-20241008-01
Lab Sample ID: 240-212873-5

Date Collected: 10/08/24 10:45
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:09
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:45
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:39
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:19

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-06-F-20241008-01

Lab Sample ID: 240-212873-5

Date Collected: 10/08/24 10:45
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	631516	JMR	EET CLE	10/19/24 04:03
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 19:52
Total/NA	Analysis	SM 2540C		1	630666	TAV2	EET CLE	10/14/24 09:56
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 07:25
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: DUP-006-F-20241008-01

Lab Sample ID: 240-212873-6

Date Collected: 10/08/24 00:00
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:27
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:51
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:42
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:24
Total/NA	Analysis	300.0		1	631516	JMR	EET CLE	10/19/24 04:23
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 20:12
Total/NA	Analysis	SM 2540C		1	630666	TAV2	EET CLE	10/14/24 09:56
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 07:29
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-11-F-20241008-01

Lab Sample ID: 240-212873-7

Date Collected: 10/08/24 12:30
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:22
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:48
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		50	630986	AJC	EET CLE	10/15/24 16:19
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:40
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:29

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-11-F-20241008-01
Lab Sample ID: 240-212873-7

Date Collected: 10/08/24 12:30
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		100	631516	JMR	EET CLE	10/19/24 04:43
Total/NA	Analysis	300.0		1000	631516	JMR	EET CLE	10/19/24 05:02
Total/NA	Analysis	SM 2540C		1	630989	TAV2	EET CLE	10/16/24 08:08
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 09:14
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-02-F-20241008-01
Lab Sample ID: 240-212873-8

Date Collected: 10/08/24 13:50
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:32
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:54
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:44
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:33
Total/NA	Analysis	300.0		2	631516	JMR	EET CLE	10/19/24 05:22
Total/NA	Analysis	SM 2540C		1	630666	TAV2	EET CLE	10/14/24 09:56
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 09:14
Total/NA	Prep	PrecSep_0			683582	BCE	EET SL	10/15/24 08:49
Total/NA	Analysis	9320		1	685369	FLC	EET SL	10/27/24 18:09
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-10-F-20241008-01
Lab Sample ID: 240-212873-9

Date Collected: 10/08/24 15:35
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:36
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:56
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:46
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:40
Total/NA	Analysis	300.0		1	631519	JMR	EET CLE	10/19/24 08:00
Total/NA	Analysis	300.0		5	631519	JMR	EET CLE	10/19/24 08:20
Total/NA	Analysis	SM 2540C		1	630666	TAV2	EET CLE	10/14/24 09:56

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-10-F-20241008-01
Lab Sample ID: 240-212873-9
Date Collected: 10/08/24 15:35
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 09:15
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: DUP-007-F-20241008-01
Lab Sample ID: 240-212873-10
Date Collected: 10/08/24 00:00
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:41
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:59
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:51
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 16:53
Total/NA	Analysis	300.0		1	631519	JMR	EET CLE	10/19/24 08:40
Total/NA	Analysis	300.0		5	631519	JMR	EET CLE	10/19/24 08:59
Total/NA	Analysis	SM 2540C		1	630666	TAV2	EET CLE	10/14/24 09:56
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 09:15
Total/NA	Prep	PrecSep_0			683582	BCE	EET SL	10/15/24 08:49
Total/NA	Analysis	9320		1	685369	FLC	EET SL	10/27/24 18:09
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-05-F-20241009-01
Lab Sample ID: 240-212873-11
Date Collected: 10/09/24 10:00
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 20:15
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:12
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:22
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 17:07
Total/NA	Analysis	300.0		1	631519	JMR	EET CLE	10/19/24 09:19
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 20:32
Total/NA	Analysis	SM 2540C		1	630886	TAV2	EET CLE	10/15/24 12:28
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 09:15

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-212873-1

Client Sample ID: BAC-05-F-20241009-01

Lab Sample ID: 240-212873-11

Date Collected: 10/09/24 10:00
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			683582	BCE	EET SL	10/15/24 08:49
Total/NA	Analysis	9320		1	685369	FLC	EET SL	10/27/24 18:09
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-04-F-20241009-01

Lab Sample ID: 240-212873-12

Date Collected: 10/09/24 12:45
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:45
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 01:02
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:52
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 17:12
Total/NA	Analysis	300.0		1	631519	JMR	EET CLE	10/19/24 10:18
Total/NA	Analysis	300.0		5	632129	JMR	EET CLE	10/23/24 22:10
Total/NA	Analysis	SM 2540C		1	630886	TAV2	EET CLE	10/15/24 12:28
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 09:15
Total/NA	Prep	PrecSep_0			683582	BCE	EET SL	10/15/24 08:49
Total/NA	Analysis	9320		1	685370	FLC	EET SL	10/27/24 11:49
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Client Sample ID: BAC-13-F-20241009-01

Lab Sample ID: 240-212873-13

Date Collected: 10/09/24 14:10
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 21:50
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 01:05
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		10	630986	AJC	EET CLE	10/15/24 16:23
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:54
Total/NA	Analysis	2320B-1997		1	630962	GZF4	EET CLE	10/15/24 17:16
Total/NA	Analysis	300.0		2	631519	JMR	EET CLE	10/19/24 11:17
Total/NA	Analysis	300.0		20	631519	JMR	EET CLE	10/19/24 11:37
Total/NA	Analysis	SM 2540C		1	630932	TAV2	EET CLE	10/15/24 14:48
Total/NA	Prep	PrecSep-21			683580	BCE	EET SL	10/15/24 08:45
Total/NA	Analysis	9315		1	687157	SWS	EET SL	11/06/24 15:21

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-13-F-20241009-01
Lab Sample ID: 240-212873-13
Date Collected: 10/09/24 14:10
Matrix: Water
Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			685749	BCE	EET SL	10/29/24 08:41
Total/NA	Analysis	9320		1	687313	SWS	EET SL	11/07/24 11:51
Total/NA	Analysis	Ra226_Ra228		1	687644	EMH	EET SL	11/08/24 16:41

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	12-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212873-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing

Client Information	Sampler: Bobby Cesto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No.: 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: ~~Page 1 of 8~~ Pg 1 of 2
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastestoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra226, Ra226Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	N	X	
BAC-08-F-20241007-01	10-7-24	1105	G	Water	N		1	1	2	1	1		
BAC-07-F-20241007-01	10-7-24	1215	G	Water	N		1	1	2	1	1		
BAC-19-F-20241007-01	10-7-24	1405	G	Water	N		1	1	2	1	1		
BAC-18-F-20241007-01	10-7-24	1530	G	Water	N		1	1	2	1	1		
BAC-06-F-20241008-01	10-8-24	1045	G	Water	N		1	1	2	1	1		
DUP-006-F-20241008-01	10-8-24	—	G	Water	N		1	1	2	1	1		
BAC-11-F-20241008-01	10-8-24	1230	G	Water	N		1	1	2	1	1		
BAC-02-F-20241008-01	10-8-24	1350	G	Water	N		1	1	2	1	1		
BAC-10-F-20241008-01	10-8-24	1535	G	Water	N		1	1	2	1	1		
DUP-007-F-20241008-01	10-8-24	—	G	Water	N		1	1	2	1	1		
BAC-05-F-20241009-01	10-9-24	1000	G	Water	N		1	1	2	1	1		

240-212873 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Bobby Cesto	10-10-24/0900	KEMRON	Ashley Deal	10.10.24 2:00	ETA
2	Ashley Deal	10.10.24 1700	ETA	JMcRosky	10/11/24 0830	GRM
3						

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Columbus
209

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing

Client Information	Sampler: Bobby Casto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: ~~Page 1 of 8~~ Pg 2 of 2
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 8020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra226, Ra228Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	N	X	
BAC-05-F-2024/1009-MS-01	10-9-24	1000	G	Water	N	Y	1	1	2	1	1		
BAC-05-F-2024/1009-MSD-01	10-9-24	1000	G	Water	N	Y	1	1	2	1	1		
BAC-04-F-2024/1009-01	10-9-24	1245	G	Water	N		1	1	2	1	1		
BAC-13-F-2024/1009-01	10-9-24	1410	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Bobby Casto	10-10-24/0900	KAMLAR	Ashley Deal	10.10.24 2:00	ETA
Ashley Deal	10/10/24 1700	ETA	[illegible]	10/11/24 0800	[illegible]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client Lightstone Envin Site Name _____

Cooler Received on 10/11/24 Opened on 10/11/24

Cooler unpacked by: JMOROSKO

FedEx. 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used. Bubble Wrap Foam Plastic Bag None Other _____

COOLANT Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 17 (CF +0.1 °C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	Yes	No
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC447997
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17 Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved. _____ Preservative(s) added/Lot number(s). _____

VOA Sample Preservation - Date/Time VOAs Frozen. _____

Login # : _____

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 17	2.7	2.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	1.1	1.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	0.8	0.9	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	2.9	3.0	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	1.7	1.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	

10/11/2024

Login Container Summary Report

240-212873

11/8/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-08-F-20241007-01	240-212873-A-1	Plastic 60 mL - unpreserved				
BAC-08-F-20241007-01	240-212873-B-1	Plastic 60 mL - unpreserved				
BAC-08-F-20241007-01	240-212873-C-1	Plastic 500ml - unpreserved				
BAC-08-F-20241007-01	240-212873-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-08-F-20241007-01	240-212873-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-08-F-20241007-01	240-212873-F-1	Plastic 1 liter - Nitric Acid	<2			
BAC-07-F-20241007-01	240-212873-A-2	Plastic 60 mL - unpreserved				
BAC-07-F-20241007-01	240-212873-B-2	Plastic 60 mL - unpreserved				
BAC-07-F-20241007-01	240-212873-C-2	Plastic 500ml - unpreserved				
BAC-07-F-20241007-01	240-212873-D-2	Plastic 500ml - with Nitric Acid	<2			
BAC-07-F-20241007-01	240-212873-E-2	Plastic 1 liter - Nitric Acid	<2			
BAC-07-F-20241007-01	240-212873-F-2	Plastic 1 liter - Nitric Acid	<2			
BAC-19-F-20241007-01	240-212873-A-3	Plastic 60 mL - unpreserved				
BAC-19-F-20241007-01	240-212873-B-3	Plastic 60 mL - unpreserved				
BAC-19-F-20241007-01	240-212873-C-3	Plastic 500ml - unpreserved				
BAC-19-F-20241007-01	240-212873-D-3	Plastic 500ml - with Nitric Acid	<2			
BAC-19-F-20241007-01	240-212873-E-3	Plastic 1 liter - Nitric Acid	<2			
BAC-19-F-20241007-01	240-212873-F-3	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20241007-01	240-212873-A-4	Plastic 60 mL - unpreserved				
BAC-18-F-20241007-01	240-212873-B-4	Plastic 60 mL - unpreserved				
BAC-18-F-20241007-01	240-212873-C-4	Plastic 500ml - unpreserved				
BAC-18-F-20241007-01	240-212873-D-4	Plastic 500ml - with Nitric Acid	<2			
BAC-18-F-20241007-01	240-212873-E-4	Plastic 1 liter - Nitric Acid	<2			
BAC-18-F-20241007-01	240-212873-F-4	Plastic 1 liter - Nitric Acid	<2			
BAC-06-F-20241008-01	240-212873-A-5	Plastic 60 mL - unpreserved				
BAC-06-F-20241008-01	240-212873-B-5	Plastic 60 mL - unpreserved				
BAC-06-F-20241008-01	240-212873-C-5	Plastic 500ml - unpreserved				
BAC-06-F-20241008-01	240-212873-D-5	Plastic 500ml - with Nitric Acid	<2			
BAC-06-F-20241008-01	240-212873-E-5	Plastic 1 liter - Nitric Acid	<2			
BAC-06-F-20241008-01	240-212873-F-5	Plastic 1 liter - Nitric Acid	<2			
DUP-006-F-20241008-01	240-212873-A-6	Plastic 60 mL - unpreserved				
DUP-006-F-20241008-01	240-212873-B-6	Plastic 60 mL - unpreserved				
DUP-006-F-20241008-01	240-212873-C-6	Plastic 500ml - unpreserved				
DUP-006-F-20241008-01	240-212873-D-6	Plastic 500ml - with Nitric Acid	<2			
DUP-006-F-20241008-01	240-212873-E-6	Plastic 1 liter - Nitric Acid	<2			

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
DUP-006-F-20241008-01	240-212873-F-6	Plastic 1 liter - Nitric Acid	<2			
BAC-11-F-20241008-01	240-212873-A-7	Plastic 60 mL - unpreserved				
BAC-11-F-20241008-01	240-212873-B-7	Plastic 60 mL - unpreserved				
BAC-11-F-20241008-01	240-212873-C-7	Plastic 500ml - unpreserved				
BAC-11-F-20241008-01	240-212873-D-7	Plastic 500ml - with Nitric Acid	<2			
BAC-11-F-20241008-01	240-212873-E-7	Plastic 1 liter - Nitric Acid	<2			
BAC-11-F-20241008-01	240-212873-F-7	Plastic 1 liter - Nitric Acid	<2			
BAC-02-F-20241008-01	240-212873-A-8	Plastic 60 mL - unpreserved				
BAC-02-F-20241008-01	240-212873-B-8	Plastic 60 mL - unpreserved				
BAC-02-F-20241008-01	240-212873-C-8	Plastic 500ml - unpreserved				
BAC-02-F-20241008-01	240-212873-D-8	Plastic 500ml - with Nitric Acid	<2			
BAC-02-F-20241008-01	240-212873-E-8	Plastic 1 liter - Nitric Acid	<2			
BAC-02-F-20241008-01	240-212873-F-8	Plastic 1 liter - Nitric Acid	<2			
BAC-10-F-20241008-01	240-212873-A-9	Plastic 60 mL - unpreserved				
BAC-10-F-20241008-01	240-212873-B-9	Plastic 60 mL - unpreserved				
BAC-10-F-20241008-01	240-212873-C-9	Plastic 500ml - unpreserved				
BAC-10-F-20241008-01	240-212873-D-9	Plastic 500ml - with Nitric Acid	<2			
BAC-10-F-20241008-01	240-212873-E-9	Plastic 1 liter - Nitric Acid	<2			
BAC-10-F-20241008-01	240-212873-F-9	Plastic 1 liter - Nitric Acid	<2			
DUP-007-F-20241008-01	240-212873-A-10	Plastic 60 mL - unpreserved				
DUP-007-F-20241008-01	240-212873-B-10	Plastic 60 mL - unpreserved				
DUP-007-F-20241008-01	240-212873-C-10	Plastic 500ml - unpreserved				
DUP-007-F-20241008-01	240-212873-D-10	Plastic 500ml - with Nitric Acid	<2			
DUP-007-F-20241008-01	240-212873-E-10	Plastic 1 liter - Nitric Acid	<2			
DUP-007-F-20241008-01	240-212873-F-10	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-A-11	Plastic 60 mL - unpreserved				
BAC-05-F-20241009-01	240-212873-A-11 DU	Plastic 500ml - unpreserved				
BAC-05-F-20241009-01	240-212873-A-11 MS	Plastic 60 mL - unpreserved				
BAC-05-F-20241009-01	240-212873-A-11 MSD	Plastic 60 mL - unpreserved				
BAC-05-F-20241009-01	240-212873-B-11	Plastic 60 mL - unpreserved				
BAC-05-F-20241009-01	240-212873-B-11 MS	Plastic 60 mL - unpreserved				
BAC-05-F-20241009-01	240-212873-B-11 MSD	Plastic 60 mL - unpreserved				
BAC-05-F-20241009-01	240-212873-C-11	Plastic 500ml - unpreserved				
BAC-05-F-20241009-01	240-212873-C-11 MS	Plastic 500ml - unpreserved				
BAC-05-F-20241009-01	240-212873-D-11	Plastic 500ml - with Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-D-11 MS	Plastic 500ml - with Nitric Acid	<2			

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-05-F-20241009-01	240-212873-D-11 MSD	Plastic 500ml - with Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-E-11	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-E-11 MS	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-E-11 MSD	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-F-11	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-F-11 MS	Plastic 1 liter - Nitric Acid	<2			
BAC-05-F-20241009-01	240-212873-F-11 MSD	Plastic 1 liter - Nitric Acid	<2			
BAC-04-F-20241009-01	240-212873-A-12	Plastic 60 mL - unpreserved				
BAC-04-F-20241009-01	240-212873-B-12	Plastic 60 mL - unpreserved				
BAC-04-F-20241009-01	240-212873-C-12	Plastic 500ml - unpreserved				
BAC-04-F-20241009-01	240-212873-D-12	Plastic 500ml - with Nitric Acid	<2			
BAC-04-F-20241009-01	240-212873-E-12	Plastic 1 liter - Nitric Acid	<2			
BAC-04-F-20241009-01	240-212873-F-12	Plastic 1 liter - Nitric Acid	<2			
BAC-13-F-20241009-01	240-212873-A-13	Plastic 60 mL - unpreserved				
BAC-13-F-20241009-01	240-212873-B-13	Plastic 60 mL - unpreserved				
BAC-13-F-20241009-01	240-212873-C-13	Plastic 500ml - unpreserved				
BAC-13-F-20241009-01	240-212873-D-13	Plastic 500ml - with Nitric Acid	<2			
BAC-13-F-20241009-01	240-212873-E-13	Plastic 1 liter - Nitric Acid	<2			
BAC-13-F-20241009-01	240-212873-F-13	Plastic 1 liter - Nitric Acid	<2			

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-212873-1

Login Number: 212873
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/14/24 11:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 11/12/2024 9:53:35 AM

JOB DESCRIPTION

Federal CCR Wells - Ohio River

JOB NUMBER

240-212884-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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11/12/2024 9:53:35 AM

Authorized for release by
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Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - Ohio River

Job ID: 240-212884-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-212884-1 Eurofins Cleveland

Job Narrative
240-212884-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 10/11/2024 8:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.9°C, 1.2°C, 1.8°C, 2.8°C and 3.0°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gas Flow Proportional Counter
Method 9315_Ra226: Radium-226 prep batch 160-683941
Insufficient sample volume was available to perform a sample duplicate for the following samples: <CommaMerge.A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared with the MS/MSD samples to demonstrate batch precision.

Method 9320_Ra228: Radium-226 prep batch 160-683942
Insufficient sample volume was available to perform a sample duplicate for the following samples: <CommaMerge. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared with the MS/MSD samples to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212884-1
Project/Site: Federal CCR Wells - Ohio River

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
9315	Radium 226 by GFPC	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - Ohio River

Job ID: 240-212884-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-212884-1	OHIO RIVER	Water	10/09/24 15:20	10/11/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - Ohio River

Job ID: 240-212884-1

Client Sample ID: OHIO RIVER

Lab Sample ID: 240-212884-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	130		100	57	ug/L	1		6010D	Total Recoverable
Antimony	0.91	J	2.0	0.57	ug/L	1		6020B	Total Recoverable
Arsenic	1.6	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	46		5.0	0.77	ug/L	1		6020B	Total Recoverable
Beryllium	0.54	J	1.0	0.27	ug/L	1		6020B	Total Recoverable
Cadmium	0.24	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	33000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.17	J	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lithium	9.4		8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	11000		1000	61	ug/L	1		6020B	Total Recoverable
Molybdenum	3.6	J	5.0	1.1	ug/L	1		6020B	Total Recoverable
Potassium	3200		1000	220	ug/L	1		6020B	Total Recoverable
Selenium	2.1	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Sodium	39000		1000	880	ug/L	1		6020B	Total Recoverable
Thallium	0.58	J	1.0	0.51	ug/L	1		6020B	Total Recoverable
Total Alkalinity	62		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	62		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	45		1.0	0.13	mg/L	1		300.0	Total/NA
Fluoride	0.17		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	91		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	250		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OHIO RIVER
Date Collected: 10/09/24 15:20
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212884-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130		100	57	ug/L		10/11/24 14:00	10/16/24 20:46	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.91	J	2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:26	1
Arsenic	1.6	J	5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:26	1
Barium	46		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:26	1
Beryllium	0.54	J	1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:26	1
Cadmium	0.24	J	1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:26	1
Calcium	33000		1000	250	ug/L		10/11/24 14:00	10/15/24 00:26	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:26	1
Cobalt	0.17	J	1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:26	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:26	1
Lithium	9.4		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:26	1
Magnesium	11000		1000	61	ug/L		10/11/24 14:00	10/15/24 00:26	1
Molybdenum	3.6	J	5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:26	1
Potassium	3200		1000	220	ug/L		10/11/24 14:00	10/15/24 00:26	1
Selenium	2.1	J	5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:26	1
Sodium	39000		1000	880	ug/L		10/11/24 14:00	10/15/24 00:26	1
Thallium	0.58	J	1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	62		5.0	2.6	mg/L			10/16/24 14:23	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	62		5.0	2.6	mg/L			10/16/24 14:23	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			10/16/24 14:23	1
Chloride (EPA 300.0)	45		1.0	0.13	mg/L			10/30/24 10:33	1
Fluoride (EPA 300.0)	0.17		0.050	0.024	mg/L			10/30/24 10:33	1
Sulfate (EPA 300.0)	91		1.0	0.35	mg/L			10/30/24 10:33	1
Total Dissolved Solids (SM 2540C)	250		10	7.8	mg/L			10/15/24 12:28	1

Method: SW846 9315 - Radium 226 by GFPC

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.110	U	0.0845	0.0851	1.00	0.119	pCi/L	10/17/24 08:26	11/08/24 07:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.5*		*30 - 110*	*10/17/24 08:26*	*11/08/24 07:28*	*1*

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0814	U	0.357	0.357	1.00	0.708	pCi/L	10/17/24 08:30	11/01/24 14:13	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - Ohio River

Job ID: 240-212884-1

Client Sample ID: OHIO RIVER
Date Collected: 10/09/24 15:20
Date Received: 10/11/24 08:00

Lab Sample ID: 240-212884-1
Matrix: Water

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.5*		*30 - 110*	*10/17/24 08:30*	*11/01/24 14:13*	*1*
Y Carrier	*85.2*		*30 - 110*	*10/17/24 08:30*	*11/01/24 14:13*	*1*

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0288	U	0.367	0.367	5.00	0.708	pCi/L		11/12/24 08:40	1

Tracer/Carrier Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - Ohio River

Job ID: 240-212884-1

Method: 9315 - Radium 226 by GFPC

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
240-212884-1	OHIO RIVER	77.5
LCS 160-683941/2-A	Lab Control Sample	86.6
LCSD 160-683941/3-A	Lab Control Sample Dup	92.9
MB 160-683941/1-A	Method Blank	95.9

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
240-212884-1	OHIO RIVER	77.5	85.2
LCS 160-683942/2-A	Lab Control Sample	86.6	83.0
LCSD 160-683942/3-A	Lab Control Sample Dup	92.9	81.1
MB 160-683942/1-A	Method Blank	95.9	81.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-630503/1-A
Matrix: Water
Analysis Batch: 631082

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		10/11/24 14:00	10/16/24 20:06	1

Lab Sample ID: LCS 240-630503/2-A
Matrix: Water
Analysis Batch: 631082

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	986		ug/L		99	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-630503/1-A
Matrix: Water
Analysis Batch: 630799

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		10/11/24 14:00	10/15/24 00:07	1
Arsenic	ND		5.0	0.75	ug/L		10/11/24 14:00	10/15/24 00:07	1
Barium	ND		5.0	0.77	ug/L		10/11/24 14:00	10/15/24 00:07	1
Beryllium	ND		1.0	0.27	ug/L		10/11/24 14:00	10/15/24 00:07	1
Cadmium	ND		1.0	0.077	ug/L		10/11/24 14:00	10/15/24 00:07	1
Calcium	ND		1000	250	ug/L		10/11/24 14:00	10/15/24 00:07	1
Chromium	ND		5.0	1.2	ug/L		10/11/24 14:00	10/15/24 00:07	1
Cobalt	ND		1.0	0.086	ug/L		10/11/24 14:00	10/15/24 00:07	1
Lead	ND		1.0	0.45	ug/L		10/11/24 14:00	10/15/24 00:07	1
Lithium	ND		8.0	3.4	ug/L		10/11/24 14:00	10/15/24 00:07	1
Magnesium	ND		1000	61	ug/L		10/11/24 14:00	10/15/24 00:07	1
Molybdenum	ND		5.0	1.1	ug/L		10/11/24 14:00	10/15/24 00:07	1
Potassium	ND		1000	220	ug/L		10/11/24 14:00	10/15/24 00:07	1
Selenium	ND		5.0	0.89	ug/L		10/11/24 14:00	10/15/24 00:07	1
Sodium	ND		1000	880	ug/L		10/11/24 14:00	10/15/24 00:07	1
Thallium	ND		1.0	0.51	ug/L		10/11/24 14:00	10/15/24 00:07	1

Lab Sample ID: LCS 240-630503/3-A
Matrix: Water
Analysis Batch: 630799

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	97.5		ug/L		97	80 - 120
Arsenic	1000	918		ug/L		92	80 - 120
Barium	1000	942		ug/L		94	80 - 120
Beryllium	500	424		ug/L		85	80 - 120
Cadmium	500	480		ug/L		96	80 - 120
Calcium	25000	23200		ug/L		93	80 - 120
Chromium	500	463		ug/L		93	80 - 120
Cobalt	500	459		ug/L		92	80 - 120
Lead	500	460		ug/L		92	80 - 120
Lithium	500	465		ug/L		93	80 - 120
Magnesium	25000	22700		ug/L		91	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-630503/3-A
Matrix: Water
Analysis Batch: 630799

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 630503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	500	459		ug/L		92	80 - 120
Potassium	25000	23300		ug/L		93	80 - 120
Selenium	1000	923		ug/L		92	80 - 120
Sodium	25000	23800		ug/L		95	80 - 120
Thallium	1000	903		ug/L		90	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-630508/1-A
Matrix: Water
Analysis Batch: 630764

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		10/11/24 14:00	10/14/24 15:18	1

Lab Sample ID: LCS 240-630508/2-A
Matrix: Water
Analysis Batch: 630764

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.87		ug/L		97	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-631151/4
Matrix: Water
Analysis Batch: 631151

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			10/16/24 13:31	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/16/24 13:31	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			10/16/24 13:31	1

Lab Sample ID: LCS 240-631151/3
Matrix: Water
Analysis Batch: 631151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	280	275		mg/L		98	86 - 123

Lab Sample ID: 240-212884-1 DU
Matrix: Water
Analysis Batch: 631151

Client Sample ID: OHIO RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity	62		63.2		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	62		63.2		mg/L		2	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-633038/3
Matrix: Water
Analysis Batch: 633038

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/30/24 09:59	1
Fluoride	ND		0.050	0.024	mg/L			10/30/24 09:59	1
Sulfate	ND		1.0	0.35	mg/L			10/30/24 09:59	1

Lab Sample ID: LCS 240-633038/4
Matrix: Water
Analysis Batch: 633038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	50.5		mg/L		101	90 - 110		
Fluoride			2.50	2.56		mg/L		102	90 - 110		
Sulfate			50.0	51.3		mg/L		103	90 - 110		

Lab Sample ID: 240-212884-1 MS
Matrix: Water
Analysis Batch: 633038

Client Sample ID: OHIO RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	45		50.0	96.6		mg/L		102	80 - 120		
Fluoride	0.17		2.50	2.74		mg/L		103	80 - 120		
Sulfate	91		50.0	140		mg/L		98	80 - 120		

Lab Sample ID: 240-212884-1 MSD
Matrix: Water
Analysis Batch: 633038

Client Sample ID: OHIO RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	45		50.0	96.6		mg/L		102	80 - 120	0	15
Fluoride	0.17		2.50	2.80		mg/L		105	80 - 120	2	15
Sulfate	91		50.0	140		mg/L		98	80 - 120	0	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-630886/1
Matrix: Water
Analysis Batch: 630886

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			10/15/24 12:28	1

Lab Sample ID: LCS 240-630886/2
Matrix: Water
Analysis Batch: 630886

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			495	560		mg/L		113	80 - 120		

Method: 9315 - Radium 226 by GFPC

Lab Sample ID: MB 160-683941/1-A
Matrix: Water
Analysis Batch: 687504

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683941

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06417	U	0.0654	0.0656	1.00	0.102	pCi/L	10/17/24 08:26	11/08/24 07:25	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*30 - 110*	*10/17/24 08:26*	*11/08/24 07:25*	*1*

Lab Sample ID: LCS 160-683941/2-A
Matrix: Water
Analysis Batch: 687504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683941

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.58	8.828		0.964	1.00	0.104	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*86.6*		*30 - 110*

Lab Sample ID: LCSD 160-683941/3-A
Matrix: Water
Analysis Batch: 687504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 683941

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226			9.58	8.169		0.899	1.00	0.157	pCi/L	85	75 - 125	0.35	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*92.9*		*30 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-683942/1-A
Matrix: Water
Analysis Batch: 686243

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683942

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1792	U	0.287	0.287	1.00	0.490	pCi/L	10/17/24 08:30	11/01/24 12:11	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*30 - 110*	*10/17/24 08:30*	*11/01/24 12:11*	*1*
Y Carrier	*81.9*		*30 - 110*	*10/17/24 08:30*	*11/01/24 12:11*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-683942/2-A
Matrix: Water
Analysis Batch: 686243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683942

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.38	8.098		1.19	1.00	0.581	pCi/L	97	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*86.6*		*30 - 110*
Y Carrier	*83.0*		*30 - 110*

Lab Sample ID: LCSD 160-683942/3-A
Matrix: Water
Analysis Batch: 686243

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 683942

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228			8.38	9.585		1.32	1.00	0.579	pCi/L	114	75 - 125	0.59	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*92.9*		*30 - 110*
Y Carrier	*81.1*		*30 - 110*

Metals

Prep Batch: 630503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total Recoverable	Water	3005A	
MB 240-630503/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-630503/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-630503/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 630508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	7470A	
MB 240-630508/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-630508/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 630764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	7470A	630508
MB 240-630508/1-A	Method Blank	Total/NA	Water	7470A	630508
LCS 240-630508/2-A	Lab Control Sample	Total/NA	Water	7470A	630508

Analysis Batch: 630799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total Recoverable	Water	6020B	630503
MB 240-630503/1-A	Method Blank	Total Recoverable	Water	6020B	630503
LCS 240-630503/3-A	Lab Control Sample	Total Recoverable	Water	6020B	630503

Analysis Batch: 631082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total Recoverable	Water	6010D	630503
MB 240-630503/1-A	Method Blank	Total Recoverable	Water	6010D	630503
LCS 240-630503/2-A	Lab Control Sample	Total Recoverable	Water	6010D	630503

General Chemistry

Analysis Batch: 630886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	SM 2540C	
MB 240-630886/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-630886/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 631151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	2320B-1997	
MB 240-631151/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-631151/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-212884-1 DU	OHIO RIVER	Total/NA	Water	2320B-1997	

Analysis Batch: 633038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	300.0	
MB 240-633038/3	Method Blank	Total/NA	Water	300.0	
LCS 240-633038/4	Lab Control Sample	Total/NA	Water	300.0	
240-212884-1 MS	OHIO RIVER	Total/NA	Water	300.0	
240-212884-1 MSD	OHIO RIVER	Total/NA	Water	300.0	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells - Ohio River

Job ID: 240-212884-1

Rad

Prep Batch: 683941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	PrecSep-21	
MB 160-683941/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-683941/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-683941/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 683942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-212884-1	OHIO RIVER	Total/NA	Water	PrecSep_0	
MB 160-683942/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-683942/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-683942/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212884-1
Project/Site: Federal CCR Wells - Ohio River

Client Sample ID: OHIO RIVER
Lab Sample ID: 240-212884-1

Date Collected: 10/09/24 15:20
Matrix: Water

Date Received: 10/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6010D		1	631082	KLC	EET CLE	10/16/24 20:46
Total Recoverable	Prep	3005A			630503	XWS6	EET CLE	10/11/24 14:00
Total Recoverable	Analysis	6020B		1	630799	AJC	EET CLE	10/15/24 00:26
Total/NA	Prep	7470A			630508	XWS6	EET CLE	10/11/24 14:00
Total/NA	Analysis	7470A		1	630764	TQ6W	EET CLE	10/14/24 15:30
Total/NA	Analysis	2320B-1997		1	631151	GZF4	EET CLE	10/16/24 14:23
Total/NA	Analysis	300.0		1	633038	JMR	EET CLE	10/30/24 10:33
Total/NA	Analysis	SM 2540C		1	630886	TAV2	EET CLE	10/15/24 12:28
Total/NA	Prep	PrecSep-21			683941	BCE	EET SL	10/17/24 08:26
Total/NA	Analysis	9315		1	687504	FLC	EET SL	11/08/24 07:28
Total/NA	Prep	PrecSep_0			683942	BCE	EET SL	10/17/24 08:30
Total/NA	Analysis	9320		1	686242	SWS	EET SL	11/01/24 14:13
Total/NA	Analysis	Ra226_Ra228		1	688161	FLC	EET SL	11/12/24 08:40

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212884-1
Project/Site: Federal CCR Wells - Ohio River

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-212884-1
Project/Site: Federal CCR Wells - Ohio River

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
North Dakota	State	R-207	12-31-24
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbu
209

Client Information

Client Contact: Taylor Huffman
Company: Lightstone Generation Gavin Power LLC
Address: 7397 OH-7
City: Cheshire
State, Zip: OH, 45620
Phone: 740-925-3171(Tel)
Email: taylor.huffman@lightstonegen.com
Project Name: Gavin CCR
Site: Gavin

Sampler: Bobby Cesto
Phone: 740-373-4308
PWSID:
Due Date Requested:
TAT Requested (days):
Compliance Project: Δ Yes Δ No
PO #: 2935505
WO #:
Project #: 24019633
SSOW#:

Lab PM: Cisneros, Roxanne
E-Mail: roxanne.cisneros@et.eurofinsus.com
Carrier Tracking No(s):
State of Origin:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity
			Preservation Code:		X	X	D	N	D	N	N
Ohio River	10-9-24	1520	G	Water	N		1	1	2	1	1
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

240-212884

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples ar
☐ Return To Client ☐ Disposal By Lab

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:
Date:
Time:
Method of Shipment:

Relinquished by:
Date/Time: 10-10-24 1520
Company:
Received by:
Date/Time:

Relinquished by:
Date/Time:
Company:
Received by:
Date/Time:

IR GUN # 1 1 (CF 1 0 . 1 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 — (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? — (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? — Yes (No)
   -Were tamper/custody seals intact and uncompromised? — (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? — Yes (No)
4. Did custody papers accompany the sample(s)? — (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? — (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? — (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? — (Yes) No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? — (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N) and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? — (Yes) No
11. Sufficient quantity received to perform indicated analyses? — (Yes) No
12. Are these work share samples and all listed on the COC? — Yes (No)
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? — (Yes) No NA pH Strip Lot# HC44
14. Were VOAs on the COC? — (Yes) No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. — Yes No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ — Yes (No)
17. Was a LL Hg or Me Hg trip blank present? _____ — Yes (No)

Tests that are no checked for pH Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099-092324 Cooler Receipt Form.doc

(EC)	Client	Box	Other	IR GUN #: ↓	1.7	1.8	Wet Ice Blue Ice Water None
EC	Client	Box	Other	IR GUN #:	

OHIO RIVER	240-212884-E-1	Plastic 1 liter - Nitric Acid	<2	_____	_____
OHIO RIVER	240-212884-F-1	Plastic 1 liter - Nitric Acid	<2	_____	_____

Page 1 of 1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

Columbus
209

eurofins
Environment Testing

Client Information	Sampler: Bobby Costo	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:

Address: 7397 OH-7	Due Date Requested:	
City: Cheshire	TAT Requested (days):	
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No	
Phone: 740-925-3171(Tel)	PO #: 2935505	
Email: taylor.huffman@lightstonegen.com	WO #:	
Project Name: Gavin CCR	Project #: 24019633	
Site: Gavin	SSOW#:	

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra228, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	N	X	
Ohio River	10-9-24	1520	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-112884 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature] Costo	10-10-24/0900	KEMRON	Ashley Deal	10-10-24 2:00	ETA
Ashley Deal	10-10-24 1700	ETA	[signature]	10/11/24 0826	[signature]

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :**
Barberton Facility

Client Lightstme Garmin Site Name

Cooler unpacked by: JMOROSKO

Cooler Received on 10/11/24 Opened on 10/11/24

FedEx. 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used. Bubble Wrap Foam Plastic Bag None Other

COOLANT Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 17 (CF +0.1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3 Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5 Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7 Did all bottles arrive in good condition (Unbroken)?	Yes	No
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N) and sample type of grab/comp (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes	No
11 Sufficient quantity received to perform indicated analyses?	Yes	No
12 Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory		
13 Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC447997
14. Were VOAs on the COC?	Yes	No
15 Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
17 Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19 SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired

Sample(s) were received in a broken container

Sample(s) were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory

Time preserved. Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen.

Login # : _____

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 17	2.7	2.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	1.1	1.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	0.8	0.9	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	2.9	3.0	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	1.7	1.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

10/11/2024

Login Container Summary Report

240-212884

11/12/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
OHIO RIVER	240-212884-A-1	Plastic 60 mL - unpreserved				
OHIO RIVER	240-212884-B-1	Plastic 60 mL - unpreserved				
OHIO RIVER	240-212884-C-1	Plastic 500ml - unpreserved				
OHIO RIVER	240-212884-D-1	Plastic 500ml - with Nitric Acid	<2			
OHIO RIVER	240-212884-E-1	Plastic 1 liter - Nitric Acid	<2			
OHIO RIVER	240-212884-F-1	Plastic 1 liter - Nitric Acid	<2			

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-212884-1

Login Number: 212884
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/14/24 11:56 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Taylor Huffman
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Generated 11/25/2024 1:59:30 AM

JOB DESCRIPTION

Federal CCR Wells

JOB NUMBER

240-214259-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
11/25/2024 1:59:30 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

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Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-214259-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
240-214259-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 11/5/2024 8:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.7°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 300.0_28D: The following sample was diluted due to the nature of the sample matrix: BAC-03-F-20241101-01 (240-214259-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-214259-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
2320B-1997	Alkalinity, Total	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-214259-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-214259-1	BAC-03-F-20241101-01	Water	11/01/24 10:20	11/05/24 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-214259-1

Client Sample ID: BAC-03-F-20241101-01

Lab Sample ID: 240-214259-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2100		100	57	ug/L	1		6010D	Total Recoverable
Arsenic	1.2	J	5.0	0.75	ug/L	1		6020B	Total Recoverable
Barium	52		5.0	0.77	ug/L	1		6020B	Total Recoverable
Cadmium	0.097	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Calcium	87000		1000	250	ug/L	1		6020B	Total Recoverable
Chromium	2.4	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Cobalt	1.6	B	1.0	0.086	ug/L	1		6020B	Total Recoverable
Lead	3.5		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	7.9	J	8.0	3.4	ug/L	1		6020B	Total Recoverable
Magnesium	18000		1000	61	ug/L	1		6020B	Total Recoverable
Potassium	2300		1000	220	ug/L	1		6020B	Total Recoverable
Sodium	31000		1000	880	ug/L	1		6020B	Total Recoverable
Total Alkalinity	88		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	88		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	61		1.0	0.56	mg/L	2		300.0	Total/NA
Fluoride	0.061	J	0.10	0.052	mg/L	2		300.0	Total/NA
Sulfate	180		4.0	0.70	mg/L	2		300.0	Total/NA
Total Dissolved Solids	530		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Lightstone Generation Gavin Power LLC
Project/Site: Federal CCR Wells

Job ID: 240-214259-1

Client Sample ID: BAC-03-F-20241101-01

Date Collected: 11/01/24 10:20
Date Received: 11/05/24 08:00

Lab Sample ID: 240-214259-1

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2100**		100	57	ug/L		11/05/24 14:00	11/06/24 19:26	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		11/05/24 14:00	11/06/24 13:21	1
Arsenic	**1.2**	**J**	5.0	0.75	ug/L		11/05/24 14:00	11/06/24 13:21	1
Barium	**52**		5.0	0.77	ug/L		11/05/24 14:00	11/06/24 13:21	1
Beryllium	ND		1.0	0.27	ug/L		11/05/24 14:00	11/08/24 08:19	1
Cadmium	**0.097**	**J**	1.0	0.077	ug/L		11/05/24 14:00	11/06/24 13:21	1
Calcium	**87000**		1000	250	ug/L		11/05/24 14:00	11/06/24 13:21	1
Chromium	**2.4**	**J**	5.0	1.2	ug/L		11/05/24 14:00	11/06/24 13:21	1
Cobalt	**1.6**	**B**	1.0	0.086	ug/L		11/05/24 14:00	11/07/24 20:05	1
Lead	**3.5**		1.0	0.45	ug/L		11/05/24 14:00	11/06/24 13:21	1
Lithium	**7.9**	**J**	8.0	3.4	ug/L		11/05/24 14:00	11/07/24 20:05	1
Magnesium	**18000**		1000	61	ug/L		11/05/24 14:00	11/06/24 13:21	1
Molybdenum	ND		5.0	1.1	ug/L		11/05/24 14:00	11/06/24 13:21	1
Potassium	**2300**		1000	220	ug/L		11/05/24 14:00	11/07/24 20:05	1
Selenium	ND		5.0	0.89	ug/L		11/05/24 14:00	11/06/24 13:21	1
Sodium	**31000**		1000	880	ug/L		11/05/24 14:00	11/07/24 20:05	1
Thallium	ND		1.0	0.51	ug/L		11/05/24 14:00	11/06/24 13:21	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/05/24 14:00	11/06/24 09:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity (SM 2320B-1997)	**88**		5.0	2.6	mg/L			11/07/24 17:06	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B-1997)	**88**		5.0	2.6	mg/L			11/07/24 17:06	1
Carbonate Alkalinity as CaCO3 (SM 2320B-1997)	ND		5.0	2.6	mg/L			11/07/24 17:06	1
Chloride (EPA 300.0)	**61**		1.0	0.56	mg/L			11/21/24 19:29	2
Fluoride (EPA 300.0)	**0.061**	**J**	0.10	0.052	mg/L			11/21/24 19:29	2
Sulfate (EPA 300.0)	**180**		4.0	0.70	mg/L			11/21/24 19:29	2
Total Dissolved Solids (SM 2540C)	**530**		10	7.8	mg/L			11/06/24 09:31	1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-634002/1-A
Matrix: Water
Analysis Batch: 634221

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 634002

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		11/05/24 14:00	11/06/24 18:01	1

Lab Sample ID: LCS 240-634002/2-A
Matrix: Water
Analysis Batch: 634221

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 634002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1050		ug/L		105	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-634002/1-A
Matrix: Water
Analysis Batch: 634287

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 634002

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.57	ug/L		11/05/24 14:00	11/06/24 12:31	1
Arsenic	ND		5.0	0.75	ug/L		11/05/24 14:00	11/06/24 12:31	1
Barium	ND		5.0	0.77	ug/L		11/05/24 14:00	11/06/24 12:31	1
Beryllium	ND		1.0	0.27	ug/L		11/05/24 14:00	11/06/24 12:31	1
Cadmium	ND		1.0	0.077	ug/L		11/05/24 14:00	11/06/24 12:31	1
Calcium	ND		1000	250	ug/L		11/05/24 14:00	11/06/24 12:31	1
Chromium	ND		5.0	1.2	ug/L		11/05/24 14:00	11/06/24 12:31	1
Cobalt	0.158	J	1.0	0.086	ug/L		11/05/24 14:00	11/06/24 12:31	1
Lead	ND		1.0	0.45	ug/L		11/05/24 14:00	11/06/24 12:31	1
Lithium	ND		8.0	3.4	ug/L		11/05/24 14:00	11/06/24 12:31	1
Magnesium	ND		1000	61	ug/L		11/05/24 14:00	11/06/24 12:31	1
Molybdenum	ND		5.0	1.1	ug/L		11/05/24 14:00	11/06/24 12:31	1
Potassium	ND		1000	220	ug/L		11/05/24 14:00	11/06/24 12:31	1
Selenium	ND		5.0	0.89	ug/L		11/05/24 14:00	11/06/24 12:31	1
Sodium	ND		1000	880	ug/L		11/05/24 14:00	11/06/24 12:31	1
Thallium	ND		1.0	0.51	ug/L		11/05/24 14:00	11/06/24 12:31	1

Lab Sample ID: LCS 240-634002/3-A
Matrix: Water
Analysis Batch: 634287

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 634002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	100	103		ug/L		103	80 - 120
Arsenic	1000	999		ug/L		100	80 - 120
Barium	1000	972		ug/L		97	80 - 120
Beryllium	500	468		ug/L		94	80 - 120
Cadmium	500	479		ug/L		96	80 - 120
Calcium	25000	25100		ug/L		101	80 - 120
Chromium	500	498		ug/L		100	80 - 120
Cobalt	500	498		ug/L		100	80 - 120
Lead	500	496		ug/L		99	80 - 120
Lithium	500	498		ug/L		100	80 - 120
Magnesium	25000	25200		ug/L		101	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-634002/3-A
Matrix: Water
Analysis Batch: 634287

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 634002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	500	487		ug/L		97	80 - 120
Potassium	25000	25700		ug/L		103	80 - 120
Selenium	1000	998		ug/L		100	80 - 120
Sodium	25000	25000		ug/L		100	80 - 120
Thallium	1000	1170		ug/L		117	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-633990/1-A
Matrix: Water
Analysis Batch: 634146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 633990

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/05/24 14:00	11/06/24 08:49	1

Lab Sample ID: LCS 240-633990/2-A
Matrix: Water
Analysis Batch: 634146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 633990

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.81		ug/L		96	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-634544/33
Matrix: Water
Analysis Batch: 634544

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			11/07/24 18:53	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			11/07/24 18:53	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			11/07/24 18:53	1

Lab Sample ID: MB 240-634544/4
Matrix: Water
Analysis Batch: 634544

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	2.6	mg/L			11/07/24 16:25	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			11/07/24 16:25	1
Carbonate Alkalinity as CaCO3	ND		5.0	2.6	mg/L			11/07/24 16:25	1

Lab Sample ID: LCS 240-634544/3
Matrix: Water
Analysis Batch: 634544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	280	263		mg/L		94	86 - 123

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: LCS 240-634544/32
Matrix: Water
Analysis Batch: 634544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	280	263		mg/L		94	86 - 123

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-733249/4
Matrix: Water
Analysis Batch: 733249

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			11/21/24 15:18	1
Fluoride	ND		0.050	0.026	mg/L			11/21/24 15:18	1
Sulfate	ND		2.0	0.35	mg/L			11/21/24 15:18	1

Lab Sample ID: LCS 480-733249/5
Matrix: Water
Analysis Batch: 733249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.1	50.9		mg/L		102	90 - 110
Fluoride	5.01	5.18		mg/L		104	90 - 110
Sulfate	50.1	49.6		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-634149/1
Matrix: Water
Analysis Batch: 634149

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			11/06/24 09:31	1

Lab Sample ID: LCS 240-634149/2
Matrix: Water
Analysis Batch: 634149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	569	535		mg/L		94	80 - 120

Lab Sample ID: 240-214259-1 DU
Matrix: Water
Analysis Batch: 634149

Client Sample ID: BAC-03-F-20241101-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	530		467		mg/L		14	20

Metals

Prep Batch: 633990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total/NA	Water	7470A	
MB 240-633990/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-633990/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 634002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total Recoverable	Water	3005A	
MB 240-634002/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-634002/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-634002/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 634146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total/NA	Water	7470A	633990
MB 240-633990/1-A	Method Blank	Total/NA	Water	7470A	633990
LCS 240-633990/2-A	Lab Control Sample	Total/NA	Water	7470A	633990

Analysis Batch: 634221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total Recoverable	Water	6010D	634002
MB 240-634002/1-A	Method Blank	Total Recoverable	Water	6010D	634002
LCS 240-634002/2-A	Lab Control Sample	Total Recoverable	Water	6010D	634002

Analysis Batch: 634287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total Recoverable	Water	6020B	634002
MB 240-634002/1-A	Method Blank	Total Recoverable	Water	6020B	634002
LCS 240-634002/3-A	Lab Control Sample	Total Recoverable	Water	6020B	634002

Analysis Batch: 634445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total Recoverable	Water	6020B	634002

Analysis Batch: 634712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total Recoverable	Water	6020B	634002

General Chemistry

Analysis Batch: 634149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total/NA	Water	SM 2540C	
MB 240-634149/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-634149/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-214259-1 DU	BAC-03-F-20241101-01	Total/NA	Water	SM 2540C	

Analysis Batch: 634544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total/NA	Water	2320B-1997	
MB 240-634544/33	Method Blank	Total/NA	Water	2320B-1997	
MB 240-634544/4	Method Blank	Total/NA	Water	2320B-1997	

General Chemistry (Continued)

Analysis Batch: 634544 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-634544/3	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-634544/32	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 733249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-214259-1	BAC-03-F-20241101-01	Total/NA	Water	300.0	
MB 480-733249/4	Method Blank	Total/NA	Water	300.0	
LCS 480-733249/5	Lab Control Sample	Total/NA	Water	300.0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-214259-1
Project/Site: Federal CCR Wells

Client Sample ID: BAC-03-F-20241101-01
Lab Sample ID: 240-214259-1

Date Collected: 11/01/24 10:20
Matrix: Water
Date Received: 11/05/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			634002	BN	EET CLE	11/05/24 14:00
Total Recoverable	Analysis	6010D		1	634221	RKT	EET CLE	11/06/24 19:26
Total Recoverable	Prep	3005A			634002	BN	EET CLE	11/05/24 14:00
Total Recoverable	Analysis	6020B		1	634287	AJC	EET CLE	11/06/24 13:21
Total Recoverable	Prep	3005A			634002	BN	EET CLE	11/05/24 14:00
Total Recoverable	Analysis	6020B		1	634445	AJC	EET CLE	11/07/24 20:05
Total Recoverable	Prep	3005A			634002	BN	EET CLE	11/05/24 14:00
Total Recoverable	Analysis	6020B		1	634712	AJC	EET CLE	11/08/24 08:19
Total/NA	Prep	7470A			633990	BN	EET CLE	11/05/24 14:00
Total/NA	Analysis	7470A		1	634146	S4FJ	EET CLE	11/06/24 09:07
Total/NA	Analysis	2320B-1997		1	634544	GZF4	EET CLE	11/07/24 17:06
Total/NA	Analysis	300.0		2	733249	AF	EET BUF	11/21/24 19:29
Total/NA	Analysis	SM 2540C		1	634149	TAV2	EET CLE	11/06/24 09:31

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-214259-1
Project/Site: Federal CCR Wells

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00686	07-06-25
Connecticut	State	PH-0807	03-31-25
Georgia	State	10026 (NY)	03-31-25
Georgia	State Program	N/A	03-31-09 *
Illinois	NELAP	200003	09-30-25
Iowa	State	374	03-01-25
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	02-01-25
Kentucky (UST)	State	108092	04-01-25
Kentucky (WW)	State	KY90029	12-31-24
Maine	State	NY00044	12-04-24
Maryland	State	294	06-30-25
Massachusetts	State	M-NY044	07-01-25
Michigan	State	9937	03-31-25
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-25
New Jersey	NELAP	NY455	07-02-25
New York	NELAP	10026	03-31-25
Pennsylvania	NELAP	68-00281	08-31-25
Rhode Island	State	LAO00378	12-30-24
Virginia	NELAP	460185	09-14-25
Washington	State	C784	02-10-25
Wisconsin	State	998310390	08-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

1.6/1.7

Columbus
209

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins
Environment Testing

Client Information	Sampler: Bobby Casto	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No. 240-111832-39818.1
Client Contact: Taylor Huffman	Phone: 740-373-4308	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: Lightstone Generation Gavin Power LLC	PWSID			Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620	Compliance Project: Δ Yes Δ No			
Phone: 740-925-3171(Tel)	PO #: 2935505			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site: Gavin	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastestl, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B, 6020, 7470A	2540C_Calcd - TDS	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	300.0_28D - Chloride, Fluoride & Sulfate	2320B - (MOD) Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
BAC-03-F-20241101-01	11-1-24	1020	G	Water	N		1	1	2	1	1		
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

240-214259 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11-4-24 0910	[illegible]	[signature]	11/04/24 19:10	[illegible]
2	[signature]	11-4-24 1700	ELM	MALISSA LOAR	11-5-24 8Am	
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client LIGHTSTONE Site Name _____ Cooler unpacked by: MALISSA LOAR

Cooler Received on 11-5-24 Opened on 11.5.24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # CL Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 17 (CF +0.1 °C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 1.7 °C

2.	Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____	Yes No
	-Were the seals on the outside of the cooler(s) signed & dated?	Yes No NA
	-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes No
	-Were tamper/custody seals intact and uncompromised?	Yes No NA
3	Shippers' packing slip attached to the cooler(s)?	Yes No
4.	Did custody papers accompany the sample(s)?	Yes No
5	Were the custody papers relinquished & signed in the appropriate place?	Yes No
6.	Was/were the person(s) who collected the samples clearly identified on the COC?	Yes No
7	Did all bottles arrive in good condition (Unbroken)?	Yes No
8.	Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes No
9	For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?	
10	Were correct bottle(s) used for the test(s) indicated?	Yes No
11	Sufficient quantity received to perform indicated analyses?	Yes No
12.	Are these work share samples and all listed on the COC?	Yes No
	If yes, Questions 13-17 have been checked at the originating laboratory	
13	Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC447997
14	Were VOAs on the COC?	Yes No
15	Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this	Yes No NA
16	Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes No
17	Was a LL Hg or Me Hg trip blank present? _____	Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page | Samples processed by:

_____

_____

_____

_____

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved. _____ Preservative(s) added/Lot number(s). _____

VOA Sample Preservation - Date/Time VOAs Frozen. _____

11/5/2024

Login Container Summary Report

240-214259

11/25/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
BAC-03-F-20241101-01	240-214259-A-1	Plastic 60 mL - unpreserved				
BAC-03-F-20241101-01	240-214259-B-1	Plastic 60 mL - unpreserved				
BAC-03-F-20241101-01	240-214259-C-1	Plastic 500ml - unpreserved				
BAC-03-F-20241101-01	240-214259-D-1	Plastic 500ml - with Nitric Acid	<2			
BAC-03-F-20241101-01	240-214259-E-1	Plastic 1 liter - Nitric Acid	<2			
BAC-03-F-20241101-01	240-214259-F-1	Plastic 1 liter - Nitric Acid	<2			

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s): N/A	COC No: 240-193405.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A		Job #: 240-214259-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/18/2024			Preservation Codes: -
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Federal GWM Wells	Project #: 24019633			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Radium-228 (GFPC)	9315_Ra226/PrecSep_21 Radium-226 (GFPC)	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BCC-03-F-20241101-01 (240-214259-1)	11/1/24	10:20 Eastern	G	Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: MALISSA LOAR	Date/Time: 11-5-24	Company	Received by:	Date/Time: 0820 NOV 0 6 2024	Company: ETA-STL
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Page 20 of 22

11/5/2024

Ver: 10/10/2024

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s): N/A	COC No: 240-194115.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Ohio	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast L		Accreditations Required (See note): N/A		Job #: 240-214259-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 12/9/2024			Preservation Codes: -
City: Amherst	TAT Requested (days): N/A			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Federal CCR Wells	Project #: 24019633			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300.0_28D/ (MOD) Chloride, Fluoride & Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BAC-03-F-20241101-01 (240-214259-1)	11/1/24	10:20 Eastern	G	Water			X	1	

Analysis Requested

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: MALISSA LOAR	Date/Time: 11-18-24	Company	Received by: VS	Date/Time: 11-19-24 1100	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.2, 2.5 IR#SC Ice

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Lightstone Generation Gavin Power LLC

Job Number: 240-214259-1

Login Number: 214259
List Number: 3
Creator: Stapleton, Kaitlyn

List Source: Eurofins Buffalo
List Creation: 11/19/24 11:48 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2, 2.5 IR#SC ice
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	



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