Gavin Bottom Ash Pond

Gavin Power, LLC

2021 Annual Groundwater Monitoring and Corrective Action Report

Gavin Power Plant
Cheshire, Ohio

31 January 2022

Project No.: 0589450

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Gavin Bottom Ash Pond

2021 Annual Groundwater Monitoring and Corrective Action Report

Gavin Power Plant
Cheshire, Ohio

David Shotts
Principal-in-Charge

Joseph Robb, P.G.
Project Manager

ERM Consulting & Engineering, Inc.

One Beacon Street
5th Floor
Boston, MA
02108

T: +1 617 646 7800
F: +1 617 267 6447

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Acronyms and Abbreviations

Name	Description
ASD	Alternate Source Demonstration
BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
CCR	Coal combustion residual
CFR	Code of Federal Regulations
ERM	ERM Consulting & Engineering, Inc.
Gavin	Gavin Power, LLC
Plant	General James M. Gavin Power Plant
SSI	Statistically significant increase
TDS	Total dissolved solids

EXECUTIVE SUMMARY

On behalf of Gavin Power, LLC (Gavin), ERM Consulting & Engineering, Inc. (ERM) has prepared this *2021 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) management units at the Plant 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. 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).

Initial feedback on the BAP program was received from the United States Environmental Protection Agency (USEPA). Discussion regarding this feedback is ongoing that may result in potential refinement of the groundwater monitoring program and/or revisions to this report.

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 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 2021 in a “detection monitoring” program status as defined by 40 CFR § 257.94 and remained in detection monitoring at the end of the 2021 reporting period. Groundwater monitoring in 2021 consisted of two semi-annual monitoring events completed in March and September 2021 that included groundwater level measurements and subsequent groundwater sampling. Groundwater level measurements were used to construct an updated groundwater potentiometric surface map.

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 2021:

Well	Date Sampled	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids (TDS)
BAC-02	Mar-2021	X	X	X	ϕ	X	X	X
	Sep-2021	X	X	X	X	X	X	X
BAC-03	Mar-2021	X	ϕ	X	ϕ	X	X	X
	Sep-2021	X	ϕ	X	ϕ	X	X	ϕ
BAC-04	Mar-2021	X	ϕ	X	ϕ	X	X	X
	Sep-2021	X	ϕ	X	ϕ	X	X	X
BAC-05	Mar-2021	X	ϕ	X	ϕ	X	X	X
	Sep-2021	X	ϕ	ϕ	X	ϕ	X	X

Notes: ϕ = No SSI; X = SSI; SSI = statistically significant increase

Each identified SSI was evaluated in the corresponding attached Alternate Source Demonstration (ASD) Reports. The ASD reports identify regional background (total dissolved solids [TDS], calcium, chloride, fluoride, and sulfate), and the Kyger Creek North Fly Ash Pond (boron and pH) as the sources of these SSIs; therefore, these wells remained in detection monitoring at the conclusion of 2021. Accordingly, no remedial actions were selected, initiated or performed in 2021.

1. INTRODUCTION

The General James M. Gavin Power Plant is a coal-fired generating station located in Gallia County in Cheshire, Ohio, along the Ohio River. The Plant encompasses three regulated coal combustion residual (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 (RWL), the Fly Ash Reservoir (FAR), and the Bottom Ash Pond. The BAP is south of the main Plant area and adjacent to the Ohio River (Figure 1-1). The BAP, together with the smaller Reclaim Pond, makes up the Bottom Ash Complex (BAC), which has operated since 1974. Bottom ash slurry is pumped into the BAP where the surficial water is decanted through a reinforced concrete drop inlet structure into the Reclaim Pond. The water in the Reclaim Pond is either pumped to the Plant for reuse or discharged to the Ohio River via an overflow structure subject to the Gavin National Pollution Discharge Elimination System (NPDES) permit. The Reclaim Pond is not intended to, and does not receive any significant amount of CCR from the BAP; was not designed to retain an accumulation of CCR; and does not treat, store, or dispose of CCR. Therefore, it is not subject to the CCR Rule.

ERM Consulting & Engineering, Inc. (ERM) produced this report on behalf of Gavin Power, LLC. 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 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 2022 (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.

Initial feedback on the BAP program was received from the United States Environmental Protection Agency (USEPA). Discussion regarding this feedback is ongoing that may result in potential refinement of the groundwater monitoring program and/or revisions to 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.	Section 2.3, 2.4
§ 257.90(e)	Describe any problems encountered and actions taken to resolve problems.	Section 2.3
§ 257.90(e)	Key activities for upcoming year.	Section 4.0
§ 257.90(e)(1)	Map, aerial image, or diagram of coal combustion residual (CCR) unit and all background and downgradient monitoring wells.	Figures 1-1, 2-1
§ 257.90(e)(2)	Identification of new monitoring wells installed or abandoned during the preceding year and narrative description.	Not Applicable
§ 257.90(e)(3)	Summary of groundwater data, wells sampled, date sampled, and whether sampling was required under detection or assessment monitoring.	Section 2.3, 3.2, Appendix C
§ 257.90(e)(4)	Narrative discussion of any transition between monitoring programs.	Section 2.4
§ 257.93(c) (via § 257.90(e)(5))	Rate and direction of groundwater flow each time groundwater is sampled	Section 3.1
§ 257.94(e)(2) (via § 257.90(e)(5))	Any Alternate Source Demonstration (ASD) reports and related certifications.	Appendices A–B

2. PROGRAM STATUS § 257.90(E)

2.1 Monitoring Well Network

The 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 of the monitoring wells are screened in the uppermost aquifer around the BAP. The uppermost aquifer is approximately 25 feet to 35 feet thick and consists of fine to coarse sand; it is located below an approximately 20-foot thick confining layer of silty clay with interbedded sand and silt, and above a sedimentary bedrock unit. Two new monitoring wells (BAC-06 and BAC-07) were installed at the southern boundary of the Bottom Ash Pond in 2020 and were incorporated into the updated monitoring network in 2021 (ERM 2021a). Figure 2-1 provides the monitoring well locations on the site location map.

2.2 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 subsequent groundwater sampling events in July 2017, May and September 2018, March and September 2019, and March and September 2020, the prediction limits were compared to the results from the downgradient wells to identify statistically significant increases. Alternate Source Demonstration (ASD) Reports were developed for each sampling event discussing each SSI, which concluded that SSIs resulted from alternate sources, and thus the CCR unit remained in detection monitoring (ERM 2018a; ERM 2018b; ERM 2019a; ERM 2019b; ERM 2020a; ERM 2020b; ERM 2021b). Table 2-1 summarizes the SSIs that have been identified in the 2017, 2018, 2019, and 2020 annual groundwater monitoring and corrective action reports (ERM 2018c; ERM 2019c; ERM 2020c; ERM 2021c).

Table 2-1: Previous SSIs for Downgradient Wells

Well	Date Sampled	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids (TDS)
BAC-02	Jul-2017	X	X	X	ϕ	X	X	X
	May-2018	X	X	X	ϕ	X	X	X
	Sep-2018	X	X	X	X	X	X	X
	Mar-2019	X	X	X	ϕ	X	X	X
	Sep-2019	X	X	X	ϕ	X	X	X
	Mar-2020	X	X	X	X	X	X	X
	Sep-2020	X	ϕ	X	ϕ	X	X	ϕ
BAC-03	Jul-2017	X	ϕ	X	ϕ	X	X	ϕ
	May-2018	X	ϕ	X	ϕ	X	X	X
	Sep-2018	X	ϕ	X	ϕ	X	X	ϕ
	Mar-2019	X	ϕ	X	ϕ	X	X	ϕ
	Sep-2019	X	ϕ	X	ϕ	X	X	ϕ
	Mar-2020	X	ϕ	X	ϕ	X	X	X
	Sep-2020	X	ϕ	X	ϕ	X	X	ϕ
BAC-04	Jul-2017	X	ϕ	X	ϕ	X	X	X
	May-2018	X	ϕ	X	ϕ	X	X	X
	Sep-2018	X	ϕ	X	ϕ	X	X	ϕ
	Mar-2019	X	ϕ	X	ϕ	X	X	X
	Sep-2019	X	ϕ	X	ϕ	X	X	ϕ
	Mar-2020	X	ϕ	X	ϕ	X	X	ϕ
	Sep-2020	X	ϕ	X	ϕ	X	X	ϕ
BAC-05	Jul-2017	X	ϕ	ϕ	X	X	X	ϕ
	May-2018	X	ϕ	X	ϕ	X	X	ϕ
	Sep-2018	X	ϕ	X	ϕ	X	X	ϕ
	Mar-2019	X	ϕ	X	ϕ	X	X	ϕ
	Sep-2019	X	ϕ	X	ϕ	X	X	ϕ
	Mar-2020	X	ϕ	X	ϕ	X	X	ϕ
	Sep-2020	X	ϕ	X	ϕ	X	X	ϕ

Notes: ϕ = No SSI; X = SSI; SSI = statistically significant increase

2.3 2021 Sampling Summary

BAP groundwater monitoring for 2021 was performed under the detection monitoring program, and each of the nine monitoring wells was sampled in March and September 2021 for the 40 CFR Part 257, Subpart D, Appendix III analytes. Table 2-2 provides a summary of the 2021 sample dates and the well gradient designation (upgradient or downgradient) from the CCR unit.

Table 2-2: Sampling Dates for Each Well

Well	Hydraulic Position	Sampling Date		
		13 Mar 2021	18 Sept 2021	20 Sept 2021
BAC-01	Upgradient	X	X	
BAC-02	Downgradient	X	X	
BAC-03	Downgradient	X	X	
BAC-04	Downgradient	X	X	
BAC-05	Downgradient	X	X	
BAC-06	Upgradient	X	X	
BAC-07	Upgradient	X	X	
MW-1	Upgradient	X		X
MW-6	Upgradient	X	X	

Notes: X = sampled

During the March 2021 and September 2021 sampling events, no significant field sampling issues were encountered and therefore no actions were required for resolution. 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.

2.4 Monitoring Network Update

In June 2020, as originally reported in the *2020 BAP Annual Groundwater Monitoring and Corrective Action Report* (ERM 2021c), Gavin installed additional monitoring wells (BAC-06 and BAC-07) along the southern boundary of the BAP to monitor groundwater flowing across the upgradient property boundary within the uppermost aquifer. These wells were sampled in the September 2020 sampling event and were evaluated for addition to the groundwater monitoring network. In May 2021, the previous *Groundwater Monitoring Network Evaluation* for the BAP (Geosyntec 2016) was updated with the addition of BAC-06 and BAC-07 to the monitoring system. This update is documented in the *Updated Groundwater Monitoring System Evaluation and Certification—40 CFR 257.91* for the BAP (ERM 2021a).

2.5 Data Quality

Samples collected during 2021 were analyzed by TestAmerica of North Canton, 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.

3. 2021 RESULTS

3.1 2021 Groundwater Flow Direction and Velocity

Gavin personnel measured the depth to groundwater in each monitoring well prior to each sampling event. Groundwater elevations, calculated by subtracting the depth to groundwater from the surveyed reference elevation for each well, were established for each sampling event. Potentiometric surface maps based on these data for March and September 2021 are presented on Figure 3-1 and Figure 3-2, respectively.

The hydraulic gradient for both the March 2021 sampling event and the September 2021 sampling event was generally to the northeast, toward the Ohio River. As was discussed in the *Updated Groundwater Monitoring System Evaluation and Certification—40 CFR 257.91* (2021A), groundwater at the BAP is generally observed to flow toward the Ohio River during times of low river stage (i.e., low elevation of the surface water in the river), and during times of high river stage (e.g., flooding), groundwater generally flows away from the Ohio River (i.e., flow reversal). The frequency and duration of flow reversals at the BAP are driven by the frequency and duration of flooding of the Ohio River, which vary from year to year. Additionally, pumping of water supply wells at the Gavin Plant contribute to the average groundwater flow gradient to the northeast.

Measured hydraulic gradients were 0.0007 and 0.0010 in the March and September 2021 sampling events, respectively. Based on the measured hydraulic gradients, an assumed porosity of 0.3, and an estimated hydraulic conductivity of 0.5 centimeters per second based on the particle-size distribution of the sandy alluvium (Freeze and Cherry 1979), the velocity of groundwater in the alluvial aquifer beneath the BAP varied between 1,200 and 1,800 feet per year when the groundwater elevation data were collected. These values are similar to, but lower than, the groundwater velocities calculated in 2020 (1,400 to 2,000 feet per year).

3.2 Comparison of Results to Prediction Limits

Consistent with the CCR Rule and the *Statistical Analysis Plan* (ERM 2017) in the operating record, a 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.

3.2.1 2021 Sampling Event Results

Table 3-1 summarizes a comparison of the March and September 2021 results to the identified SSIs based on prediction limits for Appendix III analytes in the downgradient wells.

Table 3-1: SSIs from 2021 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	ϕ
Fluoride	ϕ	X	ϕ	ϕ	ϕ	ϕ	ϕ	X
pH	X	X	X	X	X	X	X	ϕ
Sulfate	X	X	X	X	X	X	X	X
TDS	X	X	X	ϕ	X	X	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 and September 2021.

March 2021 SSIs were similar to those observed in 2017, 2018, 2019, and 2020. Alternate sources were similarly identified for each of the SSIs detected in the March 2021 data and documented in the *Gavin BAP First Semiannual Sampling Event of 2021 ASD Report* (ERM 2021a). The report identified the regional discharge of groundwater as the source of calcium, chloride, sulfate, and total dissolved solids (TDS), and the Kyger Creek North Fly Ash Pond as the source of boron and low pH. A copy of *the Gavin BAP First Semiannual Sampling Event of 2021 ASD Report* is included in Appendix A (ERM 2021d).

September 2021 SSIs were similar to those observed in 2017, 2018, 2019, 2020, and March 2021. Alternate sources were identified for each of the SSIs associated with the September 2021 data and documented in the *Gavin BAP Second Semiannual Sampling Event of 2021 ASD Report* (ERM 2021b). The report identified the regional discharge of groundwater as the source of calcium, chloride, fluoride, sulfate, and TDS, and the Kyger Creek North Fly Ash Pond as the source of boron and low pH. A copy of the *Gavin BAP Second Semiannual Sampling Event of 2021 ASD Report* is included in Appendix B.

Appendix C provides a summary of all historical and current analytical results obtained from the BAP groundwater monitoring program. Appendix D contains laboratory analytical reports from both sampling events.

4. KEY FUTURE ACTIVITIES

The ASD Reports prepared to date concluded that sources other than the BAP were responsible for the identified SSIs. As required by 40 CFR § 257.94(e)(2), these demonstrations were completed within 90 days of detecting the SSIs and were certified by a qualified professional engineer. Because it met these requirements, the BAP remains in detection monitoring at the conclusion of 2021. Two semi-annual groundwater sampling events will be performed at the BAP in 2022, and the results will be compared to the prediction limits to identify potential SSIs.

5. REFERENCES

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

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

ERM. 2018b. *First Semi-Annual Sampling Event of 2018 Alternate Source Demonstration. Bottom Ash Complex,* dated 10-12-2018.

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

ERM. 2019a. *Gavin Bottom Ash Complex Second Semiannual Sampling Event of 2018 Alternate Source Demonstration Report*, dated 1-31-2019.

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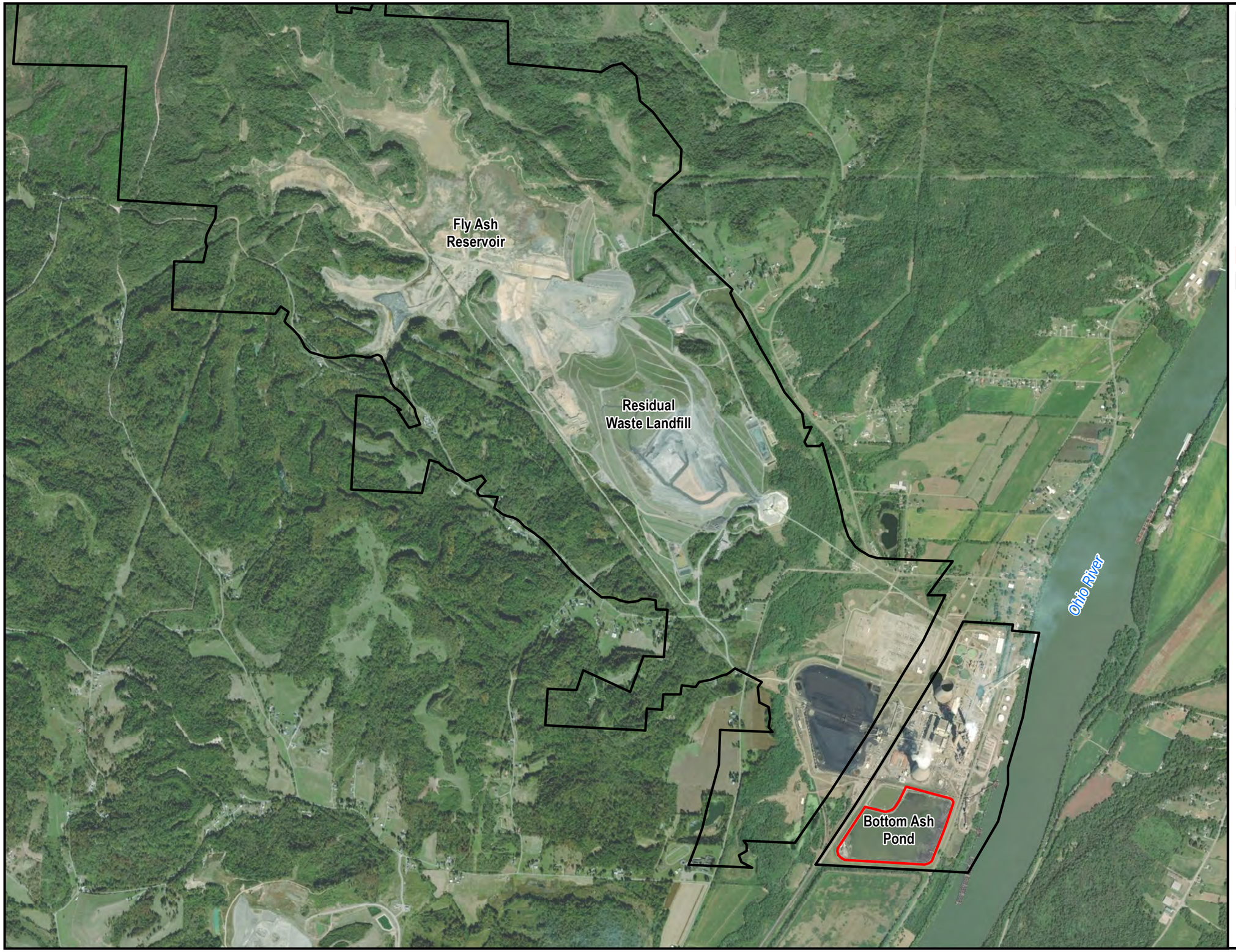
FIGURES



Legend

- Bottom Ash Pond
- Gavin Property Boundary

N

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

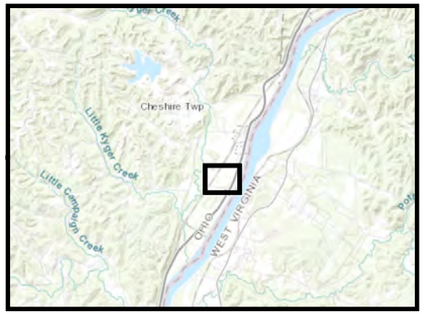
Feet

Figure 1-1: Bottom Ash Pond Location

Gavin Power, LLC

Cheshire, Ohio

ERM



Legend

- Federal Upgradient Monitoring
- Federal Downgradient Monitoring
- Approximate location of Bottom Ash Pond boundary

NOTES:

1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.7

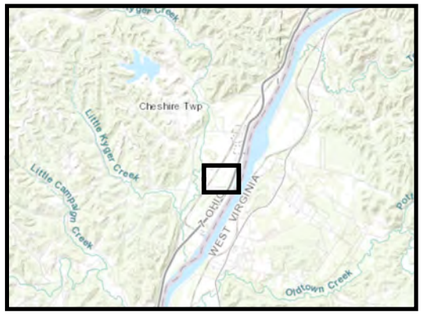
N

0 62.5 125 250 375 500

Feet

Figure 2-1: Monitoring Well Network
Gavin Power, LLC
Cheshire, Ohio

ERM



Legend

- Federal Sampling Program Groundwater Monitoring Well
- 539.85 Groundwater Elevation (ft)
- Interpreted Groundwater Elevation Contour
- Interpreted Groundwater Flow Direction

NOTES:
1. Locations are approximate
2. Groundwater elevations based on measurements made on 3/6/2021
3. Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.7

N

0 60 120 240 360 480
Feet

Figure 3-1: March 2021 Groundwater Elevations and Flow Direction
Gavin Power, LLC
Cheshire, Ohio

ERM

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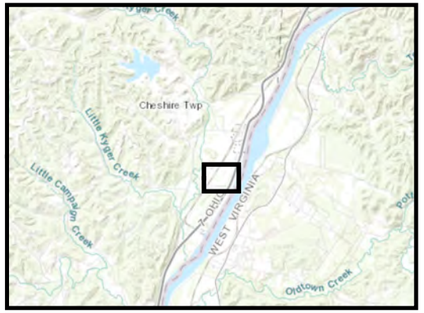

Legend

- Federal Sampling Program Groundwater Monitoring Well
- 539.85 Groundwater Elevation (ft)
- Interpreted Groundwater Elevation Contour
- Interpreted Groundwater Flow Direction

NOTES:
1. Locations are approximate
2. Groundwater elevations based on measurements made on 9/14/2021
3. Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.7

N

0 60 120 240 360 480
Feet

Figure 3-2: September 2021 Groundwater Elevations and Flow Direction
Gavin Power, LLC
Cheshire, Ohio

ERM

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APPENDIX A GAVIN BOTTOM ASH POND FIRST SEMIANNUAL SAMPLING EVENT OF 2021 ALTERNATE SOURCE DEMONSTRATION REPORT

Gavin Power, LLC

Gavin Bottom Ash Pond

First Semiannual Sampling Event of 2021 Alternate Source Demonstration Report

Gavin Power Plant
Cheshire, Ohio

31 August 2021

Project No.: 0589450

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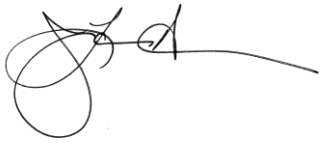
Gavin Bottom Ash Pond

First Semiannual Sampling Event of 2021 Alternate Source Demonstration Report

Gavin Power Plant
Cheshire, Ohio



J. Lawrence Hosmer, P.E.
Principal-in-Charge

Joseph Robb, P.G.
Project Manager

ERM Consulting & Engineering, Inc.

One Beacon Street
5th Floor
Boston, MA
02108

T: +1 617 646 7800
F: +1 617 267 6447

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PROFESSIONAL ENGINEER CERTIFICATION

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Acronyms and Abbreviations

Name	Description
ASD	Alternate Source Demonstration
BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
CCR	Coal Combustion Residuals
CCR Rule	Coal Combustion Residuals in Landfills and Surface Impoundments
CFR	Code of Federal Regulations
Gavin	Gavin Power, LLC
mg/L	milligrams per liter
NFAP	North Fly Ash Pond
Plant	General James M. Gavin Power Plant
SFAP	South Fly Ash Pond
SSI	Statistically significant increase
TDS	Total Dissolved Solids
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 Appendix III constituents for the first semiannual groundwater sampling event of 2021 and are explained in this Alternate Source Demonstration (ASD) Report.

An SSI for one or more Appendix III constituents is a potential indication of a release of constituents from the 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 six lines of evidence (listed below) that must be addressed to determine whether an SSI resulted from a source other than the regulated disposal unit.

1. An alternative source exists.
2. A hydraulic connection exists between the alternative source and the well with the significant increase.
3. 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.
4. 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.
5. 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.
6. 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 beneath the BAP.

1.2 Background

The Plant is a coal-fired generating station located in Gallia County in Cheshire, Ohio, bounded to the east by the Ohio River (Figure 1-1). 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 along the Ohio River (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 groundwater monitoring well network 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). In addition, monitoring well B-0904 is located south of the BAP and is used in this ASD Report to define the shallow groundwater quality migrating from the Kyger Creek North Fly Ash Pond (NFAP) under the BAP. Monitoring wells BAC-06 and BAC-07 were installed in 2020 to provide two additional upgradient monitoring wells screened in the uppermost aquifer. The uppermost alluvial aquifer (Figure 2-1) monitored by the groundwater well network exhibits the following characteristics (Geosyntec 2016; ERM 2021a):

- The alluvial aquifer consists of fine to coarse sand with some gravel that grades progressively finer with decreasing depth;
- It is approximately 10-feet to 35-feet thick in the BAP area; and
- It is located below an approximate 20-foot-thick silty clay confining layer and above a shale bedrock unit of the Conemaugh Group.

Consistent with the CCR Rule and the Groundwater Monitoring Plan developed for Gavin (ERM 2017), a prediction limit approach was used to identify potential effects 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 sampling events performed from August 2016 to August 2017. The 2017 report compared upper and lower prediction limits to the August 2017 results from the downgradient wells. Alternate Source Demonstration (ASD) reports (ERM 2018b, ERM 2018c, ERM 2019a, ERM 2019b, ERM 2020a, ERM 2020b, and ERM 2021b) were prepared to address SSIs which were identified during the initial and subsequent reporting periods.

The first semiannual groundwater sampling event of 2021 was performed in March 2021. The data from this sampling event were compared to the upper and lower prediction limits and SSIs for Appendix III analytes were identified. Table 1-1 summarizes occurrences of SSIs from the March 2021 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	ϕ	ϕ	ϕ	ϕ
pH	X	X	X	X
Sulfate	X	X	X	X
Total Dissolved Solids	X	X	X	X

Notes: ϕ = No SSI; X = SSI; BAP = Bottom Ash Pond; SSI = statistically significant increase.
Results are for the downgradient wells sampled in March 2021.

Consistent with previous ASD Reports, this ASD Report identifies the mixing of upgradient groundwater and Ohio River surface water as the key factor controlling groundwater pH between the BAP and the Ohio River. This ASD Report also identifies the regional discharge of groundwater as the source of calcium, chloride, sulfate, and total dissolved solids (TDS); the Kyger Creek NFAP is identified as the source of boron. Supporting information and additional discussion of each of the lines of evidence discussed in Section 1.1 are presented in subsequent sections of this ASD Report.

2. DESCRIPTION OF ALTERNATE SOURCES

The first ASD Report for the BAP (ERM 2018b) identified and described three alternate sources for the Appendix III constituents: the Ohio River, the regional geology, and the neighboring Kyger Creek Generating Station. A summary of each of these alternate sources is provided below.

2.1 Ohio River

The Ohio River extends approximately 981 river miles from Pittsburgh, Pennsylvania to Cairo, Illinois and drains an area of approximately 205,000 square miles (ORSANCO 2018). The Ohio River is approximately 700 feet east of the BAP, and the alluvial aquifer beneath the BAP is hydraulically connected to the river. When the Ohio River floods, water from the river mixes with groundwater within the alluvial aquifer (ERM 2018b) beneath the BAP. The mixing of groundwater and river water is discussed in Section 3; the quality of the Ohio River water that mixes with groundwater is discussed in Section 4.

2.2 Regional Background

The regional bedrock geology near the Plant includes Pennsylvanian-age sedimentary rocks from the Monongahela and Conemaugh Formations, with the Morgantown and Cow Run Sandstone members being part of the latter. These sedimentary rocks consist primarily of shale and siltstone, with minor amounts of mudstone, sandstone, and incidental amounts of limestone and coal (United States Geological Survey [USGS] 2005). Overlying the Pennsylvanian-age rocks are Quaternary-age alluvium that consists primarily of sand, silt, clay, and gravel (Ohio Environmental Protection Agency [OEPA] 2018). The sedimentary rocks form the ridges and valleys west of the Ohio River, and the unconsolidated sand, silt, clay, and gravel, are located along the Ohio River and tributaries. The consolidated sedimentary rocks and the unconsolidated alluvium form the two major aquifers near the Plant (Figure 2-1). The interaction of groundwater with rocks and minerals within these aquifers can influence the concentration of Appendix III constituents, for example via dissolution (ORSANCO 1984).

Naturally occurring brine, which is known to have elevated levels of chloride, sulfate, and other trace elements, exists in the subsurface in the Ohio River Valley (Stout et al. 1932; ORSANCO 1984; ODNR 1995). Some of the brines also exist near the land surface. For example, 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.

To account for natural and anthropogenic influences on Appendix III constituents on a regional scale, background groundwater data were obtained from USGS databases. The background groundwater data set is discussed further in Section 4.

2.3 Kyger Creek Generating Station

The Kyger Creek Generating Station is located along the Ohio River in Gallia County, south of the Plant (Figure 2-2). The Kyger Creek Fly Ash Pond complex consists of the 110-acre NFAP and 60-acre South Fly Ash Pond (SFAP). The construction history and groundwater monitoring results of these ponds are summarized in the first ASD Report (ERM 2018b). The Kyger Creek NFAP is located less than 300 feet from the BAP and the units share an approximately 2,000-foot-long border (Figure 2-2). BAC-06 and BAC-07 were installed along the top of the berm along this boundary and B-0904 is installed at the base of the berm. The Kyger Creek NFAP has a higher potential to impact groundwater than the BAP because the Kyger Creek NFAP contains fly ash, which when compared to bottom ash, has a greater tendency to leach CCR constituents due to higher concentrations of CCR constituents and increased surface area due to smaller particle size (Cox et al. 1978; Jones et al. 2012), as described further in Section 7.

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). A summary of each of these connections is provided below.

3.1 Ohio River

Both the Gavin BAP and the Kyger Creek NFAP are located above the alluvial aquifer (Geosyntec 2016; AGES 2016; ERM 2018b, ERM 2021a). Groundwater in the alluvial aquifer typically flows from the vicinity of the BAP and Kyger Creek NFAP toward the Ohio River (ERM 2018b). Exceptions to this flow direction occur when the river stage (elevation of the surface water in the river) exceeds approximately 542 feet above mean sea level (ERM 2018b). When this water level condition occurs, groundwater flow reverses and generally flows westward from the Ohio River toward the BAP and Kyger Creek NFAP (ERM 2018b). The correlation of the flow reversals with Ohio River flooding is strong evidence that the alluvial aquifer is hydraulically connected to the Ohio River (ERM 2018b).

3.2 Regional Background

Regional groundwater within the fractured sedimentary bedrock flows from northwest to southeast toward the Ohio River (ORSANCO 1984). Precipitation that falls in areas of higher topographic elevation northwest of the Plant infiltrates the land surface and recharges the underlying aquifers. Groundwater then flows from areas of higher topographic elevation (which correspond to higher hydraulic head) to areas of lower topographic elevation (which correspond to lower hydraulic head). As groundwater flows from northwest to southeast, it migrates both horizontally and vertically through a network of fractures within the sedimentary bedrock. Near the Plant, groundwater in the bedrock aquifer mixes with groundwater in the alluvial aquifer, which then discharges to the Ohio River (Figure 3-1). Thus, regional groundwater is hydraulically connected to the downgradient BAP monitoring wells (ERM 2018b).

3.3 Kyger Creek Generating Station

The Ohio River stage elevation records were used to identify the frequency and duration of flow reversals as discussed in Section 3.1 and were combined with the groundwater velocity estimates to develop groundwater flow paths under the BAP (ERM 2018b). The following four key points are associated with the interpreted groundwater flow paths:

- The Kyger Creek NFAP is hydraulically upgradient of the four monitoring wells (BAC-02, BAC-03, BAC-04, and BAC-05) that are downgradient of the Gavin BAP.
- Due to the prevailing northeast flow direction, the Kyger Creek NFAP is not situated upgradient of the western edge of the BAP – where upgradient monitoring wells MW-1, BAC-01, and MW-6 are located.
- Monitoring wells BAC-06 and BAC-07 are located downgradient of the Kyger Creek NFAP and upgradient of the BAP. These wells are screened at a lower elevation than B-0904 and monitor groundwater flowing from the NFAP that is vertically mixing with regional groundwater.
- Monitoring well B-0904 is directly downgradient of the Kyger Creek NFAP and upgradient of the BAP.

It is evident that the Kyger Creek NFAP is hydraulically connected to the downgradient BAP monitoring wells (ERM 2018b) based on the prevalent northeastern direction of groundwater flow and the presence of the same alluvial aquifer beneath both the Kyger Creek NFAP and the Gavin BAP.

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

4.1 Ohio River

The pH of the Ohio River is near neutral and the pH of groundwater emanating from the Kyger Creek NFAP, as observed in well B-0904, is slightly acidic (ERM 2018b). As described in Section 3, the hydrogeologic data indicate that water from the Ohio River mixes with groundwater in the alluvial aquifer during times of river flooding. This mixing process results in an intermediate pH that is between the pH of the Ohio River and the pH of the Kyger Creek NFAP. Table 4-1 and Figure 4-1 summarize this pattern observed in the March 2021 data.

Table 4-1: Groundwater and Surface Water pH Values

Location	pH
Kyger Creek NFAP Groundwater (B-0904, March 2020)	5.26
BAP Upgradient Groundwater (BAC-06 and BAC-07, March 2021)	6.17–6.66
BAP Downgradient Groundwater (BAC-02 through BAC-05, March 2021)	6.05–6.30
Ohio River (March 2021)	7.10

Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond

The March 2021 results remain consistent with previous ASD Reports for the BAP (ERM 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, and 2021b). These results demonstrate that the pH of the Ohio River water is higher than Kyger Creek groundwater; the mixing of these waters results in the intermediate pH observed in groundwater downgradient of the BAP. Monitoring wells BAC-06 and BAC-07 are not similarly impacted by acidic groundwater migrating from Kyger Creek, as evidenced by the higher pH, because the well screens are deeper than the well screen at B-0904, and are more influenced by the regional discharge of groundwater from bedrock to the alluvial aquifer, as described further in Section 6 (Figure 4-1).

4.2 Regional Background

Regional background groundwater quality data were obtained from the USGS National Water Information System database. Groundwater results were selected for monitoring wells constructed within the alluvial, Monongahela Group, and Conemaugh Group aquifers located within 50 miles of the Plant (Figure 4-2). The USGS background data were compared to downgradient BAP data (Wells BAC-02, BAC-03, BAC-04, and BAC-05) and Ohio River data collected in March 2021. As presented in Table 4-2, the concentrations of calcium, chloride, sulfate, and TDS in groundwater downgradient of the BAP are generally between the concentrations in USGS background data for regional groundwater (within 50 miles of the Plant) and the Ohio River. These results are consistent with previous ASD Reports for the BAP (ERM 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, and 2021b) and, along with Figure 3-1, demonstrate that calcium, chloride, sulfate, and TDS are present along flow pathways from the sedimentary bedrock aquifers to the alluvial aquifer beneath the BAP.

Table 4-2: Comparison of USGS Regional Background to BAP and Ohio River

Analyte	Units	USGS Background (Max)	Downgradient BAP[a]	Ohio River[a]
Calcium	mg/L	520	73–130	28
Chloride	mg/L	9,900	29–79	27
Sulfate	mg/L	2,700	180–360	45
TDS	mg/L	9,910	540–930	190

Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter; TDS = total dissolved solids; USGS = United States Geological Survey.
[a] Results from samples collected in March 2021.

4.3 Kyger Creek Generating Station

The concentration of boron in groundwater downgradient of the BAP (Figure 4-3 and Figure 4-4) ranges from 1.7 milligrams per liter (mg/L) to 2.9 mg/L in the March 2021 samples. Figure 4-3 and Figure 4-4 depict the distribution of boron from the northern boundary of the Kyger Creek NFAP and along the flow pathways in map view (Figure 4-3) and cross section (Figure 4-4), as summarized by the following points:

- The highest boron concentrations in BAP downgradient wells were measured at wells BAC-05 and BAC-04, which are located downgradient of the Kyger Creek NFAP.
- Monitoring well B-0904 is situated downgradient of the Kyger Creek NFAP and upgradient of the BAP and has a higher boron concentration than any BAP downgradient well. This well is screened in the upper silt and clay confining unit and is subject to less mixing with regional groundwater.
- Concentrations decrease with distance downgradient from the Kyger Creek NFAP, along the northeastern flow path.
- Monitoring wells BAC-06 and BAC-07 demonstrated slightly lower concentrations than measured in groundwater from monitoring well B-0904, likely due to the slightly deeper position of the well screens and the greater influence of regional groundwater discharge from the underlying bedrock aquifer to the alluvial aquifer.

In addition to the OEPA correspondence that concluded that groundwater below the Kyger Creek NFAP appears to be impacted by a release from the Kyger Creek NFAP (Appendix A of the first ASD Report for the BAP [ERM 2018b]), the Kyger Creek SFAP data also suggest that boron is present in groundwater below both Kyger Creek fly ash ponds. Table 4-3 summarizes boron analytical results from eight groundwater sampling events conducted between October 2015 and September 2017 at Kyger Creek SFAP downgradient monitoring wells (AGES 2018).

Table 4-3: Kyger Creek SFAP Boron Results

Analyte	Units	Maximum	Average
Boron	mg/L	17.7	6.8

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

The average concentration of boron (6.8 mg/L) in the Kyger Creek SFAP is higher than the highest concentration of boron measured in groundwater beneath the BAP (2.9 mg/L) in March 2021. The Kyger Creek SFAP and NFAP both manage fly ash generated at the Kyger Creek Generating Station; thus, 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.

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

5.1 Ohio River

As described in Section 3 and in the first ASD Report for the BAP (ERM 2018b), the groundwater elevation and flow directions provide sound evidence of groundwater flow reversals and the mixing of Ohio River surface water and groundwater. The intermediate pH of groundwater downgradient of the BAP (i.e., the value between the pH of Kyger Creek groundwater and the pH of the Ohio River) is consistent with the mixing of river water and groundwater. This evidence suggests there is a linkage between groundwater downgradient of the BAP and the Ohio River.

5.2 Regional Background

As described in Section 3.2 and illustrated on Figure 3-1, groundwater flowing in the sedimentary bedrock aquifers discharges to the alluvial aquifer along the Ohio River, including the portion beneath the BAP. As described in Section 4.2, regional concentrations of calcium, chloride, sulfate, and TDS are higher than respective groundwater concentrations downgradient of the BAP. Based on these observations, it is likely that the discharge of groundwater from the sedimentary bedrock aquifers to the alluvial aquifer under the BAP (Figure 5-1 and Figure 5-2) is an alternate source for these constituents. This evidence suggests that there is a linkage between groundwater downgradient of the BAP and regional background.

5.3 Kyger Creek Generating Station

When the river stage is low (Figure 5-1), groundwater in the alluvial aquifer migrates in a northeasterly direction from the Kyger Creek NFAP, under the BAP, and eventually discharges to the Ohio River. During times of higher river stage (Figure 5-2), groundwater in the alluvial aquifer temporarily reverses flow direction and river water flows into the alluvial aquifer. Despite the temporary reversals of groundwater flow caused by flooding of the Ohio River, the overall, long-term flow direction is to the northeast. This indicates that the source of boron detected in the monitoring wells downgradient of the BAP is the Kyger Creek NFAP.

6. RELEASES FROM THE BAP ARE NOT SUPPORTED AS THE SOURCES

6.1 Chemical Fingerprints

The geochemical fingerprints of surface water from the BAP, groundwater from the BAP, groundwater from the Kyger Creek NFAP, and surface water from the Ohio River were determined using a Piper diagram. The Piper diagram is a graphical procedure commonly used to interpret sources of dissolved constituents in water and evaluate the potential for mixing of waters from different sources (Piper 1944). The samples presented on the diagram were collected from 2012 through 2021. The primary observations and conclusions based on the BAP Piper diagram (Figure 6-1) are the following:

- Multiple samples collected from a single location (e.g., the Ohio River or Well B-0904) tended to be tightly clustered, indicating that the chemical signatures of individual locations were consistent over time.
- Groundwater from BAP upgradient wells MW-1, BAC-01, and MW-6 has a unique geochemical signature dominated by calcium and bicarbonate. This groundwater flows under the west-northwest portion of the BAP and does not appear to be influenced by the Ohio River or Kyger Creek NFAP.
- Groundwater from monitoring wells BAC-06 and BAC-07 is dominated by calcium with lesser proportions of carbonate and sulfate, and has an intermediate signature between the upgradient wells (BAC-01, MW-1 and MW-06) and groundwater from B-0904. These results, and the boron results discussed in Section 4.3, indicate groundwater from BAC-06 and BAC-07 may be a mixture of deeper non-impacted alluvial groundwater and shallower alluvial groundwater migrating from Kyger Creek.
- Groundwater from well B-0904, which is downgradient of the Kyger Creek NFAP and upgradient of the BAP, is dominated by calcium and sulfate and has a signature that is distinct from all other chemical signatures on the diagram.
- Surface water from the Ohio River exhibits a distinct signature that plots closer to the center of the Piper diagram.
- Groundwater from BAP downgradient wells BAC-02, BAC-03, BAC-04, and BAC-05 plots on the Piper diagram between the Ohio River and Kyger Creek NFAP groundwater. This is an independent line of evidence that groundwater under a majority of the BAP is a mixture of groundwater from the Kyger Creek NFAP (represented by well B-0904, which is upgradient of the BAP) and the Ohio River.

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

7. ALTERNATE SOURCE DATA ARE HISTORICALLY CONSISTENT WITH HYDROGEOLOGIC CONDITIONS

7.1 Ohio River

The hydraulic connection of the Ohio River to the alluvial aquifer was established after the last deglaciation (Kozar and McCoy 2004). Seasonal flooding of the Ohio River, which has occurred regularly over the period that the Plant has existed, is the driving force behind the mixing of surface water and groundwater. Thus, source data for the Ohio River are historically consistent with the hydrogeologic conditions and findings of the monitoring program.

7.2 Regional Background

This ASD Report provides background groundwater quality data for the fractured sedimentary bedrock aquifers found within and beyond the boundary of the Plant. Flow patterns of regional groundwater through fractured bedrock near the BAP were established after the last deglaciation, which occurred approximately 14,000 years ago (Hansen 2017). Assuming a conservatively high effective porosity of 1 percent results in an estimated groundwater velocity of 80 feet per year for the Morgantown Sandstone and 50 feet per year for the Cow Run Sandstone (ERM 2020b). These rates would allow ample time for groundwater to migrate from upgradient regional sources onto Plant property since the end of the last glaciation. The data supporting these conclusions are historically consistent with hydrogeologic conditions and findings of the BAP monitoring program.

7.3 Kyger Creek Generating Station

The Kyger Creek NFAP was constructed in 1955 with its base on native soil, without an engineered liner system to contain leachate. The unit was used to manage fly ash until it was drained and closed in 1997, although dewatered ash is still present within the Kyger Creek NFAP. Groundwater flows under the Kyger Creek NFAP in a northeasterly direction toward and under the Gavin BAP. Given the six decades that this unit has contained fly ash and the alluvial aquifer groundwater velocity estimates of 1,400 to 2,000 feet per year (ERM 2021c), 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:

- The distribution of boron in groundwater beneath the BAP (Section 4).
- Analytical results from groundwater samples collected below the Kyger Creek SFAP suggest boron is present in Kyger Creek groundwater. Given the similarity in construction and types of CCR managed, it is reasonable to interpret Kyger Creek SFAP groundwater data as representative of Kyger Creek NFAP groundwater quality (Section 4).
- The chemical fingerprinting evidence suggests groundwater from Kyger Creek mixes with Ohio River water under the BAP (Section 6).
- The Ohio Environmental Protection Agency concluded that groundwater appears to be impacted by a release from the Kyger Creek NFAP (Appendix A of the first ASD Report for the BAP [ERM 2018b]).

In addition, a comparison of the materials managed provides evidence that the BAP is not the source of boron – 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 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 samples from monitoring wells downgradient of the BAP collected in March 2021. Review of data for quality assurance and statistical comparison was complete on 2 June 2021. 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).

All SSIs in the downgradient BAP monitoring wells have been determined to result from alternate sources: mixing with the Ohio River, regional groundwater discharge, and the Kyger Creek Power Plant. Table 8-1 summarizes the six lines of evidence for each of the SSIs.

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 Groundwater Discharge	X	X	X	X	X
Chloride	BAC-02 BAC-03 BAC-04 BAC-05	Regional Groundwater Discharge	X	X	X	X	X
pH	BAC-02 BAC-03 BAC-04 BAC-05	Mixing with Ohio River	X	X	X	X	X
Sulfate	BAC-02 BAC-03 BAC-04 BAC-05	Regional Groundwater Discharge	X	X	X	X	X
TDS	BAC-02 BAC-03 BAC-04 BAC-05	Regional Groundwater Discharge	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.

In conclusion, the BAP is not the source of the SSIs associated with the first semiannual sampling event groundwater results for 2021. Thus, Gavin will continue detection monitoring at the BAP in accordance with 40 CFR § 257.94(e)(2).

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: 8/31/21

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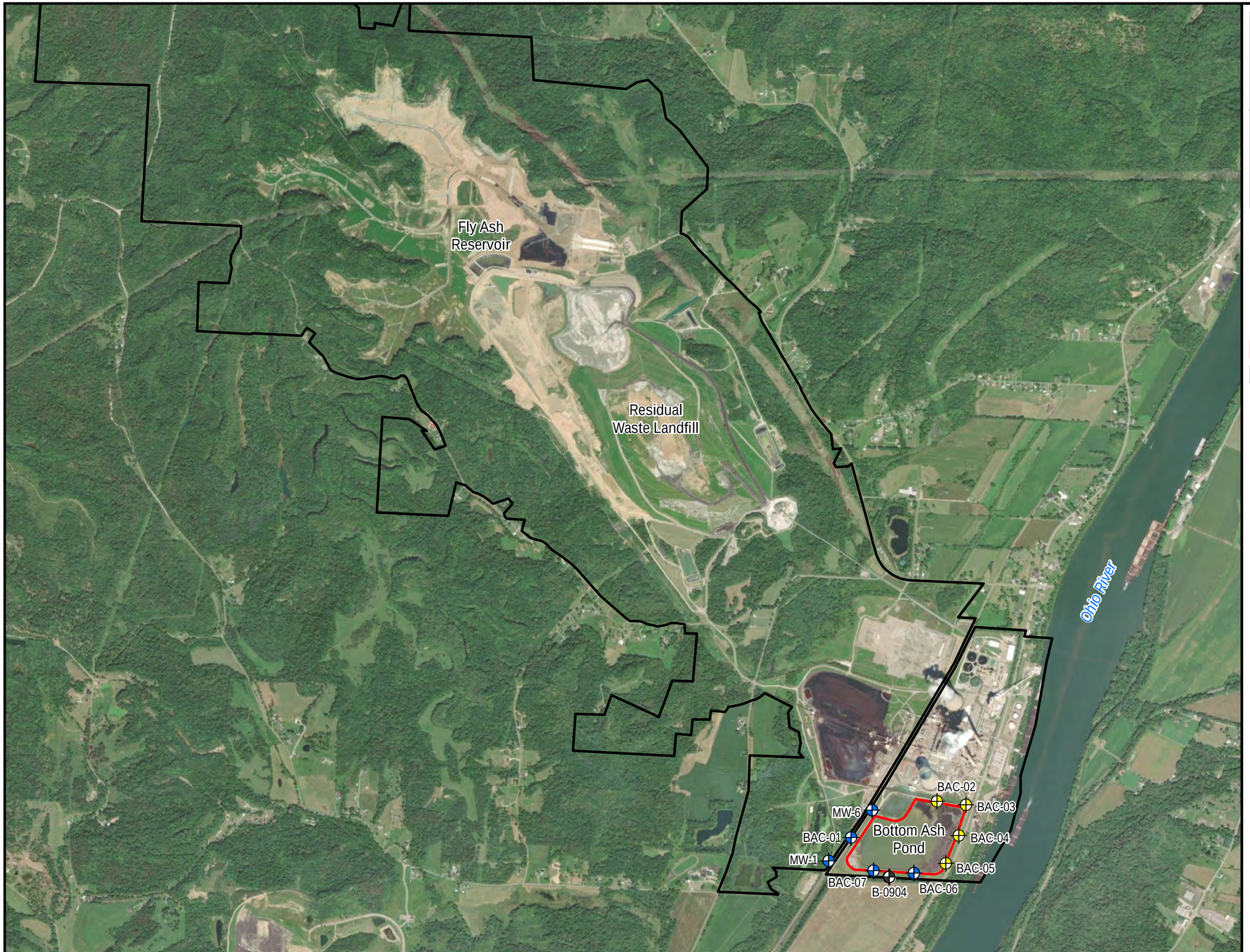
FIGURES

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

ERM

Q:\Boston\Team\MM\Clients_F_K\Gavin\GavinPowerPlant\MXD\2019_GAP_ReportUnit_SemiAnnual_BAP\Figure1_1_GavinPowerPlantLocation_20200102mdmxd - nathan.roberts - 1/3/2020



Legend

- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Upgradient Monitoring Well (Not in Federal Program)
- Bottom Ash Pond
- Gavin Property Boundary

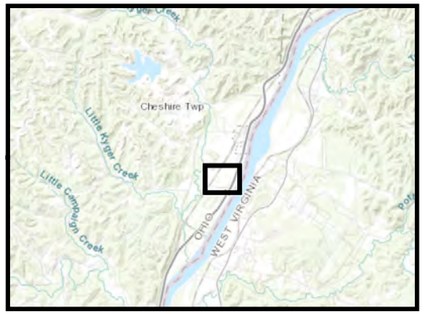
N

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

Figure 1-2: Bottom Ash Pond Location
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Gavin\Team\DMW\Clients_F_K\GavinGen\PowerPlant\MON2021_BAP_ASD_Report\figure1_2_BAP_Location_20210720.mxd - nathan.roberts - 7/20/2021



Legend

- Federal Upgradient Monitoring
- Federal Downgradient Monitoring
- Upgradient Monitoring Well (Not in Federal Program)
- Approximate location of Bottom Ash Pond boundary

NOTES:
1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.7

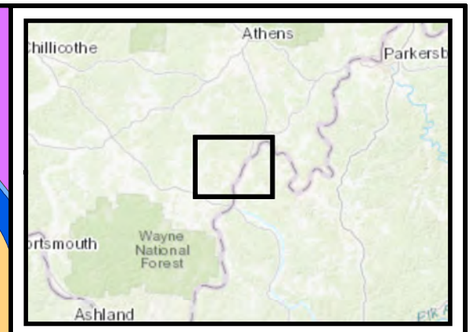
N

0 62.5 125 250 375 500
Feet

Figure 1-3: Existing Monitoring Well Network
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Boston\Team\DMW\Clients_F_K\Gavin\GavinPowerPlant\MXD\MW_System_Certification\Figure1_2_ExistingMWNetwork_20201109.mxd - nathan.roberts - 11/9/2020



Legend

- Gavin Property Boundary
- Alluvial Aquifer

Sedimentary Aquifers

- Dunkard Group
- Monongahela Group
- Conemaugh Group

NOTES:
1. Alluvial aquifer data from Ohio EPA and Sedimentary aquifer data from USGS

Ohio River

Bottom Ash Pond

N

0 0.25 0.5 1 1.5 2
Miles

Figure 2-1: Sedimentary and Alluvial Aquifers
Gavin Generating Station
Cheshire, Ohio

ERM

General James M. Gavin Plant

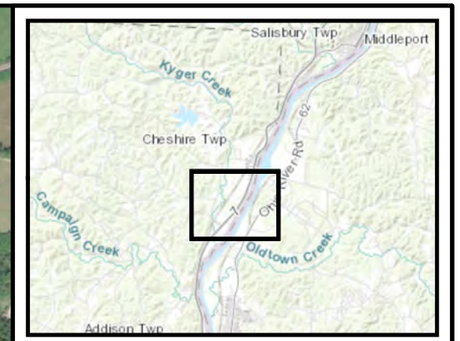
MW-6
BAC-02
BAC-03
BAC-01
Gavin
Bottom Ash
Pond
BAC-04
BAC-07
MW-1
BAC-05
BAC-06
B-0904

Kyger Creek
North Fly Ash Pond

Ohio River

Kyger Creek
South Fly Ash Pond

Kyger Creek
Generating Station



Legend

- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Upgradient Monitoring Well (Not in Federal Program)
- 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.

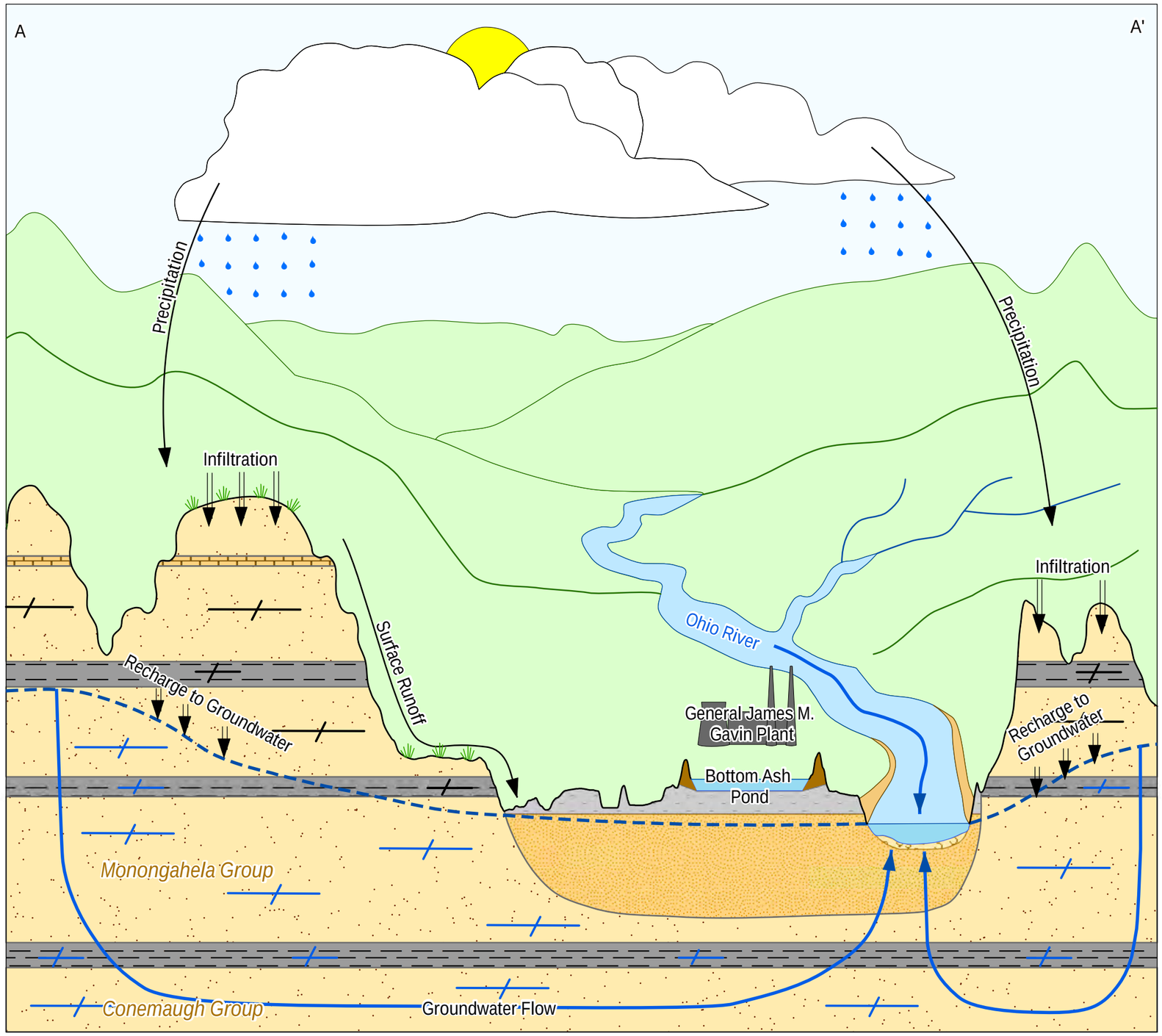
N

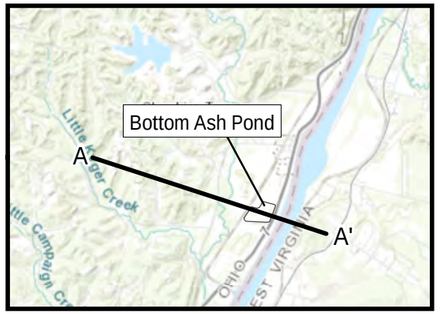
0 250 500 1,000 1,500 2,000
Feet

Figure 2-2: Location of Kyger Creek Generating Station
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Boston\Team\DMW\Clients_F_K\Gavin\Gavin Power Plant\MXD\2021_GWP_ASD_Report\Figure2_2_LocationOfKygerCreekStation_20210720.mxd - nathan.roberts - 7/20/2021





Legend

- Groundwater Flow Direction
- Water Table
- Saturated Fractures
- Unsaturated Fractures
- Fill
- Interbedded Silt/Clay
- Sand
- Coarse Sand Deposits
- Sandstone
- Fractured Limestone
- Fractured Shale

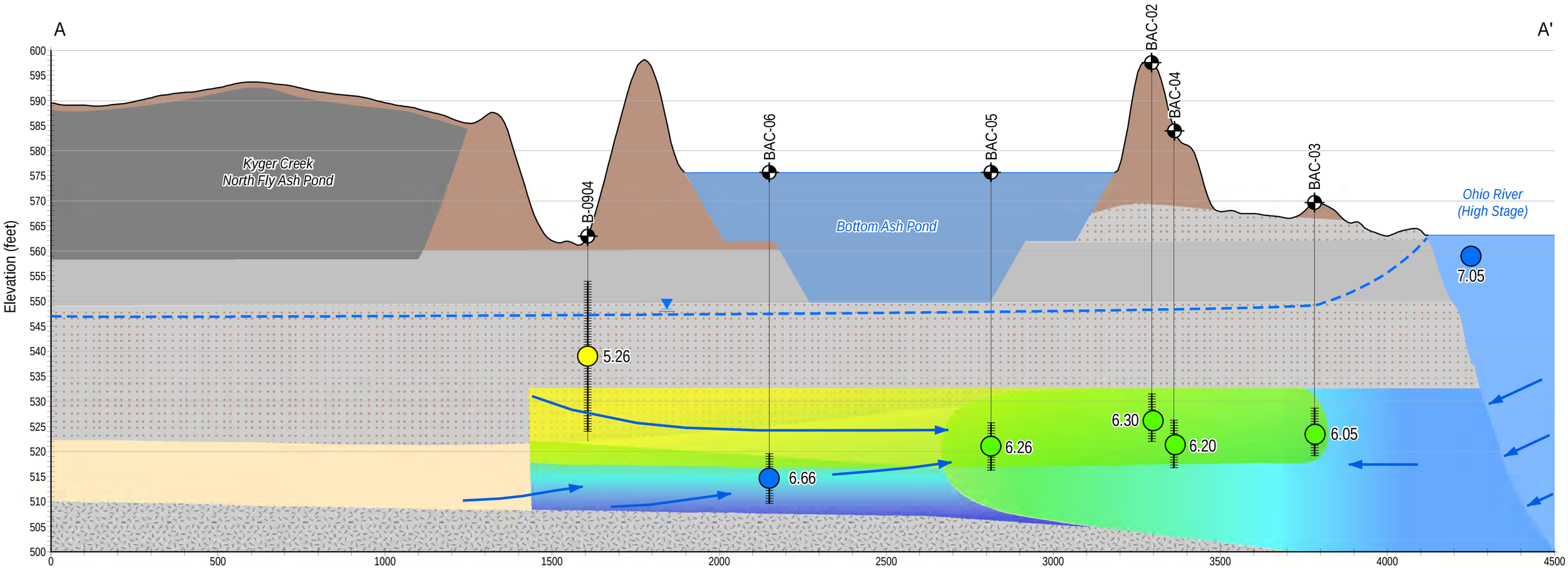
NOTES:

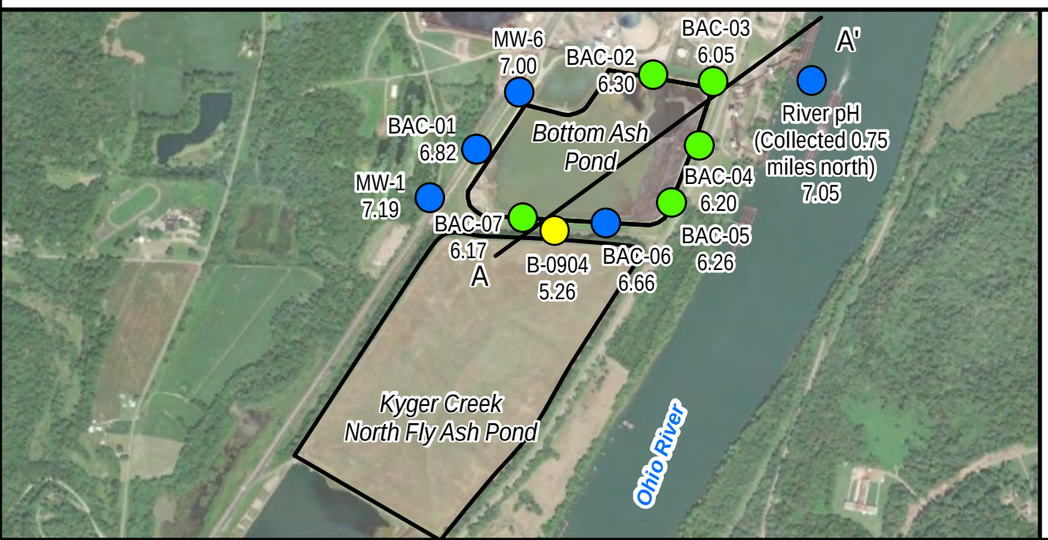
1. Sandstone bedrock units represent the Conemaugh Group and Monongahela Group Sedimentary Aquifers

0 250 500 1,000 1,500 2,000 2,500 3,000
Feet

Figure 3-1: Regional Groundwater Flow Patterns
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

- Monitoring Well
- Cross Section Location
- Borehole
- Well Screen
- Interpreted High River Potentiometric Surface
- Interpreted Groundwater Flow Direction

pH (Standard Units)

- <6
- 6 - 6.5
- >6.5

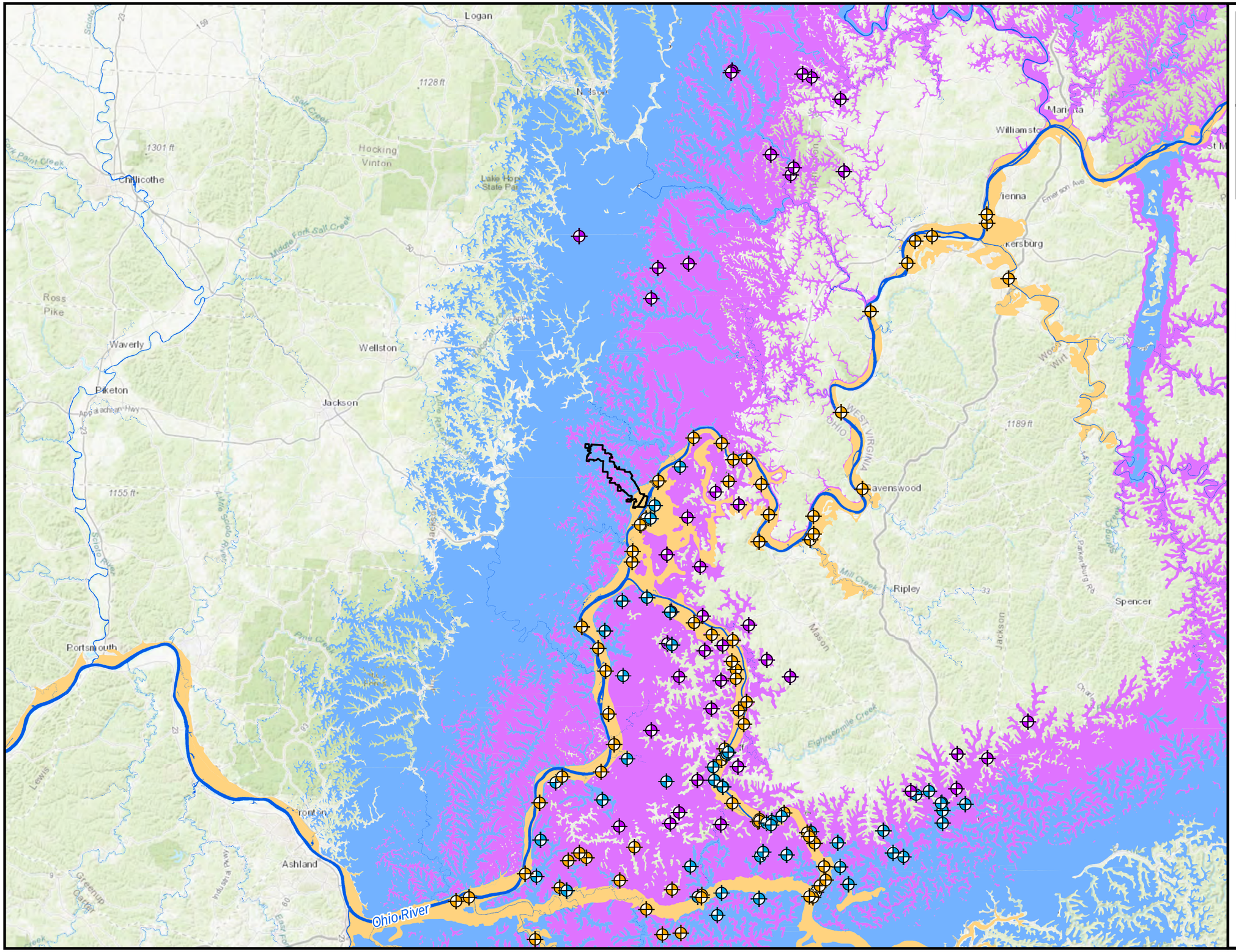
Interpreted Geology

- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

NOTE:
- Data collected March 2021 and B-0904 collected in March 2020.

Figure 4-1: pH of the Ohio River and BAP Groundwater
Gavin Generating Station
Cheshire, Ohio

ERM



Legend

- Alluvial Aquifer
- Gavin Property Boundary

Sedimentary Aquifers

- Monongahela Group
- Conemaugh Group

USGS Groundwater Monitoring Wells

- Alluvial Aquifer
- Monongahela Group (Sedimentary Aquifer)
- Conemaugh Group (Sedimentary Aquifer)

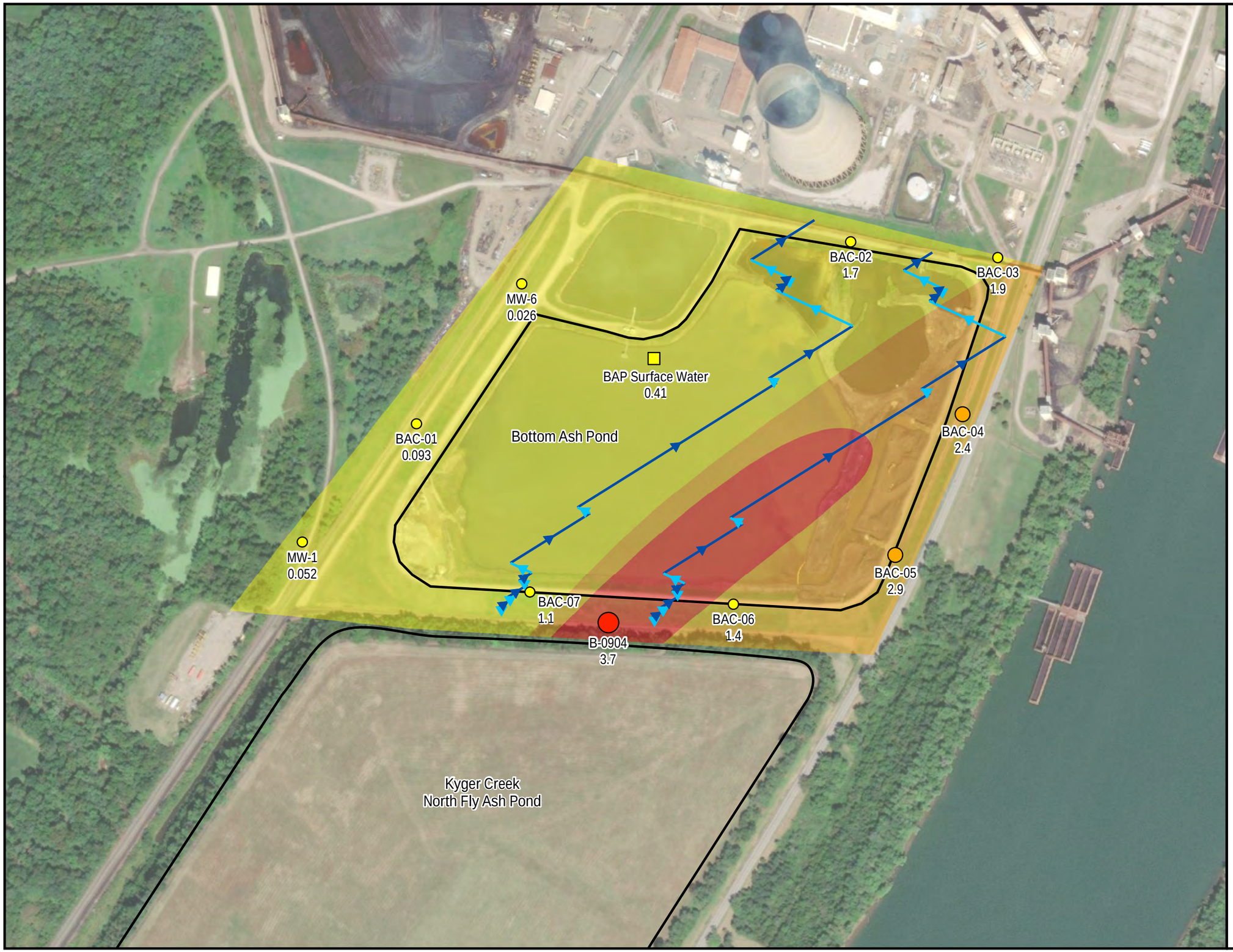
NOTES:
1. Alluvial aquifer data from Ohio EPA and Sedimentary aquifer data from USGS

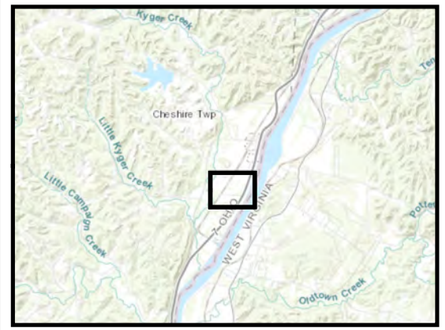
N

0 2.5 5 10 15 20
Miles

Figure 4-2: Locations of Background Groundwater Monitoring Wells
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

0.054 Boron Concentration (mg/L)

Low (Typical) River State Groundwater Flow Direction to the Northeast*

High River Stage Groundwater Flow Direction to the Northwest*

Coal Combustion Residuals Unit

Boron Concentration in Groundwater

- <2 mg/L
- 2-3 mg/L
- >3 mg/L

Sample Type

- Groundwater
- Surface Water

NOTES:

1. All boron data are from samples collected in March 2021 except from B-0904, which was collected in March 2020.
2. * Arrow length is relative to duration of low, high river stage.
3. BAC-06 is not used in the boron concentration interpretation.

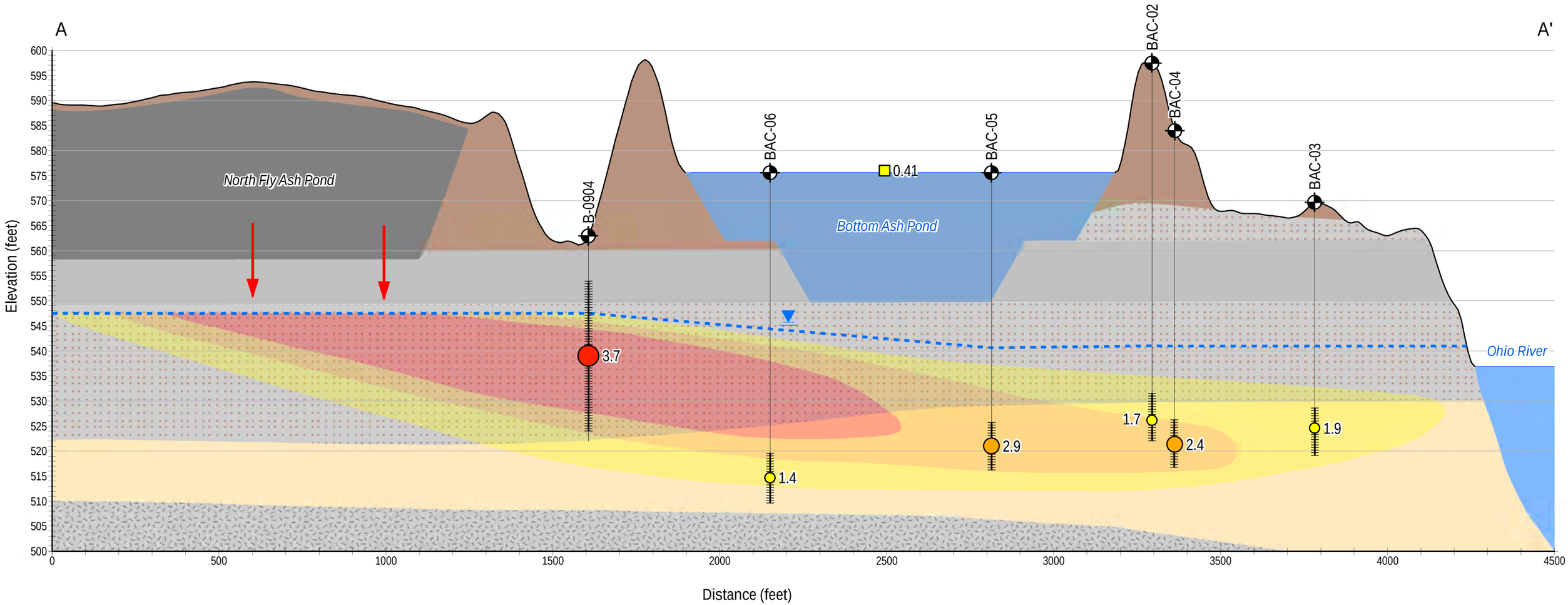
N

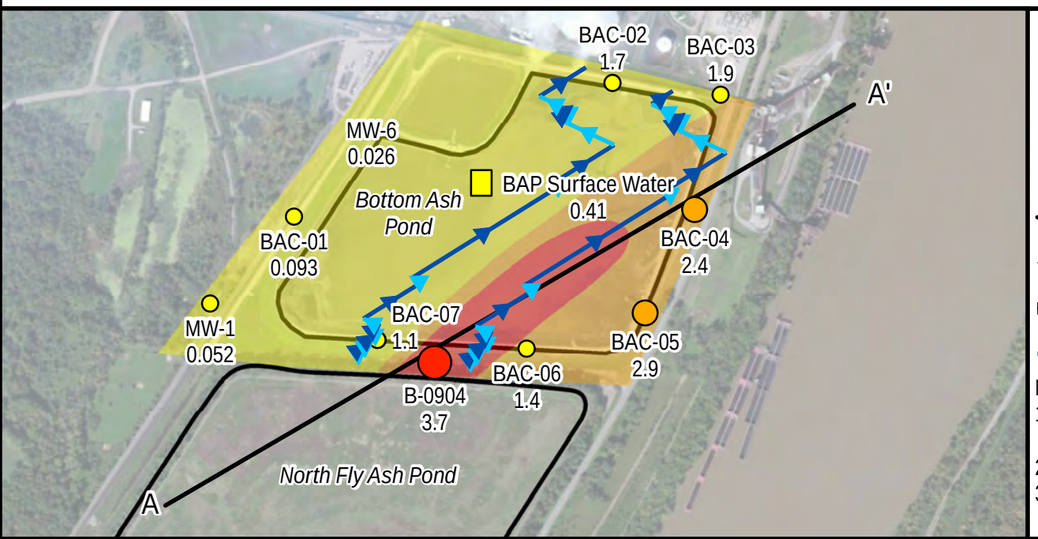
0 100 200 300 400 500
Feet

Figure 4-3: Boron Distribution in Groundwater
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Boston\Team\DMMV\Clients_F_K\Gavin\GavinPowerPlant\MXD\2021_BAP_ASD_Report\Figure4_3_BoronDistributionInGW_20210722.mxd - nathan.roberts - 7/23/2021





Legend

- Monitoring Well
- Groundwater
- Surface Water
- Cross Section Location
- Borehole
- Well Screen
- Interpreted Piezometric Surface

Notes:
1. Groundwater elevations and Boron data from Spring 2021, except B-0904 from Spring 2020
2. Wells are truncated at water or land surface.
3. BAC-06 is not represented in inset map interpretation.

Boron Concentrations in Groundwater (mg/L)
- <2
- 2-3
- >3

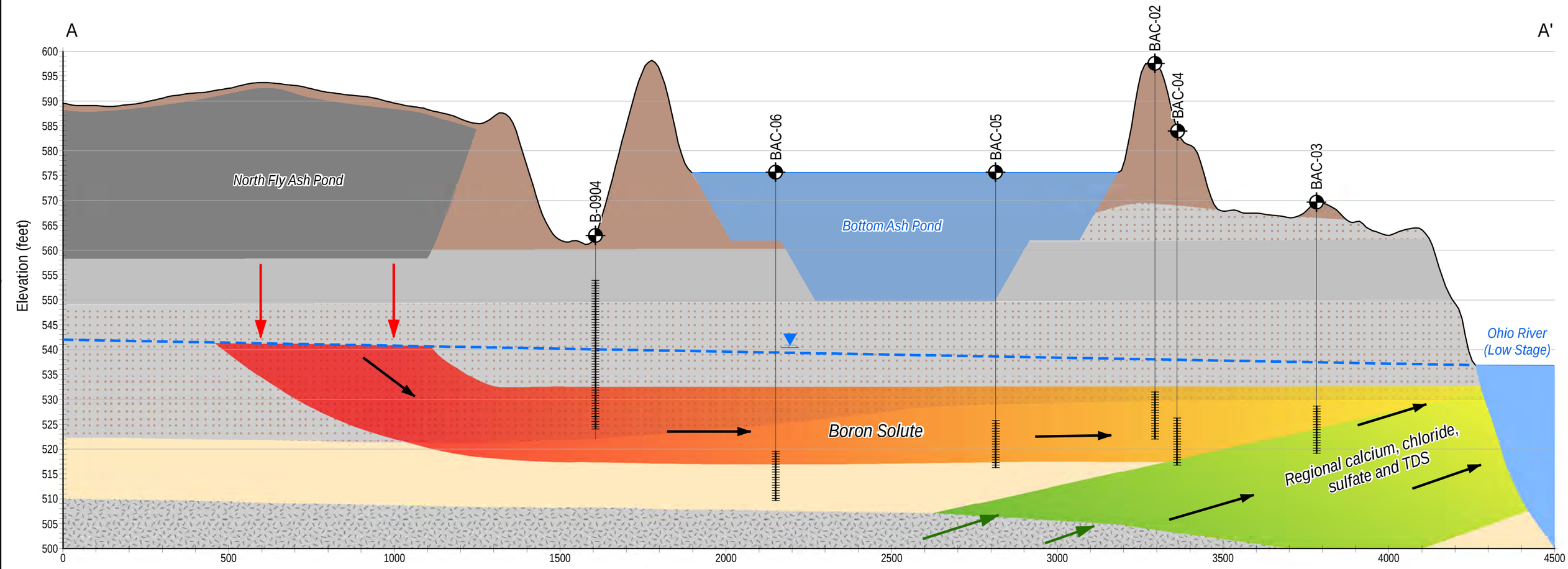
Interpreted Boron Concentrations (mg/L)
- <2
- 2-3
- >3

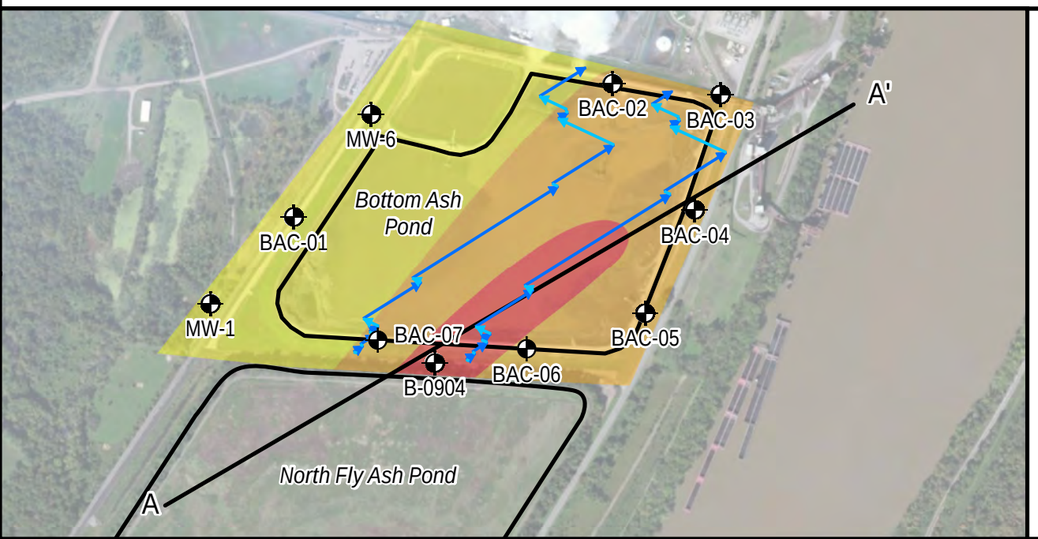
Interpreted Geology
- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

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

ERM

O:\Boston\Team\DMMV\Clients_F_K\Gavin\GavinPowerPlant\MXD\BAP_CrossSeciton\Figure4_4_GWAnalyticalBoron_WithoutMonitoringWell_20210722.mxd - Joseph.Hakam - 7/29/2021





Legend

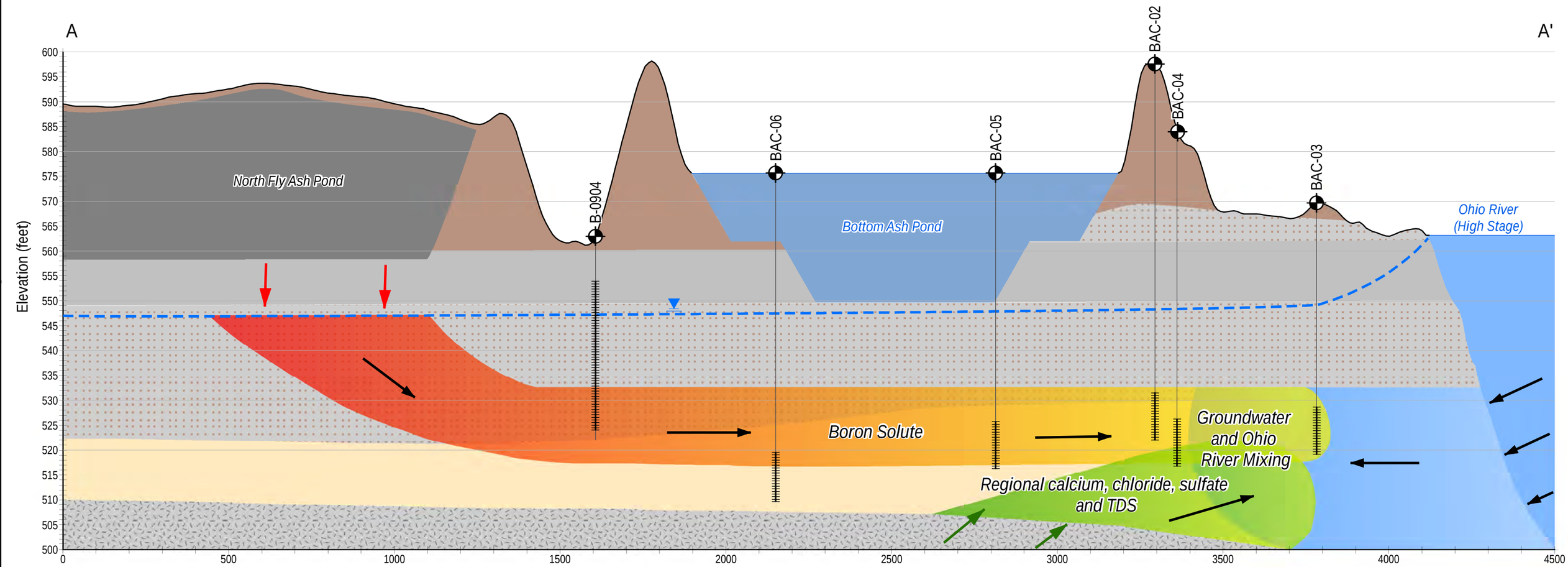
- Monitoring Well
- Cross Section Location
- Borehole
- Well Screen
- Interpreted Low River Piezometric Surface
- Low River Stage Flow Direction
- High River Stage Flow Direction
- Interpreted Groundwater Flow Direction
- Interpreted Leachate from NFAP
- Interpreted Regional Source of Cl^-, SO_4^{2-}, and TDS

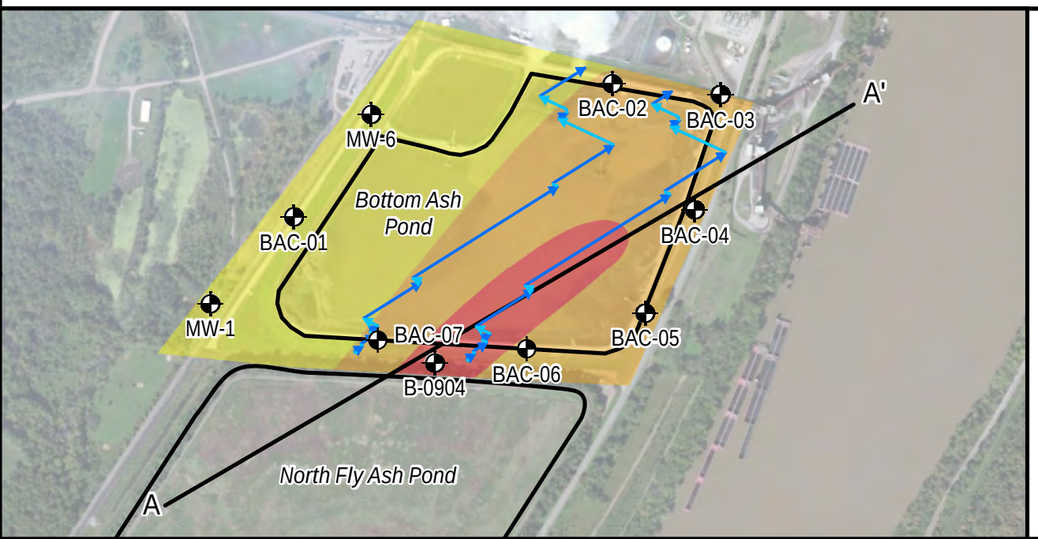
Interpreted Geology

- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

Figure 5-1: Low River Stage Cross Section
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

- Monitoring Well
- Cross Section Location
- Borehole
- Well Screen
- Interpreted High River Piezometric Surface
- Low River Stage Flow Direction
- High River Stage Flow Direction
- Interpreted Groundwater Flow Direction
- Interpreted Leachate from NFAP
- Interpreted Regional Source of Cl^-, SO_4^{2-}, and TDS

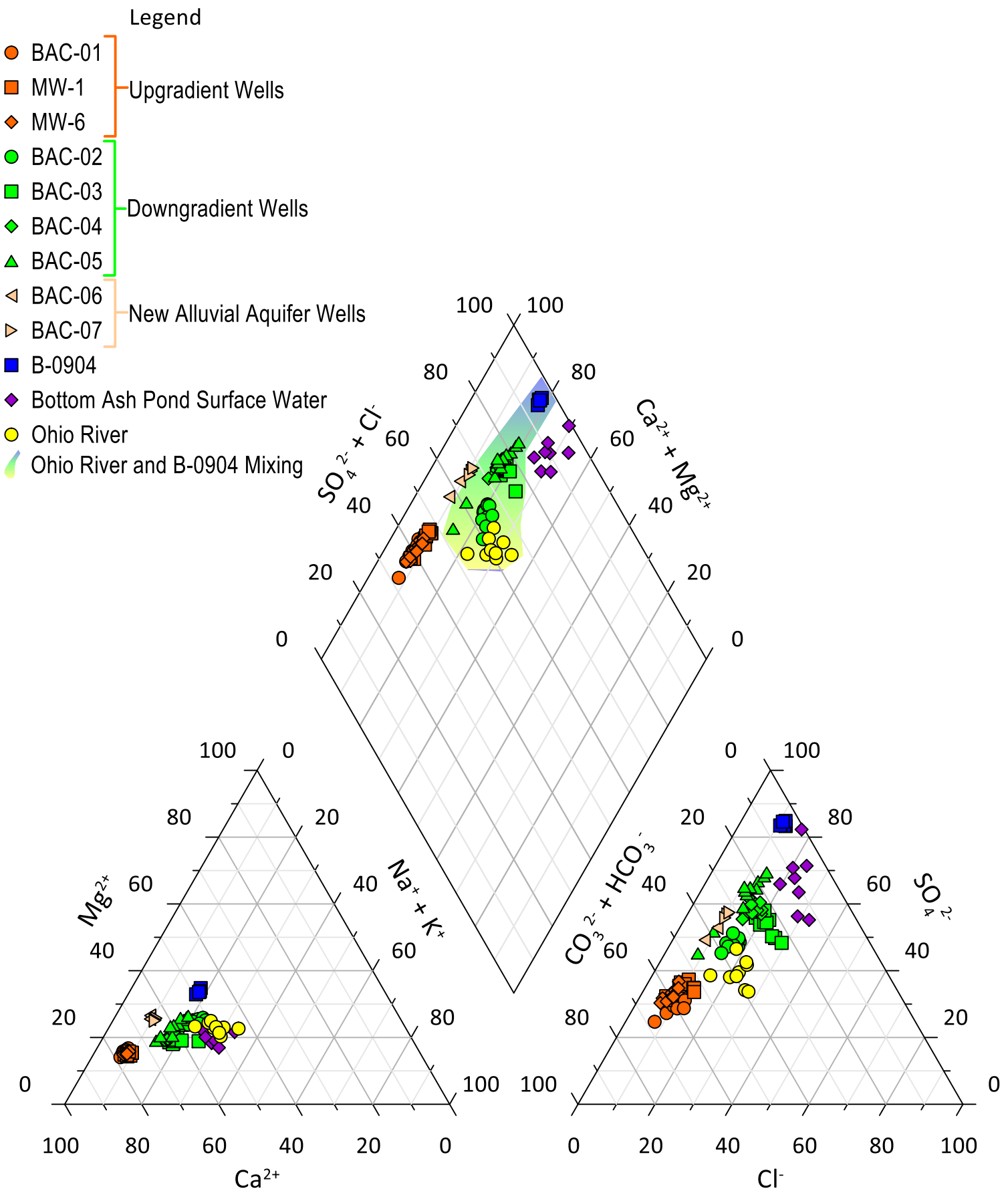
Interpreted Geology

- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

Figure 5-2: High River Stage Cross Section
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Boston\Team\DMMV\Clients_F_K\Gavin\GavinPowerPlant\MXD\2021_BAP_ASD_Report\Figure5_2_HighRiverStageCrossSection_20210621.mxd - nathan.roberts - 6/21/2021



NOTES:
1. Date Range: March 2012 to March 2021
2. Only wells with complete data including all 8 piper diagram analytes are presented

Figure 6-1: BAP Piper Diagram
Gavin Generating Station
Cheshire, Ohio

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ERM's Boston Office
One Beacon Street, 5th Floor
Boston, MA
02108

T: +1 617 646 7800
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APPENDIX B GAVIN BOTTOM ASH POND SECOND SEMIANNUAL SAMPLING EVENT OF 2021 ALTERNATE SOURCE DEMONSTRATION REPORT

Gavin Bottom Ash Pond

Gavin Power, LLC

Second Semiannual Sampling Event of 2021 Alternate Source Demonstration Report

Gavin Power Plant
Cheshire, Ohio

31 January 2022

Project No.: 0589450

The business of sustainability

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Signature Page

31 January 2022

Gavin Bottom Ash Pond

Second Semiannual Sampling Event of 2021 Alternate Source Demonstration Report

Gavin Power Plant
Cheshire, Ohio

David Shotts
Principal-in-Charge

Joseph Robb, P.G.
Project Manager

ERM Consulting & Engineering, Inc.

One Beacon Street
5th Floor
Boston, MA
02108

T: +1 617 646 7800
F: +1 617 267 6447

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Acronyms and Abbreviations

Name	Description
ASD	Alternate Source Demonstration
BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
CCR	Coal Combustion Residuals
CCR Rule	Coal Combustion Residuals in Landfills and Surface Impoundments
CFR	Code of Federal Regulations
Gavin	Gavin Power, LLC
mg/L	milligrams per liter
NFAP	North Fly Ash Pond
Plant	General James M. Gavin Power Plant
SFAP	South Fly Ash Pond
SSI	Statistically significant increase
TDS	Total Dissolved Solids
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 Appendix III constituents for the second semiannual groundwater sampling event of 2021 and are explained in this Alternate Source Demonstration (ASD) Report.

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.

1. An alternative source exists.
2. A hydraulic connection exists between the alternative source and the well with the significant increase.
3. 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.
4. 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.
5. 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.
6. 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 beneath the BAP. The groundwater monitoring program and ASD have been prepared utilizing accepted practices incorporating both site specific and regional information in their development. Feedback from the United States Environmental Protection Agency (USEPA) has been received and discussion has been initiated that may result in potential refinement to the groundwater monitoring program and/or this ASD.

1.2 Background

The Plant is a coal-fired generating station located in Gallia County in Cheshire, Ohio (Figure 1-1), and is bounded to the east by the Ohio River (Figure 1-2). 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 groundwater monitoring well network 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). In addition, monitoring well B-0904 is located south of the BAP and is used in this ASD Report to define the shallow groundwater quality migrating from the Kyger Creek North Fly Ash Pond (NFAP) under the BAP. Monitoring wells BAC-06 and BAC-07 were installed in 2020 to provide two additional upgradient monitoring wells screened in the uppermost aquifer. The uppermost alluvial aquifer (Figure 1-4) monitored by the groundwater well network exhibits the following characteristics (Geosyntec 2016; ERM 2021a):

- The alluvial aquifer consists of fine to coarse sand with some gravel that grades progressively finer with decreasing depth;
- It is approximately 10-feet to 35-feet thick in the BAP area; and
- It is located below an approximate 20-foot-thick silty clay confining layer and above a shale bedrock unit of the Conemaugh Group.

Consistent with the CCR Rule and the Groundwater Monitoring Plan developed for Gavin (ERM 2017), a prediction limit approach was used to identify potential effects 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 sampling events performed from August 2016 to July 2017. The 2017 report compared upper and lower prediction limits to the August 2017 results from the downgradient wells. ASD reports (ERM 2018b, ERM 2018c, ERM 2019a, ERM 2019b, ERM 2020a, ERM 2020b, ERM 2021b, ERM 2021c) were prepared to address SSIs which were identified during the initial and subsequent reporting periods.

The second semiannual groundwater sampling event of 2021 was performed in September 2021. The data from this sampling event were compared to the upper and lower prediction limits and SSIs for Appendix III analytes were identified. Table 1-1 summarizes occurrences of SSIs from the September 2021 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	ϕ
Fluoride	X	ϕ	ϕ	X
pH	X	X	X	ϕ
Sulfate	X	X	X	X
Total Dissolved Solids	X	ϕ	X	X

Notes: ϕ = No SSI; X = SSI; BAP = Bottom Ash Pond; SSI = statistically significant increase.
Results are for the downgradient wells sampled in September 2021.

Consistent with previous ASD Reports, this ASD Report identifies the regional discharge of groundwater as the source of calcium, chloride, fluoride, sulfate, and total dissolved solids (TDS) and the Kyger Creek NFAP is identified as the source of boron and low pH. Supporting information and additional discussion of each of the lines of evidence discussed in Section 1.1 are presented in subsequent sections of this ASD Report.

2. DESCRIPTION OF ALTERNATE SOURCES

The first ASD Report for the BAP (ERM 2018b) identified and described alternate sources for the Appendix III constituents that included the discharge of bedrock groundwater to the uppermost aquifer near the BAP, and migration of CCR-impacted groundwater from the neighboring Kyger Creek Generating Station. A summary of each of these alternate sources is provided below.

2.1 Ohio River

The Ohio River extends approximately 981 river miles from Pittsburgh, Pennsylvania to Cairo, Illinois and drains an area of approximately 205,000 square miles (ORSANCO 2018). The Ohio River is approximately 700 feet east of the BAP, and the alluvial aquifer beneath the BAP is hydraulically connected to the river. When the Ohio River floods, water from the river mixes with groundwater within the alluvial aquifer (ERM 2018b) beneath the BAP. 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. The mixing of groundwater and river water is discussed in Section 3; the quality of the Ohio River water that mixes with groundwater is discussed in Section 4.

2.2 Regional Background

The regional bedrock geology near the Plant includes Pennsylvanian-age sedimentary rocks from the Monongahela and Conemaugh Formations, with the Morgantown and Cow Run Sandstone members being part of the latter. These sedimentary rocks consist primarily of shale and siltstone, with minor amounts of mudstone, sandstone, and incidental amounts of limestone and coal (United States Geological Survey [USGS] 2005). Overlying the Pennsylvanian-age rocks are Quaternary-age alluvium that consists primarily of sand, silt, clay, and gravel (Ohio Environmental Protection Agency [OEPA] 2018). The sedimentary rocks form the ridges and valleys west of the Ohio River, and the unconsolidated sand, silt, clay, and gravel, are located along the Ohio River and tributaries. The consolidated sedimentary rocks and the unconsolidated alluvium form the two major aquifers near the Plant (Figure 1-4). The interaction of groundwater with rocks and minerals within these aquifers can influence the concentration of Appendix III constituents, for example via dissolution (ORSANCO 1984).

Naturally occurring brine, which is known to have elevated levels of chloride, fluoride, sulfate, and other trace elements, exists in the subsurface in the Ohio River Valley (Stout et al. 1932; ORSANCO 1984; ODNR 1995). The Cow Run Sandstone is the shallowest bedrock unit where brine has been observed (Phalen 1919). Some of the brines also exist near the land surface. For example, 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 Gavin plant includes specific conductivity measurements at several monitoring wells upgradient of the Fly Ash Reservoir that are consistently greater than 10,000 uS/cm.

To account for natural and anthropogenic influences on Appendix III constituents on a regional scale, background groundwater data were obtained from USGS databases. The background groundwater data set is discussed further in Section 4.

2.3 Kyger Creek Generating Station

The Kyger Creek Generating Station is located along the Ohio River in Gallia County, south of the Plant (Figure 2-1). The Kyger Creek Fly Ash Pond complex consists of the 110-acre NFAP and 60-acre South Fly Ash Pond (SFAP). The construction history and groundwater monitoring results of these ponds are summarized in the first ASD Report (ERM 2018b). The Kyger Creek NFAP is located less than 300 feet from the BAP and the units share an approximately 2,000-foot-long border (Figure 2-1). BAC-06 and BAC-07 were installed along the top of the berm along this boundary and B-0904 is installed at the base of the berm. Average groundwater flow at the BAP is from the west-southwest, including groundwater from the Kyger Creek NFAP, to northeast (Figure 2-2). The Kyger Creek NFAP has a higher potential to impact groundwater than the BAP because the Kyger Creek NFAP contains fly ash, which when compared to bottom ash, has a greater tendency to leach CCR constituents due to higher concentrations of CCR constituents and increased surface area due to smaller particle size (Cox et al. 1978; Jones et al. 2012), as described further in Section 7.

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). A summary of each of these connections is provided below.

3.1 Ohio River

Both the Gavin BAP and the Kyger Creek NFAP are located above the alluvial aquifer (Geosyntec 2016; AGES 2016; ERM 2018b, ERM 2021a). Groundwater in the alluvial aquifer typically flows from the vicinity of the BAP and Kyger Creek NFAP toward the Ohio River (ERM 2018b; ERM 2021a). Exceptions to this flow direction occur when the elevation of the surface water in the Ohio River exceeds approximately 542 feet above mean sea level (ERM 2018b). When this water level condition occurs, groundwater flow reverses and generally flows westward from the Ohio River toward the BAP and Kyger Creek NFAP (ERM 2018b). The correlation of the flow reversals with Ohio River flooding is strong evidence that the alluvial aquifer is hydraulically connected to the Ohio River (ERM 2018b).

3.2 Regional Background

Regional groundwater within the fractured sedimentary bedrock flows from northwest to southeast toward the Ohio River (ORSANCO 1984). Precipitation that falls in areas of higher topographic elevation northwest of the Plant infiltrates the land surface and recharges the underlying aquifers. Groundwater then flows from areas of higher topographic elevation (which correspond to higher hydraulic head) to areas of lower topographic elevation (which correspond to lower hydraulic head). As groundwater flows from northwest to southeast, it migrates both horizontally and vertically through a network of fractures within the sedimentary bedrock. Near the Plant, groundwater in the bedrock aquifer discharges to the alluvial aquifer and mixes with groundwater in the alluvial aquifer, which then discharges to the Ohio River (Figure 3-1). Thus, regional groundwater is hydraulically connected to the downgradient BAP monitoring wells (ERM 2018b).

3.3 Kyger Creek Generating Station

The Ohio River stage elevation records were used to identify the frequency and duration of typical flow reversals as discussed in Section 3.1. This information was combined with the groundwater velocity estimates to develop groundwater flow paths under the BAP (ERM 2018b). The following four key points are associated with the interpreted groundwater flow paths:

- The Kyger Creek NFAP is hydraulically upgradient of the four monitoring wells (BAC-02, BAC-03, BAC-04, and BAC-05) that are downgradient of the Gavin BAP.
- Due to the prevailing northeast flow direction, the Kyger Creek NFAP is not situated upgradient of the western edge of the BAP where upgradient monitoring wells MW-1, BAC-01, and MW-6 are located.
- Monitoring wells BAC-06 and BAC-07 are located downgradient of the Kyger Creek NFAP and upgradient of the BAP. These wells are screened at a lower elevation than B-0904 and monitor groundwater flowing from the NFAP that is vertically mixing with regional groundwater.
- Monitoring well B-0904 is directly downgradient of the Kyger Creek NFAP and upgradient of the BAP.

It is evident that the Kyger Creek NFAP is hydraulically connected to the downgradient BAP monitoring wells (ERM 2018b) based on the prevalent northeastern direction of groundwater flow and the presence of the same alluvial aquifer beneath both the Kyger Creek NFAP and the Gavin BAP.

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

4.1 Ohio River

Recent measurements show the pH of the Ohio River is near neutral and the pH of groundwater emanating from the Kyger Creek NFAP, as observed in well B-0904, is slightly acidic (ERM 2018b). Historical groundwater results have also indicated that groundwater within the Kyger Creek NFAP was observed to be slightly acidic (Appendix A). As described in Section 3, the hydrogeologic data indicate that water from the Ohio River mixes with groundwater in the alluvial aquifer during times of river flooding. This mixing process results in an intermediate pH that is between the pH of the Ohio River and the pH of the Kyger Creek NFAP. Table 4-1 and Figure 4-1 summarize this pattern observed in the September 2021 data.

Table 4-1: Groundwater and Surface Water pH Values

Location	pH
Kyger Creek NFAP Upgradient Groundwater (B-0904, March 2020)	5.26
BAP Upgradient Groundwater (BAC-06 and BAC-07, September 2021)	6.32-6.76
BAP Downgradient Groundwater (BAC-02 through BAC-05, September 2021)	6.09-6.69
Ohio River (September 2021)	7.32

Notes: BAP = Bottom Ash Pond; NFAP = North Fly Ash Pond

The September 2021 results remain consistent with previous ASD Reports for the BAP (ERM 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2021b, and 2021c). These results demonstrate that the pH of the Ohio River water is higher than Kyger Creek groundwater; the mixing of these waters results in the intermediate pH observed in groundwater downgradient of the BAP. Monitoring wells BAC-06 and BAC-07 are not similarly impacted by acidic groundwater migrating from Kyger Creek, as evidenced by the higher pH, because the well screens are deeper than the well screen at B-0904, and are more influenced by the regional discharge of groundwater from bedrock to the alluvial aquifer, as described further in Section 6 (Figure 4-1).

4.2 Regional Background

Regional background groundwater quality data were obtained from the USGS National Water Information System database. Groundwater results were selected for monitoring wells constructed within the alluvial, Monongahela Group, and Conemaugh Group aquifers located within 50 miles of the Plant (Figure 4-2). The USGS background data were compared to downgradient BAP data (Wells BAC-02, BAC-03, BAC-04, and BAC-05) and Ohio River data collected in September 2021. As presented in Table 4-2, the concentrations of calcium, chloride, fluoride, sulfate, and TDS in groundwater downgradient of the BAP are generally between the concentrations in USGS background data for regional groundwater (within 50 miles of the Plant) and the Ohio River. These results are consistent with previous ASD Reports for the BAP (ERM 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2021b, and 2021c) and, along with Figure 3-1, demonstrate that calcium, chloride, fluoride, sulfate, and TDS are present along flow pathways from the sedimentary bedrock aquifers to the alluvial aquifer beneath the BAP.

Table 4-2: Comparison of USGS Regional Background to BAP and Ohio River

Analyte	Units	USGS Background (Max)	Downgradient BAP[a]	Ohio River[a]
Calcium	mg/L	520	84-130	33
Chloride	mg/L	9,900	22-69	25
Fluoride	mg/L	8.8	0.065-0.2	0.14
Sulfate	mg/L	2,700	180-340	66
TDS	mg/L	9,910	470-860	220

Notes: BAP = Bottom Ash Pond; mg/L = milligrams per liter; TDS = total dissolved solids; USGS = United States Geological Survey.
[a] Results from samples collected in September 2021.

4.3 Kyger Creek Generating Station

Figure 4-3 and Figure 4-4 depict the distribution of boron from the northern boundary of the Kyger Creek NFAP and along the flow pathways in map view (Figure 4-3) and cross section (Figure 4-4), as summarized by the following points:

- The concentration of boron in groundwater downgradient of the BAP (Figure 4-3 and Figure 4-4) ranges from 1.1 milligrams per liter (mg/L) to 3.0 mg/L in the September 2021 samples. The concentration of boron in surface water contained in the BAP was 0.43 mg/L in September 2021 and at upgradient wells BAC-01, MW-1, and MW-6 was less than or equal to 0.1 mg/L.
- The highest boron concentrations in BAP downgradient wells were measured at wells BAC-04 and BAC-05, which are located downgradient of the Kyger Creek NFAP.
- Monitoring well B-0904 is situated downgradient of the Kyger Creek NFAP and upgradient of the BAP and has a higher boron concentration than any BAP downgradient well. This well is screened in the upper silt and clay confining unit and is subject to less mixing with regional groundwater.
- Concentrations of boron decrease with distance downgradient from the Kyger Creek NFAP, along the northeastern flow path.
- Monitoring wells BAC-06 and BAC-07 demonstrated slightly lower concentrations than measured in groundwater from monitoring well B-0904, likely due to the slightly deeper position of the well screens and the greater influence of regional groundwater discharge from the underlying bedrock aquifer to the alluvial aquifer.

In addition to the OEPA correspondence that concluded that groundwater below the Kyger Creek NFAP appears to be impacted by a release from the Kyger Creek NFAP (Appendix A), the Kyger Creek SFAP data also suggest that boron is present in groundwater below both Kyger Creek fly ash ponds. Table 4-3 summarizes boron analytical results from two groundwater sampling events conducted in March and September 2020 at Kyger Creek SFAP downgradient monitoring wells (AGES 2021). The highest concentrations were observed on the northeastern and southeastern boundaries of the SFAP. The northeastern boundary was interpreted to be downgradient from the Kyger Creek NFAP in 2020 (AGES 2021). The Kyger Creek NFAP was closed in 1997 (CHA 2009).

Table 4-3: Kyger Creek SFAP Boron 2020 Results

Analyte	Units	Maximum	Average
Boron	mg/L	19	7.1

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

The average concentration of boron (7.1 mg/L) in the Kyger Creek SFAP is higher than the highest concentration of boron measured in groundwater beneath the BAP (3.0 mg/L) in September 2021. The Kyger Creek SFAP and NFAP both manage fly ash generated at the Kyger Creek Generating Station; thus, 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.

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

5.1 Ohio River

As described in Section 3 and in the first ASD Report for the BAP (ERM 2018b), the measured groundwater elevations around the BAP and the interpreted flow directions provide clear evidence of groundwater flow reversals and the mixing of Ohio River surface water and groundwater. The intermediate pH of groundwater downgradient of the BAP (i.e., the value between the pH of Kyger Creek groundwater and the pH of the Ohio River) is consistent with the mixing of river water and groundwater. This evidence suggests there is a linkage between groundwater downgradient of the BAP and the Ohio River.

5.2 Regional Background

As described in Section 3.2 and illustrated on Figure 3-1, groundwater flowing in the sedimentary bedrock aquifers discharges to the alluvial aquifer along the Ohio River, including the portion beneath the BAP. As described in Section 4.2, regional concentrations of calcium, chloride, fluoride, sulfate, and TDS are higher than respective groundwater concentrations downgradient of the BAP. Based on these observations, it is likely that the discharge of groundwater from the sedimentary bedrock aquifers to the alluvial aquifer under the BAP (Figure 5-1 and Figure 5-2) is an alternate source for these constituents. This evidence suggests that there is a linkage between groundwater downgradient of the BAP and regional background.

5.3 Kyger Creek Generating Station

When the river stage is low (Figure 5-1), groundwater in the alluvial aquifer migrates in a northeasterly direction from the Kyger Creek NFAP, under the BAP, and eventually discharges to the Ohio River. During times of higher river stage (Figure 5-2), groundwater in the alluvial aquifer temporarily reverses flow direction and river water flows into the alluvial aquifer. Despite the temporary reversals of groundwater flow caused by flooding of the Ohio River, the overall, long-term flow direction is to the northeast. This indicates that the source of boron detected in the monitoring wells downgradient of the BAP is the Kyger Creek NFAP.

6. RELEASES FROM THE BAP ARE NOT SUPPORTED AS THE SOURCES

6.1 Chemical Fingerprints

The geochemical fingerprints of surface water from the BAP, groundwater from the BAP, groundwater from the Kyger Creek NFAP, and surface water from the Ohio River were determined using a Piper diagram. The Piper diagram is a graphical procedure commonly used to interpret sources of dissolved constituents in water and evaluate the potential for mixing of waters from different sources (Piper 1944). The samples presented on the diagram were collected from 2012 through 2021. The primary observations and conclusions based on the BAP Piper diagram (Figure 6-1) are the following:

- Multiple samples collected from a single location (e.g., the Ohio River or Well B-0904) tended to be tightly clustered, indicating that the chemical signatures of individual locations were consistent over time.
- Groundwater from BAP upgradient wells MW-1, BAC-01, and MW-6 has a unique geochemical signature dominated by calcium and bicarbonate. This groundwater flows under the west-northwest portion of the BAP and does not appear to be influenced by the Ohio River or Kyger Creek NFAP based on the differences in their geochemical signatures.
- Groundwater from monitoring wells BAC-06 and BAC-07 is dominated by calcium with lesser proportions of carbonate and sulfate, and has an intermediate signature between the upgradient wells (BAC-01, MW-1 and MW-06) and groundwater from B-0904. These results, and the boron results discussed in Section 4.3, indicate groundwater from BAC-06 and BAC-07 may be a mixture of deeper non-impacted alluvial groundwater and shallower alluvial groundwater migrating from Kyger Creek.
- Groundwater from well B-0904, which is downgradient of the Kyger Creek NFAP and upgradient of the BAP, is dominated by calcium and sulfate and has a signature that is distinct from all other chemical signatures on the diagram.
- Surface water from the Ohio River exhibits a distinct signature that plots closer to the center of the Piper diagram.
- Groundwater from BAP downgradient wells BAC-02, BAC-03, BAC-04, and BAC-05 plots on the Piper diagram between the Ohio River and Kyger Creek NFAP groundwater. This is an independent line of evidence that groundwater under a majority of the BAP is a mixture of groundwater from the Kyger Creek NFAP (represented by well B-0904, which is upgradient of the BAP) and the Ohio River.

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

7. ALTERNATE SOURCE DATA ARE HISTORICALLY CONSISTENT WITH HYDROGEOLOGIC CONDITIONS

7.1 Ohio River

The hydraulic connection of the Ohio River to the alluvial aquifer was established after the last deglaciation (Kozar and McCoy 2004). Seasonal flooding events of the Ohio River, which has occurred periodically over the period that the Plant has existed, is the driving force behind the mixing of surface water and groundwater. Thus, source data for the Ohio River are historically consistent with the hydrogeologic conditions and findings of the monitoring program.

7.2 Regional Background

This ASD Report provides background groundwater quality data for the fractured sedimentary bedrock aquifers found within and beyond the boundary of the Plant. Flow patterns of regional groundwater through fractured bedrock near the BAP were established after the last deglaciation, which occurred approximately 14,000 years ago (Hansen 2017). Assuming a conservatively high effective porosity of 1 percent results in an estimated groundwater velocity of 80 feet per year for the Morgantown Sandstone and 50 feet per year for the Cow Run Sandstone (ERM 2020b). These rates would allow ample time for groundwater to migrate from upgradient regional sources onto Plant property since the end of the last glaciation. The data supporting these conclusions are historically consistent with hydrogeologic conditions and findings of the BAP monitoring program.

7.3 Kyger Creek Generating Station

The Kyger Creek NFAP was constructed in 1955 with its base on native soil, without an engineered liner system to contain leachate. The unit was used to manage fly ash until it was drained and closed in 1997, although dewatered ash is still present within the Kyger Creek NFAP (AEP 1994). The NFAP was not capped with a low permeability barrier at the land surface; therefore, there is no barrier to prevent the infiltration of precipitation, the migration of water through CCR materials in the subsurface and the subsequent recharge of boron-impacted water to the alluvial aquifer. Groundwater in the alluvial aquifer flows under the Kyger Creek NFAP in a northeasterly direction toward and under the Gavin BAP. Given the six decades that this unit has contained fly ash and the alluvial aquifer groundwater velocity estimates of 1,200 to 1,800 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 and low pH:

- The low concentration of boron in water from the BAP and the distribution of boron in groundwater beneath the BAP (Section 4).
- Analytical results from groundwater samples collected below the Kyger Creek SFAP suggest boron is 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 data as representative of Kyger Creek NFAP groundwater quality (Section 4).
- The chemical fingerprinting evidence suggests groundwater from Kyger Creek mixes with Ohio River water under the BAP (Section 6).
- The Ohio Environmental Protection Agency concluded that groundwater appears to be impacted by a release (i.e., elevated boron and low pH) from the Kyger Creek NFAP (Appendix A).

In addition, a comparison of the materials managed provides evidence that the BAP is not the source of boron – 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 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 samples from monitoring wells downgradient of the BAP collected in September 2021. Review of data for quality assurance and statistical comparison was complete on 2 December 2021. 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).

All SSIs in the downgradient BAP monitoring wells have been determined to result from alternate sources: mixing of upgradient groundwater with the Ohio River, regional groundwater discharge to the alluvial aquifer, and the Kyger Creek Power Plant NFAP. Table 8-1 summarizes the six lines of evidence for each of the SSIs.

Table 8-1: BAP ASD Summary

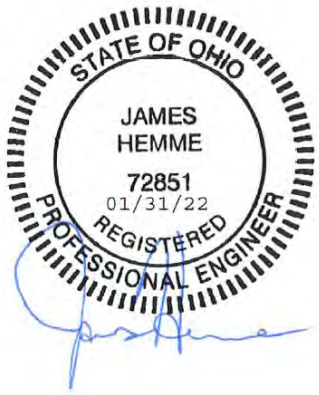
Analyte	SSI Location	Six Lines of Evidence from USEPA Guidance					
		Alternate Source	Hydraulic Connection	Constituent Present at Source or along Flow Path	Constituent Distribution More Strongly Linked to Alternate Source	Constituent Could Not Have Resulted from the BAP	Data Are Historically Consistent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

In conclusion, the BAP is not the source of the SSIs associated with the second semiannual sampling event groundwater results for 2021. Thus, Gavin will continue detection monitoring at the BAP in accordance with 40 CFR § 257.94(e)(2).

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.



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

Date: 1/31/2022

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FIGURES

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

ERM

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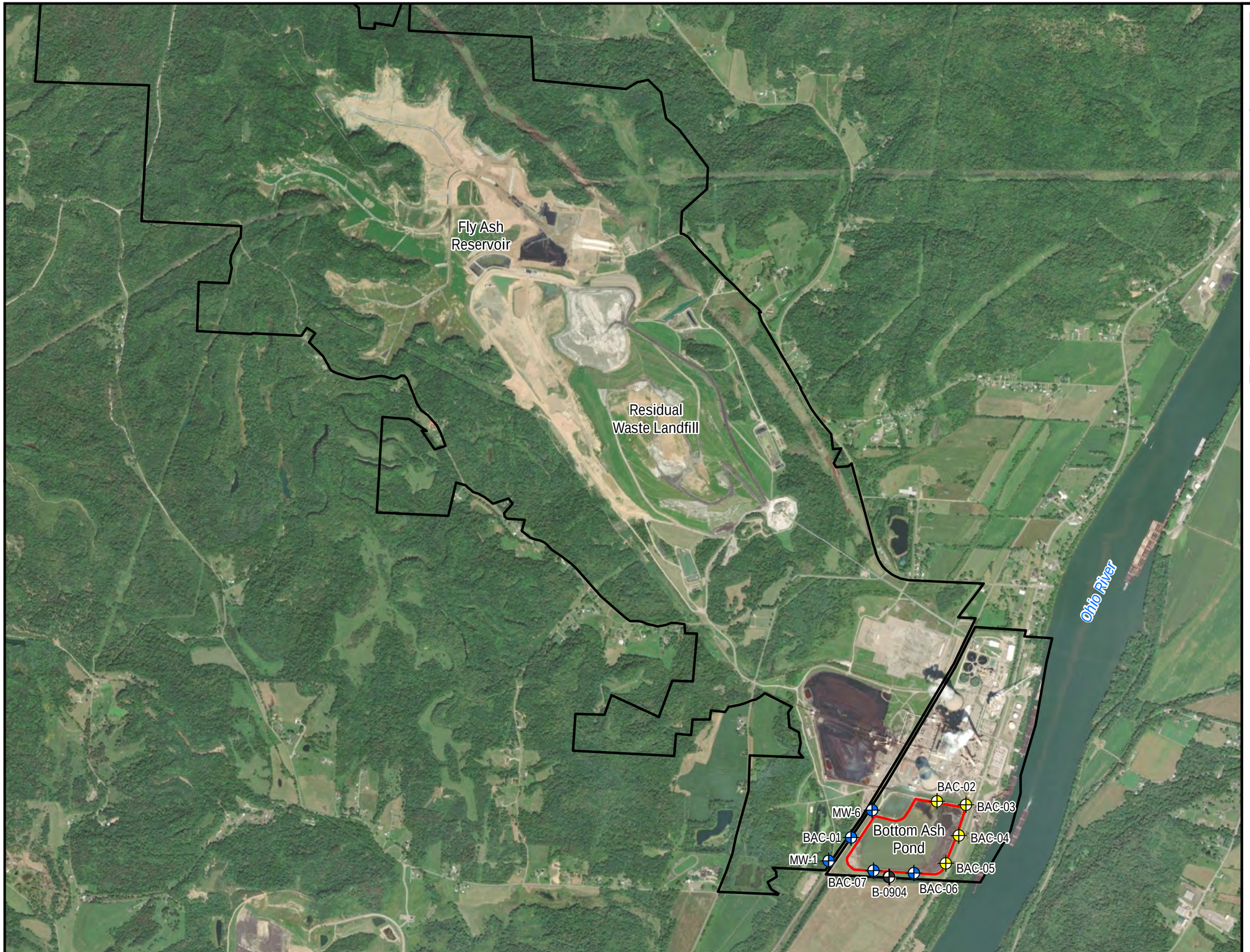

Legend

- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Upgradient Monitoring Well (Not in Federal Program)
- Bottom Ash Pond
- Gavin Property Boundary

N

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

Figure 1-2: Bottom Ash Pond Location
Gavin Generating Station
Cheshire, Ohio

ERM

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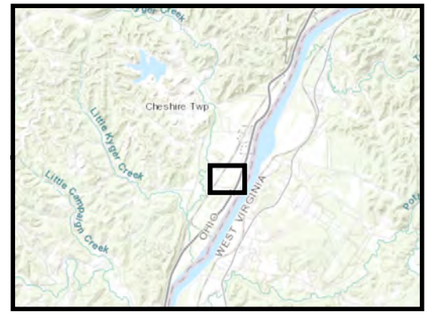

Legend

- Federal Upgradient Monitoring
- Federal Downgradient Monitoring
- Upgradient Monitoring Well (Not in Federal Program)
- Approximate location of Bottom Ash Pond boundary

NOTES:
1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.7

N

0 62.5 125 250 375 500
Feet

Figure 1-3: Existing Monitoring Well Network
Gavin Generating Station
Cheshire, Ohio

ERM

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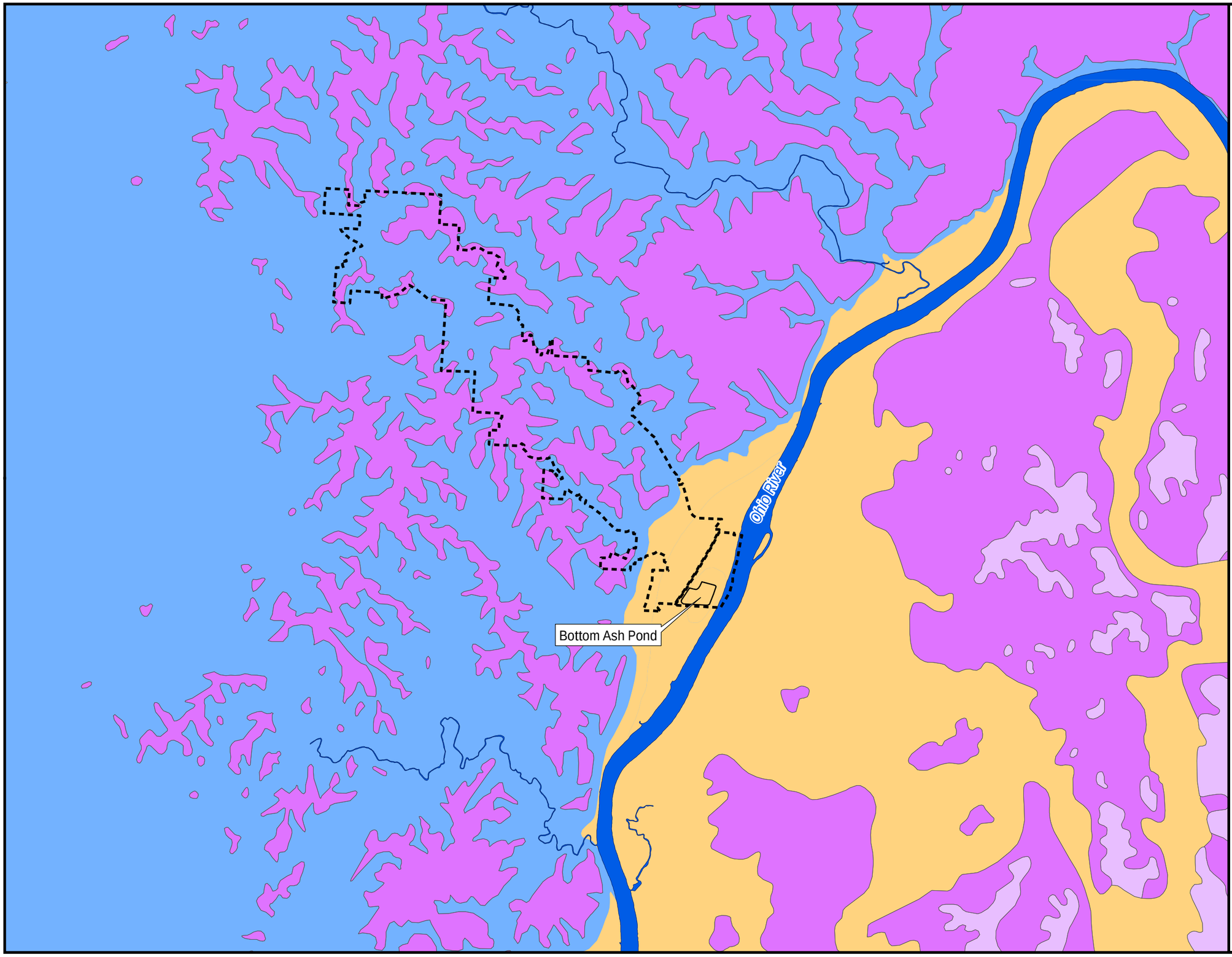
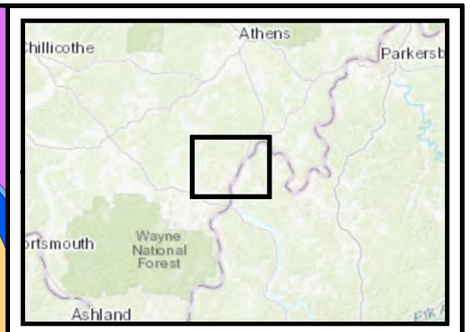




Legend

- Gavin Property Boundary
- Alluvial Aquifer

Sedimentary Aquifers

- Dunkard Group
- Monongahela Group
- Conemaugh Group

NOTES:
1. Alluvial aquifer data from Ohio EPA and Sedimentary aquifer data from USGS

N

0 0.25 0.5 1 1.5 2
Miles

Figure 1-4: Sedimentary and Alluvial Aquifers
Gavin Generating Station
Cheshire, Ohio

ERM

General James M. Gavin Plant

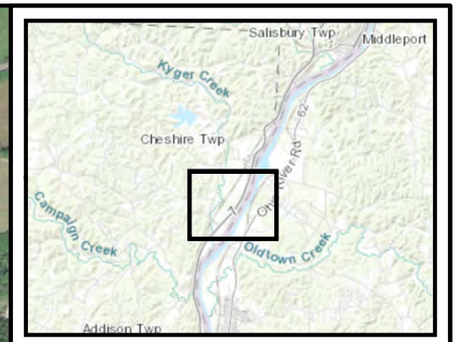
MW-6
BAC-02
BAC-03
BAC-01
Gavin
Bottom Ash
Pond
BAC-04
BAC-07
MW-1
BAC-05
BAC-06
B-0904

Kyger Creek
North Fly Ash Pond

Ohio River

Kyger Creek
South Fly Ash Pond

Kyger Creek
Generating Station



Legend

- Federal Upgradient Monitoring Well
- Federal Downgradient Monitoring Well
- Upgradient Monitoring Well (Not in Federal Program)
- 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.

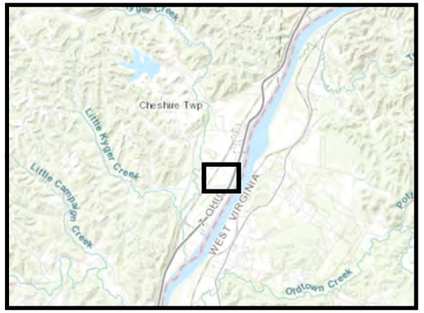
N

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

Figure 2-1: Location of Kyger Creek Generating Station
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Batavia\Team\DMW\Clients_F_K\Gavin\GavinPowerPlant\MXD\2021_GBP_ASD_Report\Figure2_2_LocationOfKygerCreekStation_20210720.mxd - nathan.roberts - 7/20/2021



Legend

- Federal Sampling Program Groundwater Monitoring Well
- 539.85 Groundwater Elevation (ft)
- Interpreted Groundwater Elevation Contour
- Interpreted Groundwater Flow Direction

NOTES:
1. Locations are approximate
2. Groundwater elevations based on measurements made on 9/14/2021
3. Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS 10.7

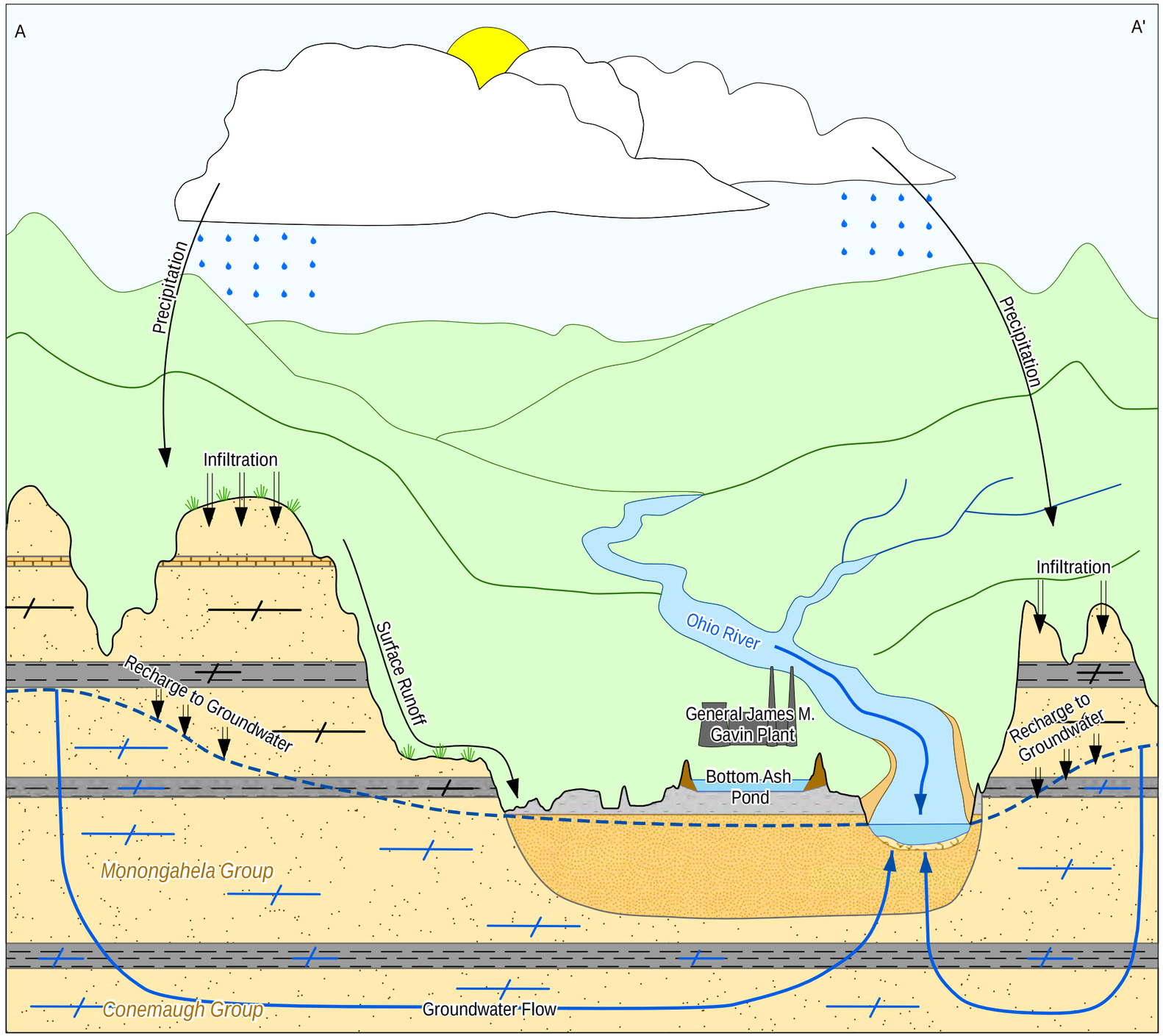
N

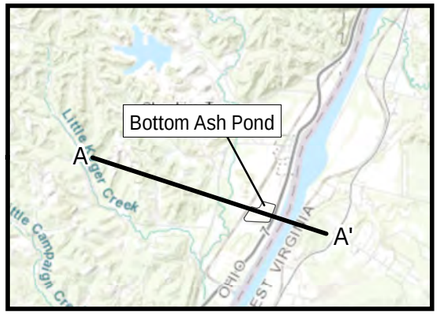
0 60 120 240 360 480
Feet

Figure 2-2: Interpreted Groundwater Potentiometric Contour September 2021
Gavin Power, LLC
Cheshire, Ohio

ERM

Q:\Boston\Team\DM\MV\Clients_F_K\Gavin\Gavin\Powe\Plant\MXD\GroundwaterElevations_Fall2021\Figure_GWP_September2021_GWFlowDirection_20211029.mxd - Meaghan.Schmidt - 11/09/2021





Legend

- Groundwater Flow Direction
- Water Table
- Saturated Fractures
- Unsaturated Fractures
- Fill
- Interbedded Silt/Clay
- Sand
- Coarse Sand Deposits
- Sandstone
- Fractured Limestone
- Fractured Shale

NOTES:

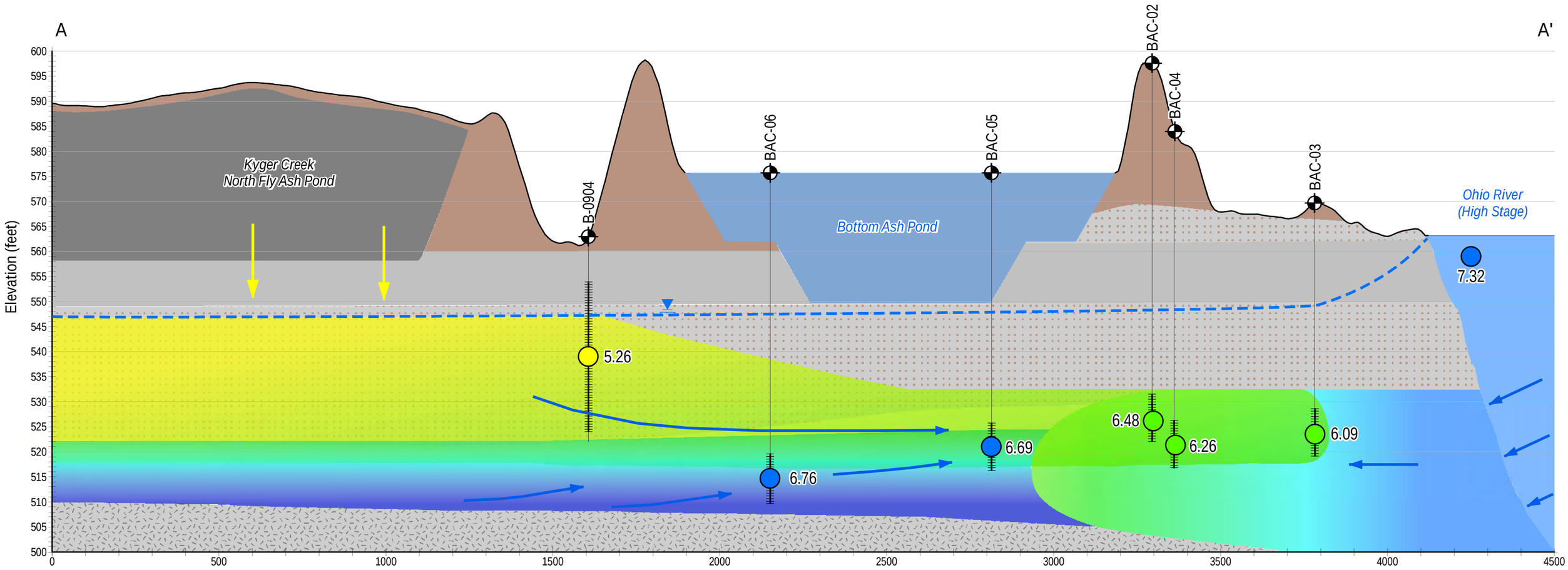
1. Sandstone bedrock units represent the Conemaugh Group and Monongahela Group Sedimentary Aquifers

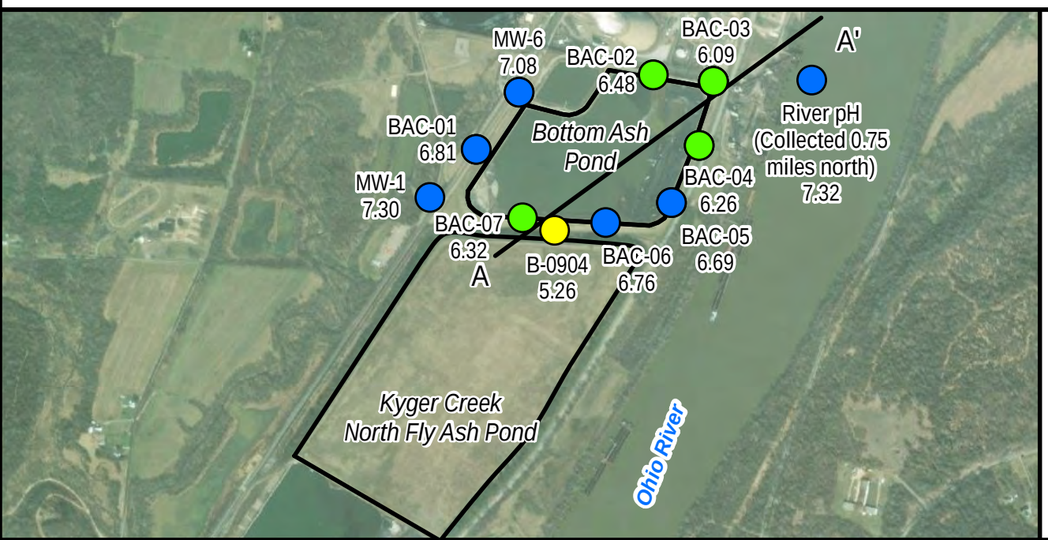
0 250 500 1,000 1,500 2,000 2,500 3,000
Feet

Figure 3-1: Regional Groundwater Flow Patterns
Gavin Generating Station
Cheshire, Ohio

ERM

Q:\Boston\team\MW\Clients_F_K\Kinnetic\GavinPowerPlant\MXD\2020_BAP_ASD_Report\Figure3_1_RegionalGWFlowPatterns_20200520.mxd - nathan.roberts - 5/20/2020





Legend

- Monitoring Well
- Cross Section Location
- Borehole
- Well Screen
- Interpreted High River Potentiometric Surface
- Interpreted Groundwater Flow Direction

pH (Standard Units)

- <6
- 6 - 6.5
- >6.5

Interpreted Geology

- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

NOTE:
- Data collected September 2021 and B-0904 collected in March 2020.

Figure 4-1: pH of the Ohio River and BAP Groundwater
Gavin Generating Station
Cheshire, Ohio

ERM

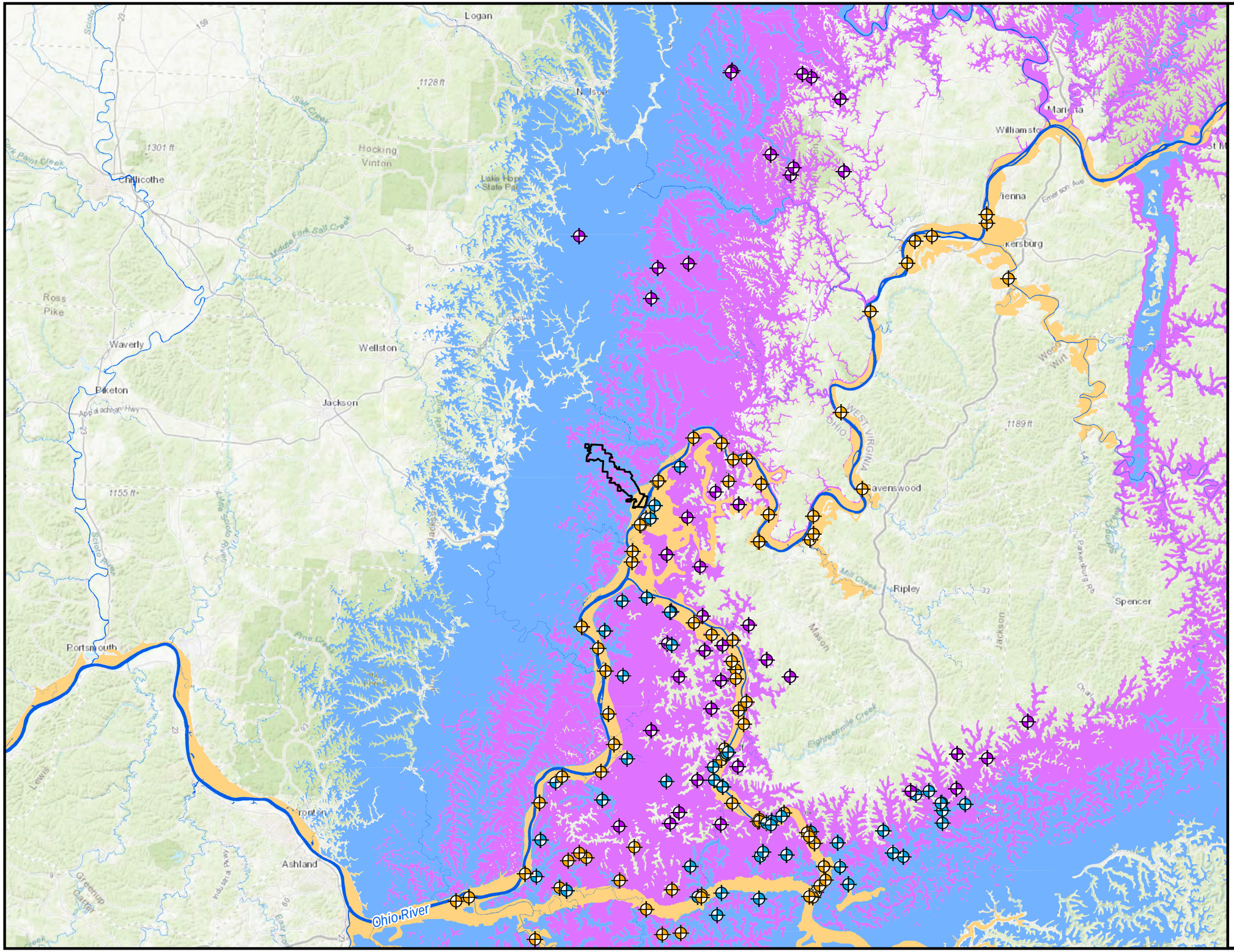
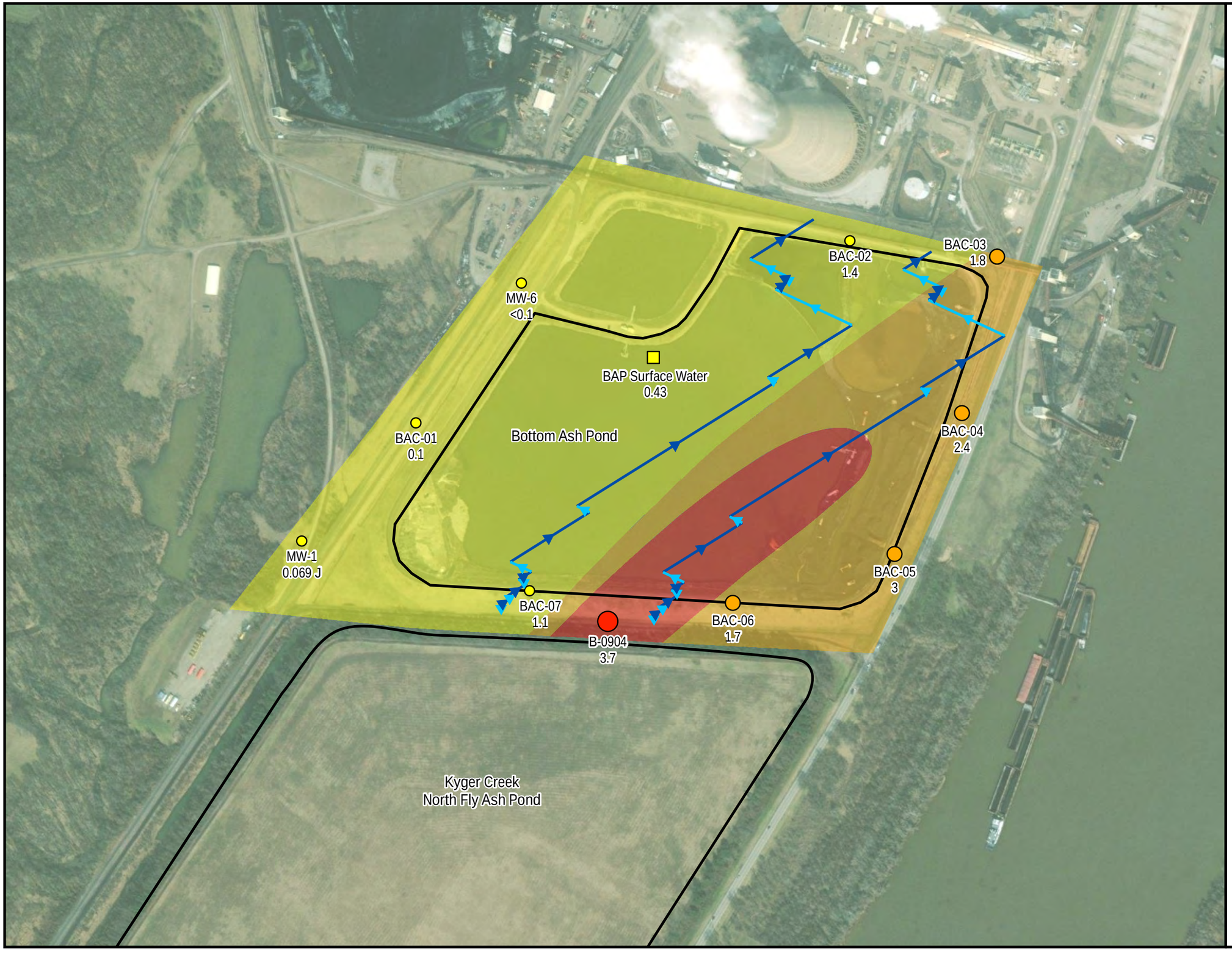
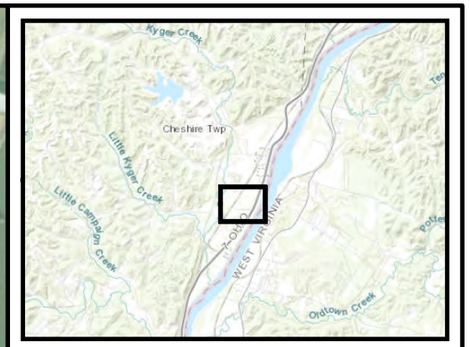


Figure 4-2: Locations of Background Groundwater Monitoring Wells
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

0.054 Boron Concentration (mg/L)

Low (Typical) River State Groundwater Flow Direction to the Northeast*

High River Stage Groundwater Flow Direction to the Northwest*

Coal Combustion Residuals Unit

Boron Concentration in Groundwater

<1.5 mg/L

1.5-3 mg/L

>3 mg/L

Sample Type

Groundwater

Surface Water

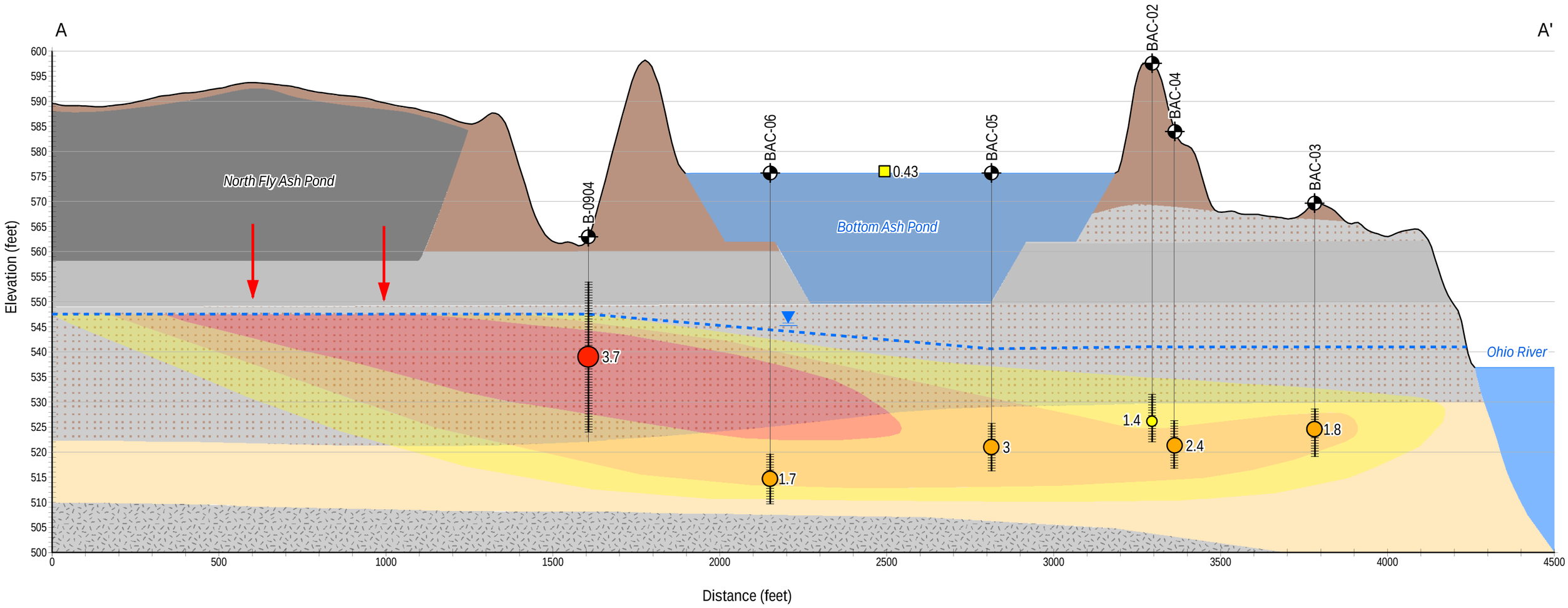
NOTES:
1. All boron data are from samples collected in September 2021 except from B-0904, which was collected in March 2020.
2. * Arrow length is relative to duration of low, high river stage.
3. J = Estimated value.

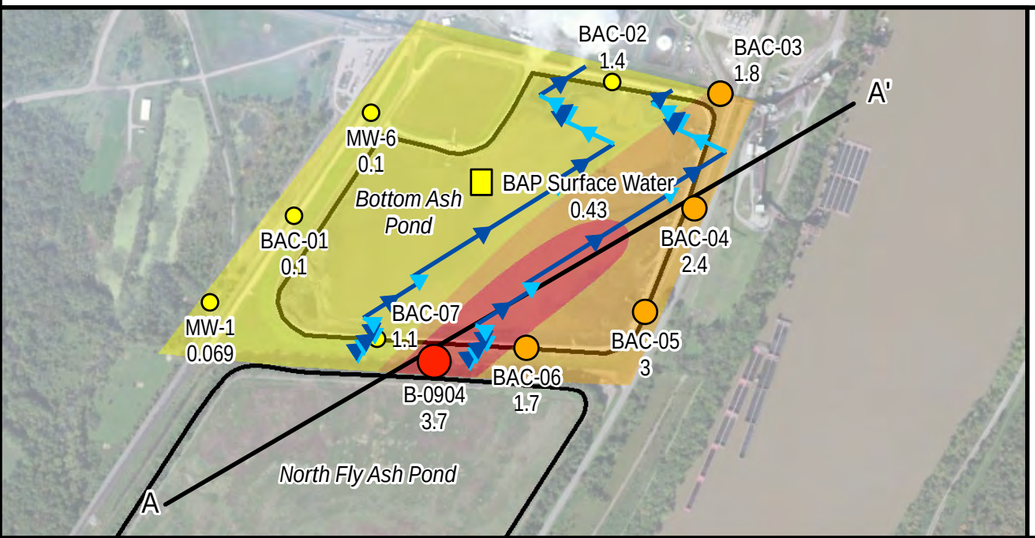
N

0 100 200 300 400 500
Feet

Figure 4-3: Boron Distribution in Groundwater
Gavin Generating Station
Cheshire, Ohio

ERM





Legend

- Monitoring Well
- Groundwater
- Surface Water
- Cross Section Location
- Borehole
- Well Screen
- Interpreted Piezometric Surface

Boron Concentrations in Groundwater (mg/L)

- <1.5
- 1.5-3
- >3

Interpreted Boron Concentrations (mg/L)

- <1.5
- 1.5-3
- >3

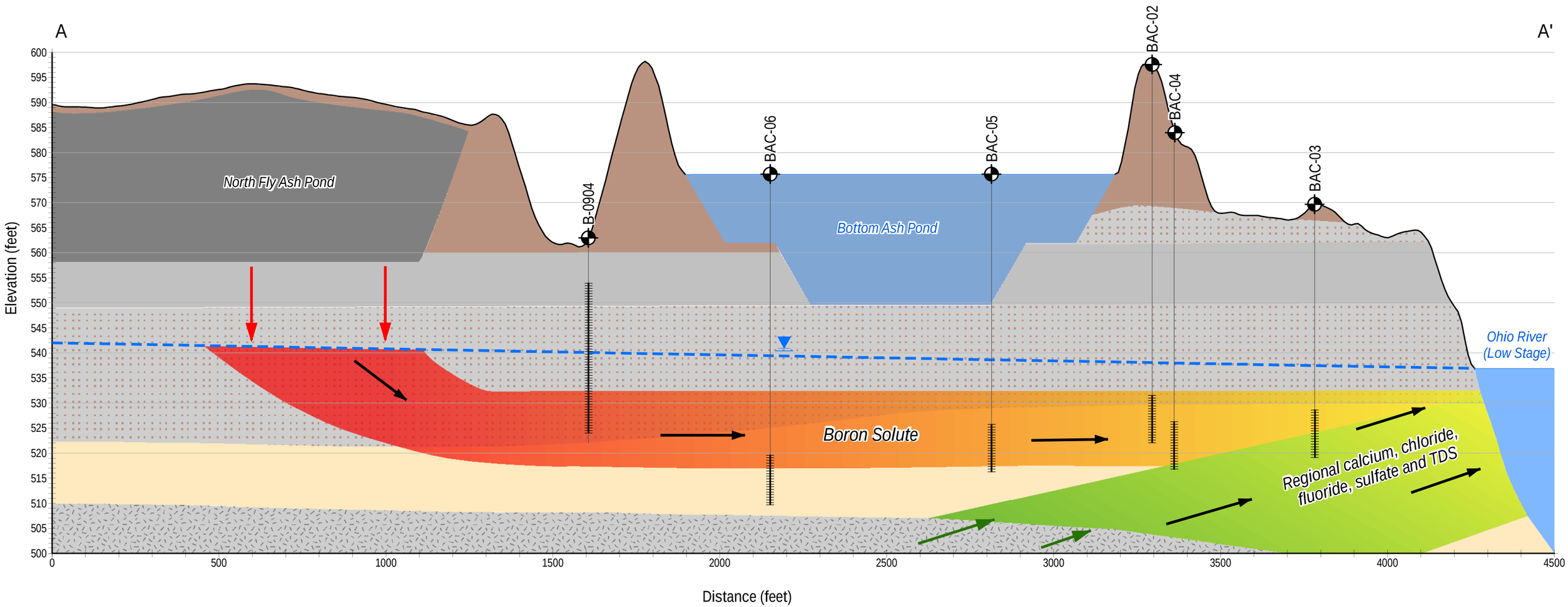
Interpreted Geology

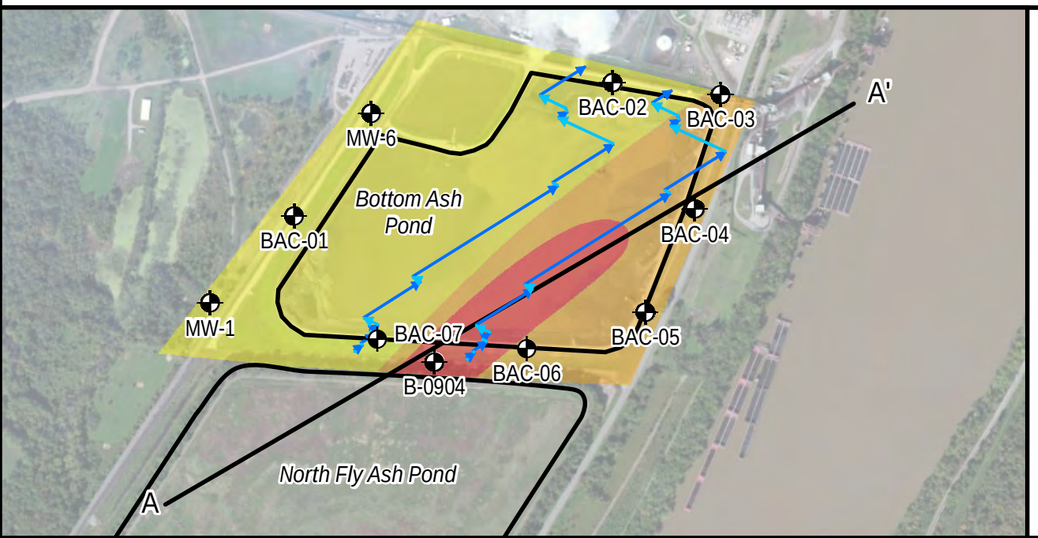
- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

Notes:
1. Groundwater elevations and Boron data from Fall 2021, except B-0904 from Spring 2020
2. Wells are truncated at water or land surface.

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

ERM





Legend

- Monitoring Well
- Cross Section Location
- Borehole
- Well Screen
- Interpreted Low River Piezometric Surface
- Low River Stage Flow Direction
- High River Stage Flow Direction
- Interpreted Groundwater Flow Direction
- Interpreted Leachate from NFAP
- Interpreted Regional Source of Ca^{2+}, Cl^-, F^-, SO_4^{2-}, and TDS

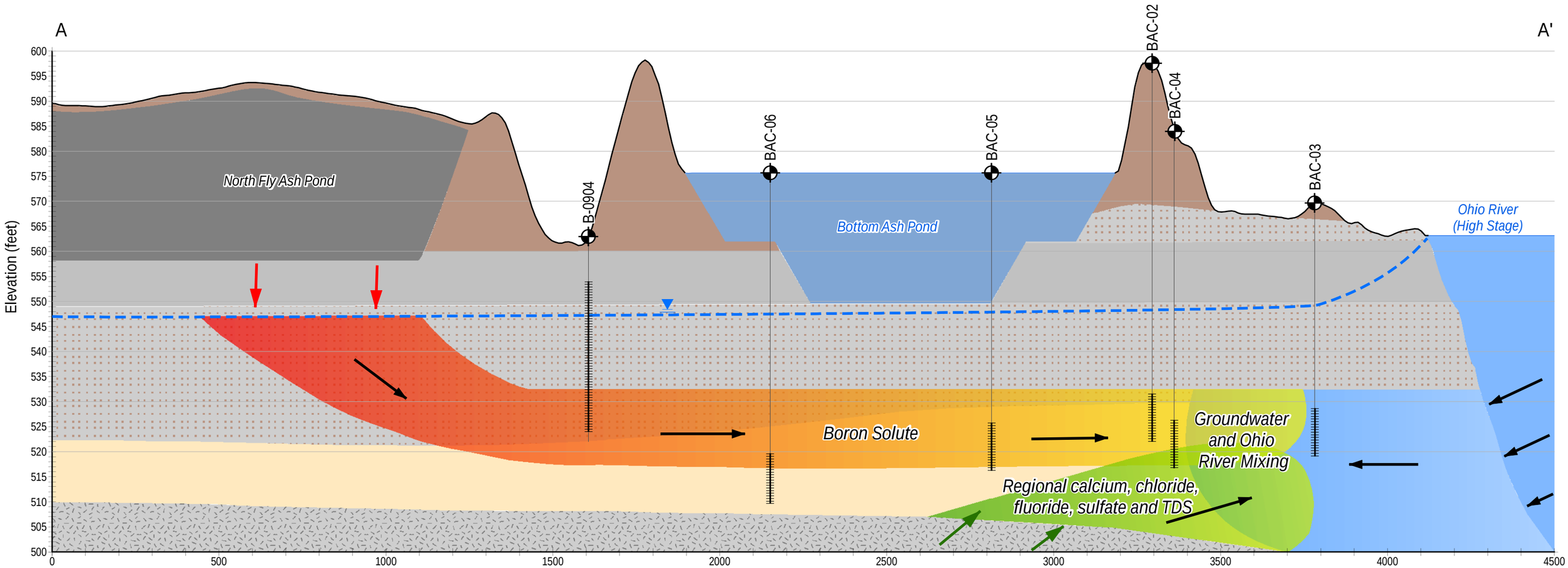
Interpreted Geology

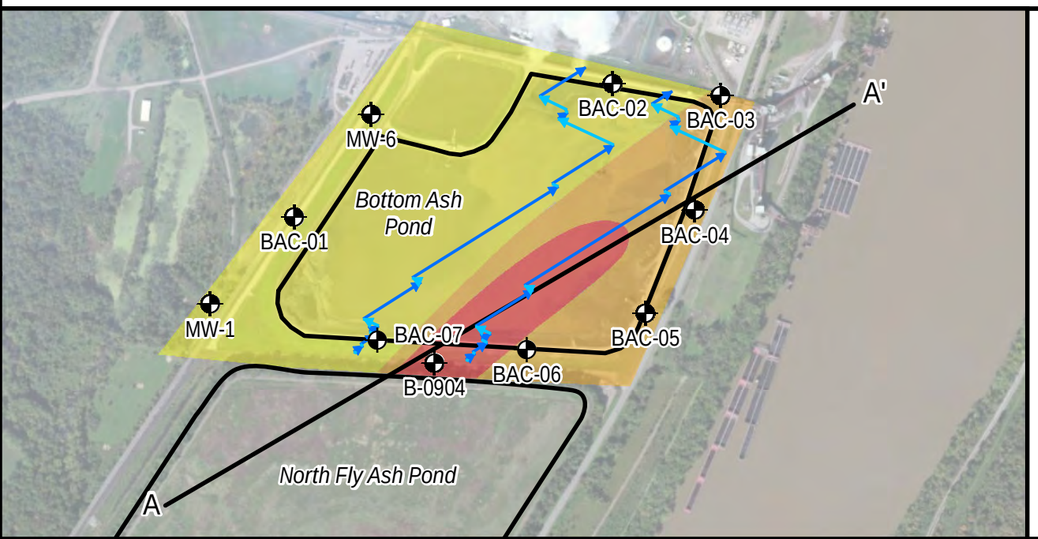
- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

Figure 5-1: Low River Stage Cross Section
Gavin Generating Station
Cheshire, Ohio

ERM

O:\Boston\Team\DMMV\Clients_F_K\Gavin\GavinPowerPlant\MXD\2021_BAP_ASD_Report\2nd_SemmiAnnual_BAP\Figure5_1_LowRiverStageCrossSection_20220125.mxd - nathan.roberts - 1/25/2022





Legend

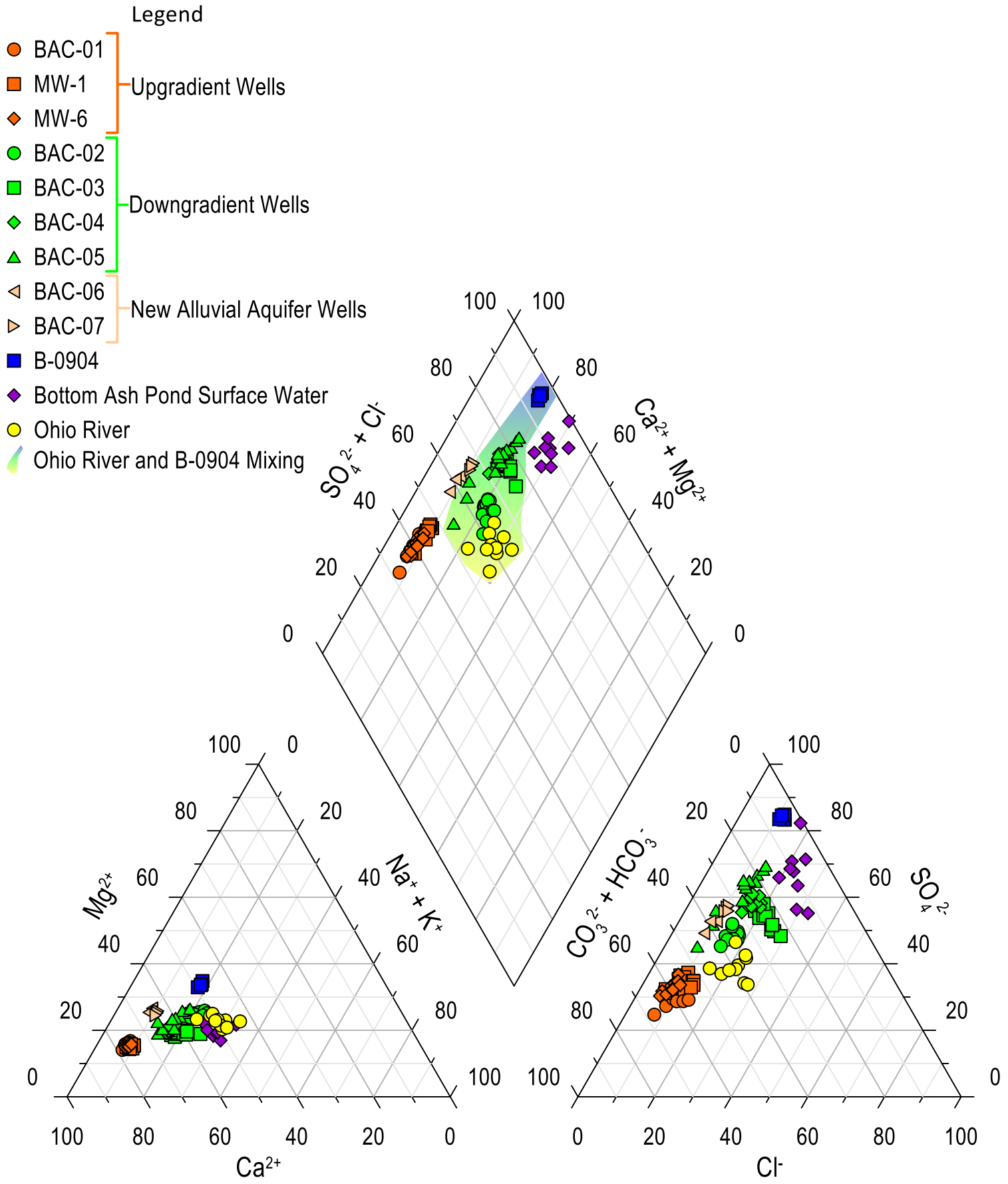
- Monitoring Well
- Cross Section Location
- Borehole
- Well Screen
- Interpreted High River Piezometric Surface
- Low River Stage Flow Direction
- High River Stage Flow Direction
- Interpreted Groundwater Flow Direction
- Interpreted Leachate from NFAP
- Interpreted Regional Source of Ca^{2+}, Cl^{-}, F^{-}, SO_4^{2-}, and TDS

Interpreted Geology

- Sandy Clayey Gravel with Bottom Ash
- Silt/Clay
- Silt/Clay Interbedded with Fine Sand
- Sand
- Bedrock

Figure 5-2: High River Stage Cross Section
Gavin Generating Station
Cheshire, Ohio

ERM



NOTES:
1. Date Range: March 2012 to September 2021
2. Only wells with complete data including all 8 piper diagram analytes are presented

Figure 6-1: BAP Piper Diagram
Gavin Generating Station
Cheshire, Ohio

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APPENDIX A

OhioEPA
State of Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138-9031
(614) 385-8501
FAX (614) 385-6490

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

****

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.

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

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APPENDIX C ANALYTICAL DATA SUMMARY

Appendix C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL
	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	BAC-01	BAC-01	BAC-01	BAC-01	BAC-02	BAC-02
	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	2020-09-09	2021-03-13	2021-09-18	2016-08-25	2016-10-03
	Sample Type	N	N	N	N	N	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	190	200	190		
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										6E-05	3E-05 J
Arsenic	mg/L	0.00078	0.00042	0.0004	0.00106	0.0022 J	0.005 U	0.005 U	0.005 U										0.00159	0.00124
Barium	mg/L	0.0725	0.0611	0.0641	0.0625	0.075 B	0.063	0.064	0.062										0.0515	0.0489
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										3.5E-05	2.3E-05
Bicarbonate Alkalinity as CaCO3	mg/L									220	240	210	200 B	190	200	190	200	190		
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	0.15 J	0.093 J	0.1	1.72	1.92
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										0.0003	0.00031
Calcium	mg/L	113	105	114	107	110 JB	100	110	110	110	100	100	100	96	100	96	100	100	149	156
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	20.4	21.5	22.2	23.4	23	22	22	23	23	19	25	27	21	27	29	32	34	82.8	91.8
Chromium	mg/L	0.0004	0.0002	0.000207	0.000312	0.0013 JB	0.002 U	0.002 U	0.002 U										0.0013	0.0008
Cobalt	mg/L	0.00052	0.000168	0.000164	0.000439	0.00095 J	0.0002 J	0.001 U	0.001 U										0.00333	0.00257
Conductivity, Field	uS/cm	645	646	661	644						621				633	612	622	618	1279	1355
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								0.63	0.39
Dissolved Solids, Total	mg/L	434	402	380	360	420	400	420 J	420 J	410	380	410	390	350	380	360	440	420	824	858
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	0.046 J	0.096	0.13	0.19	0.1 J
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										0.00284	0.00184
Lithium	mg/L	0.008	0.0009 J	0.006	0.004	0.0034 J	0.0024 J	0.0035 J	0.0038 J										0.01	0.004
Magnesium	mg/L			13.4	12.8	12 B	13	14	13	12	12	12	13	12	13	13	13	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										3E-06 J	7E-06
Molybdenum	mg/L	0.00037	0.00071	0.00055	0.00147	0.0014 J	0.01 U	0.01 U	0.01 U										0.00109	0.00044
Nickel	mg/L					0.0018 JB	0.002 U	0.002 U	0.002 U											
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	6.97	6.82	6.81	6.2	6.19
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	1.6	1.5	1.4		
Radium-226	pCi/L	0.244	0.323	0.186	0.173	0.0827 U	0.0201 U	0.418	0.0636 U										0.934	0.233
Radium-226/228	pCi/L	0.549	0.526	1.114	0.449	0.316	0.0267 U	0.559	0.195 U										1.073	0.855
Radium-228	pCi/L	0.305	0.203	0.928	0.276	0.233 U	0.00664 U	0.141 U	0.131 U										0.139	0.622
Redox Potential, Field	mV	148.6	166.8	93	135.6														112.3	164.6
Selenium	mg/L	0.0002	0.0002	0.0001	0.0001 J	0.0011 J	0.005 U	0.005 U	0.005 U										0.0003	0.0002
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	11	11	13		
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	100	95	94	288	341
Temperature, Field	deg C	16.2	13.9	13.8	14.4						14.5				14	14	13	14	19.9	17.2
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										0.000128	3E-05 J
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	26.5	10.4	5.38	8.1	9.6
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

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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 C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL
	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	BAC-02	BAC-02	BAC-02	BAC-02	BAC-03
	Date	2016-11-28	2017-02-07	2017-03-28	2017-05-03	2017-06-13	2017-06-13	2017-07-19	2018-02-28	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	2016-08-26
	Sample Type	N	N	N	N	FD	N	N	N	FD	N	FD	N	N	N	N	N	N	N	N
Analyte	Unit																			
Alkalinity, Total as CaCO3	mg/L	285	273							300	310	280	280	290 B	250	280	240	250	230	
Aluminum	mg/L			0.15	0.078	0.041 J	0.035 J	0.1												
Antimony	mg/L	4E-05 J	2E-05 J	0.00035 JB	0.002 U	0.002 U	0.002 U	0.002 U												5E-05
Arsenic	mg/L	0.00146	0.00067	0.00072 J	0.00075 J	0.005 U	0.00075 J	0.00078 J												0.00027
Barium	mg/L	0.0492	0.0358	0.05 B	0.048	0.049	0.051	0.052												0.0469
Beryllium	mg/L	2.6E-05	7E-06 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U												1E-05 J
Bicarbonate Alkalinity as CaCO3	mg/L								260	300	310	280	280	290 B	250	280	240	250	230	
Boron	mg/L	2.17	2.08	2.5 J	2.4	2.6 J	2.7 J	2.7 JB	2	2.3	2.4	2.5	2.5	2.3	1.4	1.9	1.3	1.7	1.4	2.14
Bromide	mg/L	0.624	0.483	0.73	0.12 J	0.74	0.74	0.77												
Cadmium	mg/L	0.0003	0.00025	0.00035 J	0.00032 J	0.00043 J	0.00041 J	0.00036 J												0.00015
Calcium	mg/L	168	161	170 JB	180	180	180	190	160	160	170	170	160	150	130	140	110	130	130	97.8
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	95	97.3	100	21	110	110	110	97	110	110	100	100	96	68	82	62	76	69	52.1
Chromium	mg/L	0.00129	0.00432	0.0012 JB	0.0015 J	0.0016 J	0.002 U	0.0011 J												0.0007
Cobalt	mg/L	0.00266	0.00178	0.0019	0.0018	0.0018	0.0017	0.0025												0.000468
Conductivity, Field	uS/cm	1436	1434								1469					1361	1091	1292	1177	767
Copper	mg/L			0.0014 JB	0.002 U	0.002 U	0.002 U	0.002 U												
Dissolved Oxygen, Field	mg/L	0.94	1.18								0.26									1.1
Dissolved Solids, Total	mg/L	896	860	1000	1000	1100 J	1000 J	1100 J	900	950	980	970	980	920	580	880	690	930	860	528
Fluoride	mg/L	0.08 J	0.17	0.17	0.032 J	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.2	0.15	0.15	0.18	0.12	0.14	0.19	0.07 J
Iron	mg/L			0.39 B	0.27	0.15	0.11	0.39												
Lead	mg/L	0.00158	0.000589	0.0008 J	0.00068 J	0.0006 J	0.00068 J	0.00089 J												0.00184
Lithium	mg/L	0.005	0.001 U	0.0022 J	0.008 U	0.008 U	0.008 U	0.0025 J												0.009
Magnesium	mg/L	43.9	43.9	46 B	51	51	52	49	41	44	47	44	45	44	36	43	33	36	37	
Manganese	mg/L			4.1 JB	4.3	4.4	4.5	4.7												
Mercury	mg/L	5E-06 U	3E-06 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U												5E-06 U
Molybdenum	mg/L	0.00081	0.00201	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U												0.00031
Nickel	mg/L			0.022 B	0.022	0.02	0.021	0.024												
pH, Field	pH units	6.14	6.1	6.18	6.13		6.08	6.02			6.18		6.2	6.33	6.43	6.43	6.5	6.3	6.48	6.12
Potassium	mg/L	3.66	3.43	3.6 B	3.7	3.6	3.6	4	3.8	3.8	3.9	3.6	3.6	3.8	2.6	3.5	2.6	2.6	2.8	
Radium-226	pCi/L	0.12	0.204	0.0599 U	0.0438 U	0.113	0.072 U	0.0813 U												0.0989
Radium-226/228	pCi/L	0.0347	0.1452	0.298 U	0.375 U	0.29 U	0.305 U	-0.104 U												0.2129
Radium-228	pCi/L	-0.0853	-0.0588	0.238 U	0.331 U	0.177 U	0.233 U	-0.186 U												0.114
Redox Potential, Field	mV	115.3	143.3																	213.7
Selenium	mg/L	0.0002	6E-05 J	0.00048 J	0.005 U	0.005 U	0.005 U	0.005 U												7E-05 J
Silver	mg/L			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U												
Sodium	mg/L	67.3	64.6	68 JB	74 B	73	74	73 JB	63	66	70	68	68	69	56	70	58	63	65	
Strontium	mg/L	0.499	0.479	0.55 B	0.56 B	0.51 B	0.53 B	0.63												
Sulfate	mg/L	359	346	410	80	430	420	440	360	390	390	390	400	370	310	340	260	360	340	211
Temperature, Field	deg C	16	16.2								17.5					15	17	16	17	18.6
Thallium	mg/L	9.3E-05	3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U												3E-05 J
Turbidity, Field	NTU	9.3	5.4	2.2	2.5		2	7.4			17.3		2.02		5	1	0.6	10.6	0.4	3.9
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:

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NTU = Nephelometric Turbidity Unit

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Appendix C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03	FEDERAL BAC-03
	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	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03	BAC-03
	Date	2016-10-03	2016-11-28	2017-02-07	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	2021-09-18	2021-09-18
	Sample Type	N	N	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N
Analyte	Unit																				
Alkalinity, Total as CaCO3	mg/L		96.6	88.2							100	93	91 B	85	100	100	86	89	85	86
Aluminum	mg/L				0.059	0.049 J	0.042 J	0.05 U	0.05 U											
Antimony	mg/L	2E-05 J	2E-05 J	3E-05 J	0.00048 JB	0.002 U	0.002 U	0.002 U	0.002 U											
Arsenic	mg/L	0.00024	0.00016	0.00031	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U											
Barium	mg/L	0.045	0.0422	0.0426	0.05 B	0.048	0.048	0.045	0.044											
Beryllium	mg/L	2E-05 U	2E-05 U	8E-06 J	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	85	86
Boron	mg/L	2.06	2.07	2.24	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	1.8	1.8
Bromide	mg/L		0.151	0.1 J	0.17 J	0.15 J	0.15 J		0.16 J											
Cadmium	mg/L	9E-05	8E-05	8E-05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U											
Calcium	mg/L	93.7	90.4	95.7	97 JB	96	96	89	88	95	96	92	91	87	100	100	73	83	84	84
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	52.8	48.2	52.2	68	72	72	62	61	62	56	57	59	52	78	78	63	79	64	64
Chromium	mg/L	0.0006	0.000458	0.00115	0.00054 JB	0.002 U	0.002 U	0.002 U	0.002 U											
Cobalt	mg/L	0.00026	0.000169	0.000317	0.00027 J	0.00024 J	0.00025 J	0.001 U	0.001 U											
Conductivity, Field	uS/cm	752	749	762							731				819	819	684	750	681	681
Copper	mg/L				0.0031 B	0.002 B	0.0019 JB	0.0017 JB	0.002 U											
Dissolved Oxygen, Field	mg/L	0.2	0.68	0.83							0.15									
Dissolved Solids, Total	mg/L	476	416	514	520	510	510	500 J	500 J	500	540	500	480	480	560	550	420	560	510	470
Fluoride	mg/L	0.09 J	0.07 J	0.07 J	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	0.066	0.065
Iron	mg/L				0.14 B	0.13	0.1	0.1 U	0.1 U											
Lead	mg/L	0.000641	0.00048	0.00168	0.00093 J	0.00096 J	0.00083 J	0.00055 J	0.001 U											
Lithium	mg/L	0.006	0.007	0.006	0.0056 J	0.0049 J	0.0049 J	0.0033 J	0.0067 J											
Magnesium	mg/L		16.2	17.6	17 B	18	18	17	17	17	17	16	18	16	20	19	15	16	17	16
Manganese	mg/L				0.24 JB	0.23	0.22	0.19	0.15											
Mercury	mg/L	1.6E-05	5E-06 U	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U											
Molybdenum	mg/L	0.00138	0.0005	0.0006	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U											
Nickel	mg/L				0.0044 B	0.0042	0.048	0.0035	0.0035											
pH, Field	pH units	6.03	6.04	6.05	6.07		6.05	5.89	5.93		6.16	6.12	6.26	6.19	6.19	6.19	6.27	6.05	6.09	6.09
Potassium	mg/L		1.9	2.12	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	1.9	1.9
Radium-226	pCi/L	0.13	0.0518	0.281	0.0181 U	0.065 U	-0.0333 U	0.0442 U	0.235											
Radium-226/228	pCi/L	-0.14	0.3818	0.17	0.102 U	0.345	0.271 U	0.0882 U	0.506											
Radium-228	pCi/L	-0.27	0.33	-0.111	0.0838 U	0.28 U	0.304 U	0.044 U	0.272											
Redox Potential, Field	mV	236.8	192.3	248.5																
Selenium	mg/L	6E-05 J	0.0001 U	4E-05 J	0.005 U	0.005 U	0.005 U	0.005 U	0.0011 JB											
Silver	mg/L				3.3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U											
Sodium	mg/L		30.5	31.2	31 JB	34 B	34 B	33	34 J	31	30	31	32	29	35	34	37	32	34	34
Strontium	mg/L		0.211	0.222	0.22 B	0.22 B	0.22 B	0.2 B	0.21											
Sulfate	mg/L	204	200	196	180	180	180	190	190 J	210	200	200	200	210	200	200	170	180	180	180
Temperature, Field	deg C	15.4	14.5	14.8							16.5				15	15	16	15	17	17
Thallium	mg/L	2E-05 J	1E-05 J	3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U											
Turbidity, Field	NTU	8.1	7.6	5.1	2.1		4.2	2.3	1.9		1.03	1.36		2	0.9	0.9	2.9	8	2.4	2.4
Vanadium	mg/L				0.005 U															
Zinc	mg/L				0.02 U	0.02 U	0.02 U	0.02 U	0.02 U											

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Bottom Ash Pond
Gavin Power Plant

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	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	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	2019-09-18	2019-09-18	2020-03-12	2020-09-10	2021-03-13
	Sample Type	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	N	N	N	N
Analyte	Unit																			
Alkalinity, Total as CaCO3	mg/L			107	111					92	91	96	91	100 B	100 B	96	96	100	89	96
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											
Arsenic	mg/L	0.00183	0.00134	0.00212	0.0017	0.002 J	0.0033 J	0.0045 J	0.0086											
Barium	mg/L	0.0624	0.0583	0.059	0.0597	0.06 B	0.07	0.065	0.077											
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											
Bicarbonate Alkalinity as CaCO3	mg/L									92	91	96	91	100 B	100 B	96	96	100	89	96
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	2.7	2.6	2.4	2.4	2.4
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											
Calcium	mg/L	99.1	98.2	96.7	99.6	94 JB	94	83	86	94	94	95	92	95	96	90	91	92	89	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
Chloride	mg/L	42.6	44.5	40.9	40		48	47	49	52	52	49	40	41	41	37	37	45	48	41
Chromium	mg/L	0.0006	0.0009	0.000238	0.00081	0.00034 JB	0.005	0.0029	0.0039											
Cobalt	mg/L	0.00807	0.00627	0.00577	0.00553	0.0066	0.0083	0.0087	0.0095											
Conductivity, Field	uS/cm	696	761	751	765							721						736	730	705
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	470	480	490	490	550
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	0.082	0.08	0.087	0.04 J	0.061
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											
Lithium	mg/L	0.007	0.006	0.01	0.006	0.0067 J	0.0068 J	0.0048 J	0.0082											
Magnesium	mg/L			17.7	18	18 B	19	18	17	18	18	18	17	18	18	17	17	18	19	17
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											
Nickel	mg/L					0.012 B	0.013	0.0088	0.012											
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		6.39	6.37	6.39	6.2
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	1.7	1.8	1.8	1.8	1.7
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											
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	26	27	28	28	25
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	230	230	210	230	220
Temperature, Field	deg C	19.35	16.6	15.1	15							19.6						15	19	15
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											
Turbidity, Field	NTU	9.1	5	9	9.2	0.8	44.7	58.9	108.1			33.2	21.5				28	34.8	32	30
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 C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL
	Location	BAC-04	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	BAC-05	BAC-05	BAC-05	BAC-05	BAC-05
	Date	2021-09-18	2016-08-26	2016-10-03	2016-11-28	2017-02-07	2017-03-28	2017-05-03	2017-06-13	2017-07-19	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
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit																			
Alkalinity, Total as CaCO3	mg/L	94			144	105					160	90	65	79	64 B	84	88	61	93	140
Aluminum	mg/L						0.11	0.17	0.43	0.43										
Antimony	mg/L		0.00023	7E-05	9E-05	3E-05 J	0.00048 JB	0.00057 J	0.002 U	0.002 U										
Arsenic	mg/L		0.00298	0.00143	0.00177	0.00065	0.00086 J	0.00097 J	0.0013 J	0.00084 J										
Barium	mg/L		0.0585	0.0478	0.0459	0.0495	0.04 B	0.052	0.039	0.041										
Beryllium	mg/L		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	94									160	90	65	79	64 B	84	88	61	93	140
Boron	mg/L	2.4	3.32	3.72	3.99	2.78	4.5 J	3.2	4.5 J	4.3 JB	3.9	2.9	2.8	2.8	2.5	2.5	2.8	2.5	2.9	3
Bromide	mg/L				0.09 J	0.1 J	0.13 J	0.14 J	0.1 J	0.1 J										
Cadmium	mg/L		0.00033	9E-05	5E-05	8E-05	0.001 U	0.001 U	0.001 U	0.001 U										
Calcium	mg/L	92	93.4	90.8	97.7	89	94 JB	100	90	87	84	74	70	76	70	69	79	68	73	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	42	31.6	28.5	24.6	36.2	24	34	21	21	21	32	31	37	37	32	29	38	29	22
Chromium	mg/L		0.0048	0.0018	0.00208	0.000652	0.0016 JB	0.0013 J	0.0027	0.0092										
Cobalt	mg/L		0.0111	0.00814	0.00536	0.00852	0.004	0.0078	0.0042	0.0037										
Conductivity, Field	uS/cm	693	730	706	702	751						673					694	709	674	699
Copper	mg/L						0.0013 JB	0.002 U	0.0023 B	0.0042										
Dissolved Oxygen, Field	mg/L		3.43	1.19	0.59	0.86						0.5								
Dissolved Solids, Total	mg/L	560	522	468	452	494	480	540	460 J	460 J	420	470	470	480	470	450	440	480	540	520
Fluoride	mg/L	0.087	0.1 J	0.15	0.17	0.1 J	0.21	0.17	0.22	0.21	0.22	0.11	0.091	0.092	0.084	0.094	0.13	0.041 J	0.1	0.2
Iron	mg/L						0.63 B	0.78	1.7	1.4										
Lead	mg/L		0.0066	0.00248	0.0021	0.000631	0.0008 J	0.0012	0.0019	0.0015										
Lithium	mg/L		0.015	0.007	0.01	0.006	0.0042 J	0.0048 J	0.0021 J	0.0045 J										
Magnesium	mg/L	19			16.9	17.9	16 B	20	16	15	16	18	19	19	20	19	19	20	17	21
Manganese	mg/L						3.4 JB	7.7	3	2										
Mercury	mg/L		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		0.00147	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										
pH, Field	pH units	6.26	6.58	6.63	6.64	6.2	6.72	6.47	6.63	6.53		6.06		6.09	6.1	6.31	6.33	6.15	6.26	6.69
Potassium	mg/L	1.8			1.7	1.7	1.4 B	1.6	1.4	1.5	1.4	1.6	1.7	1.6	1.8	1.4	1.6	1.5	1.2	1.4
Radium-226	pCi/L		0.41	1.12	0.378	0.0928	0.123	-0.0279 U	0.0494 U	0.0901 U										
Radium-226/228	pCi/L		0.127	2.056	0.554	0.2258	0.241 U	0.253 U	0.0636 U	0.13 U										
Radium-228	pCi/L		-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		0.0004	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	26			22.9	28.3	21 JB	28 B	22	21 JB	21	25	25	25	26	23	24	26	21	21
Strontium	mg/L				0.16	0.162	0.15 B	0.17 B	0.13 B	0.13										
Sulfate	mg/L	230	200	190	184	216	170	220 J	170	160	150	220	210	230	240	230	220	250	240	210
Temperature, Field	deg C	18	20.4	18.5	15.4	15.5						16.6					15	16	15	17
Thallium	mg/L		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	10	96.7	72.3	50.1	7.8	6.2	5.3	26.6	25.1		21.3		16.1		37	9.6	7.5	7.2	10.2
Vanadium	mg/L						0.005 U													
Zinc	mg/L						0.015 J	0.02 U	0.015 J	0.031										

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Appendix C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL
	Location	BAC-06	BAC-06	BAC-06	BAC-07	BAC-07	BAC-07	BAC-07	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	2020-09-10	2021-03-13	2021-09-18	2020-09-09	2021-03-13	2021-03-13	2021-09-18	2016-08-25	2016-10-03	2016-11-28	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
	Sample Type	N	N	N	N	FD	N	N	N	N	N	N	FD	N	N	N	FD	N	N	N
Analyte	Unit																			
Alkalinity, Total as CaCO3	mg/L	180	140	170	120	120	110	110			249	245								230
Aluminum	mg/L												0.068	0.092	0.085	0.061	0.05 U	0.05 U		
Antimony	mg/L								2E-05 J	2E-05 J	2E-05 J	2E-05 J	0.00063 JB	0.0006 JB	0.002 U	0.002 U	0.002 U	0.002 U		
Arsenic	mg/L								0.00102	0.00087	0.00073	0.00087	0.00061 J	0.00064 J	0.005 U	0.005 U	0.005 U	0.00094 J		
Barium	mg/L								0.0982	0.0914	0.0985	0.0899	0.1 B	0.1 B	0.1	0.11	0.1	0.1		
Beryllium	mg/L								2E-05 J	1E-05 J	6E-06 J	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	180	140	170	120	120	110	110											220	230
Boron	mg/L	1.7	1.4	1.7	1.3	1.1	1.1	1.1	0.053	0.044	0.058	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
Bromide	mg/L										0.119	0.099	0.14 J	0.14 J	0.12 J	0.13 J	0.13 J	0.13 J		
Cadmium	mg/L								2E-05 J	1E-05 J	5E-06 J	8E-06 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Calcium	mg/L	100	84	120	85	75	76	87	114	113	124	121	120 JB	120 JB	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											5 U	5 U
Chloride	mg/L	25	26	25	27	26	26	27	19.4	19.9	19.5	20	20	20	21	22	22	22	24	25
Chromium	mg/L								0.0007	0.0003	0.000175	0.000219	0.00027 JB	0.00049 JB	0.002 U	0.002 U	0.002 U	0.002 U		
Cobalt	mg/L								0.000964	0.000769	0.000672	0.000763	0.0007 J	0.00072 J	0.00072 J	0.0007 J	0.00069 J	0.00078 J		
Conductivity, Field	uS/cm	772	747	768	654	632	632	619	714	712	717	707								717
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								0.57	0.54	0.75	0.75								0.12
Dissolved Solids, Total	mg/L	510	560	570	450	490	460	510	466	440	447	455	460	470	470	490 J	470 J	480 J	470	500
Fluoride	mg/L	0.048 J	0.067	0.11	0.05 U	0.049 J	0.044 J	0.082	0.09	0.09	0.01	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Iron	mg/L												0.24 B	0.27 B	0.3	0.24	0.093 J	0.095 J		
Lead	mg/L								0.000495	0.000355	0.000124	0.000214	0.00031 J	0.00035 J	0.001 U	0.001 U	0.001 U	0.00076 J		
Lithium	mg/L								0.008	0.004	0.006	0.006	0.0041 J	0.004 J	0.0033 J	0.0046 J	0.0052 J	0.0051 J		
Magnesium	mg/L	25	20	28	21	18	18	20			14.1	14.2	13 B	13 B	14	14	14	13	14	14
Manganese	mg/L												0.48 JB	0.48 JB	0.5	0.51	0.49	0.47		
Mercury	mg/L								5E-06 U	1.3E-05	5E-06 U	5E-06 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U		
Molybdenum	mg/L								0.00045	0.00023	0.00022	0.00042	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		
Nickel	mg/L												0.00053 JB	0.00068 JB	0.002 U	0.002 U	0.002 U	0.002 U		
pH, Field	pH units	6.81	6.66	6.76	6.51	6.17	6.17	6.32	7.21	7.2	7.16	7.09		7.16	7.15	7.13		6.98		7.14
Potassium	mg/L	1.5	1.5	1.5	1.4	1.4	1.4	1.3			1.57	1.82	1.4 B	1.4 B	1.4	1.4	1.4	1.4	1.5	1.4
Radium-226	pCi/L								1.63	0.285	0.309	0.248	0.119 U	0.209	0.179	0.069 U	0.17	0.258		
Radium-226/228	pCi/L								2.081	2.045	0.2551	0.918	0.567	0.537	0.527	0.525	0.342	0.518		
Radium-228	pCi/L								0.451	1.76	-0.0539	0.67	0.449	0.328 U	0.348 U	0.456	0.171 U	0.259 U		
Redox Potential, Field	mV								-85.8	-29.2	-37.6	-37.5								
Selenium	mg/L								0.0001	7E-05 J	4E-05 J	5E-05 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0012 JB		
Silver	mg/L												0.00014 J	0.00025 J	0.00021 J	0.00019 J	0.001 U	0.001 U		
Sodium	mg/L	15	13	17	16	14	14	16			16	13.5	15 JB	15 JB	16 B	15	16 J	15 J	15	17
Strontium	mg/L										0.218	0.219	0.2 B	0.2 B	0.2 B	0.2 B	0.2	0.2		
Sulfate	mg/L	200	190	220	200	190	190	180	125	126	127	119	120	120	130	130	130	130	140	140
Temperature, Field	deg C	16	14	15	17	14	14	15	15.1	13.7	12.6	12.9								14.1
Thallium	mg/L								3E-05 J	2E-05 J	1E-05 J	3E-05 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Turbidity, Field	NTU	15	7.4	3.5	23.8	2.3	2.3	2.6	8.6	7	9	8.8		2.9	3.3	3		0.6		11.3
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:

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Empty cells = Not analyzed

Appendix C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL
	Location	MW-1	MW-1	MW-1	MW-1	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	MW-6
	Date	2018-09-18	2019-03-16	2019-09-17	2020-03-11	2020-09-10	2021-03-13	2021-09-20	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
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	Unit																			
Alkalinity, Total as CaCO3	mg/L	220	220 B	220	220	220	230	240			259	257						250	220	230 B
Aluminum	mg/L												0.05 U	0.05 U	0.05 U	0.05 U				
Antimony	mg/L								2E-05 J	5E-05 U	5E-05 U	1E-05 J	0.00059 JB	0.002 U	0.002 U	0.002 U				
Arsenic	mg/L								0.00029	0.00035	0.00031	0.00031	0.00042 J	0.005 U	0.005 U	0.005 U				
Barium	mg/L								0.148	0.138	0.141	0.123	0.15 B	0.15	0.14	0.14				
Beryllium	mg/L								2E-05 U	2E-05 U	2E-05 U	2E-05 U	0.001 U	0.001 U	0.001 U	0.001 U				
Bicarbonate Alkalinity as CaCO3	mg/L	220	220 B	220	220	220	230	240									240	250	220	230 B
Boron	mg/L	0.076 J	0.054 J	0.056 J	0.066 J	0.093 J	0.052 J	0.069 J	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	0.059 J
Bromide	mg/L										0.107	0.3 U	0.14 J	0.12 J	0.12 J	0.12 J				
Cadmium	mg/L								4E-05	3E-05	3E-05	3E-05	0.001 U	0.001 U	0.001 U	0.001 U				
Calcium	mg/L	120	120	120	120	120	110	130	123	116	123	106	120 JB	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									5 U	5 U	5 U	5 U
Chloride	mg/L	27	30	28	37	38	41	41	17.1	17.8	18	17.9	19	20	20	20	22	22	23	23
Chromium	mg/L								0.0005	0.0001	0.000822	0.00476	0.001 JB	0.002 U	0.002 U	0.002 U				
Cobalt	mg/L								0.000403	0.000377	0.000383	0.000376	0.00052 J	0.00044 J	0.00047 J	0.00053 J				
Conductivity, Field	uS/cm				779	756	767	782	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								0.04	0.3	0.66	0.99						0.13		
Dissolved Solids, Total	mg/L	490	520	510	490	470	590	490	476	434	456	454	480	460	480 J	470 J	470	460	480	450
Fluoride	mg/L	0.1	0.093	0.098	0.11	0.078	0.082	0.11	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	0.083
Iron	mg/L												0.031 JB	0.1 U	0.1 U	0.1 U				
Lead	mg/L								3.9E-05	2E-05	2E-05 J	2.1E-05	0.00028 J	0.001 U	0.001 U	0.001 U				
Lithium	mg/L								0.007	0.003	0.005	0.006	0.0042 J	0.0033 J	0.0049 J	0.0053 J				
Magnesium	mg/L	14	15	15	15	14	14	15			14.2	12.8	14 B	14	15	14	14	14	14	15
Manganese	mg/L												1.3 JB	1.5	1.4	1.5				
Mercury	mg/L								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								0.00073	0.00069	0.00064	0.00128	0.00078 J	0.01 U	0.01 U	0.01 U				
Nickel	mg/L												0.00046 JB	0.002 U	0.002 U	0.002 U				
pH, Field	pH units	7.16	7.35	7.29	7.3	7.42	7.19	7.3	7	7.04	7	6.96	7.03	6.96	6.95	6.89		7.01	7.03	7.17
Potassium	mg/L	1.5	1.6	1.5	1.5	1.4	1.2	1.5			1.93	1.64	1.7 B	1.7	1.6	1.7	1.7	1.7	1.6	1.8
Radium-226	pCi/L								0.87	0.444	0.31	0.141	0.0546 U	0.124	0.113	0.174				
Radium-226/228	pCi/L								1.663	1.32	1.032	0.249	0.283 U	0.159 U	0.665	0.259 U				
Radium-228	pCi/L								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								3E-05 J	0.0001 U	4E-05 J	5E-05 J	0.005 U	0.005 U	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	15	17	15	17	15	14	17			14.4	10.8	13 JB	13 B	13	14 J	13	13	13	14
Strontium	mg/L										0.228	0.174	0.22 B	0.21 B	0.21 B	0.22				
Sulfate	mg/L	140	150	140	140	140	140	140	131	123	127	118	120	130	130	130	130	120	130	130
Temperature, Field	deg C				13	13	13	13	17.2	14.7	13.6	13.9						14.2		
Thallium	mg/L								2E-05 J	4E-05 J	2E-05 J	8.7E-05	0.001 U	0.001 U	0.001 U	0.001 U				
Turbidity, Field	NTU	2.72		4	3.8	2.3	1.9	4.8	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 C
Analytical Data Summary
Bottom Ash Pond
Gavin Power Plant

	Program	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL	FEDERAL
	Location	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	B-0904	B-0904	B-0904	B-0904	B-0904	B-0904
	Date	2019-09-18	2020-03-11	2020-09-09	2020-09-09	2021-03-13	2021-09-18	2018-03-01	2018-04-11	2018-05-16	2018-09-18	2019-03-16	2020-03-11
	Sample Type	N	N	FD	N	N	N	N	N	N	N	N	N
Analyte	Unit												
Alkalinity, Total as CaCO3	mg/L	220	230	220	220	230	210	12		11	9.4	15 B	11
Aluminum	mg/L								0.14 F1				
Antimony	mg/L								0.002 UF1				
Arsenic	mg/L								0.005 UF1				
Barium	mg/L								0.018 F1				
Beryllium	mg/L								0.001 UF1*				
Bicarbonate Alkalinity as CaCO3	mg/L	220	230	220	220	230	210	12		11	9.4	15 B	11
Boron	mg/L	0.04 J	0.051 J	0.081 J	0.082 J	0.026 J	0.1 U	3.7	4.1	4	4	4.2	3.7
Bromide	mg/L								0.14 J				
Cadmium	mg/L								0.00098 JF1				
Calcium	mg/L	110	110	110	110	100	110	47	52 F1	47	45	49	45
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	22	23	24	24	24	26	24	21	20	21	20	19
Chromium	mg/L								0.002 UF1				
Cobalt	mg/L								0.0035 F1				
Conductivity, Field	uS/cm		726	685	685	686	675			511			525
Copper	mg/L								0.002 UF1				
Dissolved Oxygen, Field	mg/L									0.92			
Dissolved Solids, Total	mg/L	340	450	430	440	440	490	390	360	360	380	360	350
Fluoride	mg/L	0.083	0.095	0.033 J	0.038 J	0.071	0.097	0.052	0.03 J	0.052	0.06	0.04 J	0.051
Iron	mg/L								0.64 F1				
Lead	mg/L								0.001 UF1				
Lithium	mg/L								0.0078 JF1^				
Magnesium	mg/L	13	14	14	14	12	14	21	19 F1	19	19	21	19
Manganese	mg/L								1.4 F1				
Mercury	mg/L								0.0002 U				
Molybdenum	mg/L								0.005 UF1				
Nickel	mg/L								0.035 F1				
pH, Field	pH units	7.21	7.19	7.21	7.21	7	7.08			5.04	5.08	5.22	5.26
Potassium	mg/L	1.6	1.7	1.6	1.6	1.7	1.6	0.79 J	0.44 JF1	0.46 J	0.72 J	0.63 J	0.55 J
Radium-226	pCi/L								0.13				
Radium-226/228	pCi/L								0.489				
Radium-228	pCi/L								0.359				
Redox Potential, Field	mV												
Selenium	mg/L								0.0012 JF1				
Silver	mg/L								6.6E-05 JF1				
Sodium	mg/L	13	13	14	14	12	14	20	20 F1	19	19	21	19
Strontium	mg/L								0.14				
Sulfate	mg/L	140	120	130	130	120	120	220	200	190	210	210	200
Temperature, Field	deg C		13	14	14	13	15			13.9			14
Thallium	mg/L								0.001 UF1				
Turbidity, Field	NTU	4	0.3	0.3	0.3	0.6	0.3			18.1	36.1		9.7
Vanadium	mg/L												
Zinc	mg/L								0.015 JF1				

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 D LABORATORY ANALYICAL REPORTS

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-145926-1
Client Project/Site: Gavin CCR

For:
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Attn: Taylor Huffman

Roxanne Cisneros

Authorized for release by:
3/26/2021 8:56:28 AM

Roxanne Cisneros, Senior Project Manager
(615)301-5761
roxanne.cisneros@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

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.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

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: 240-145926-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-145926-1

Comments
No additional comments.

Receipt
The samples were received on 3/15/2021 12:50 PM. 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 0.8º C, 2.5º C and 3.1º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
2320B-1997	Alkalinity, Total	SM	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-145926-1	BAC-01	Water	03/13/21 09:11	03/15/21 12:50	
240-145926-2	MW-6	Water	03/13/21 09:38	03/15/21 12:50	
240-145926-3	BAC-07	Water	03/13/21 10:14	03/15/21 12:50	
240-145926-4	DUPLICATE #1 (BAC-07)	Water	03/13/21 10:14	03/15/21 12:50	
240-145926-5	BAC-06	Water	03/13/21 11:00	03/15/21 12:50	
240-145926-6	BAC-05	Water	03/13/21 12:18	03/15/21 12:50	
240-145926-7	BAC-04	Water	03/13/21 12:46	03/15/21 12:50	
240-145926-8	BAC-03	Water	03/13/21 13:25	03/15/21 12:50	
240-145926-9	BAC-02	Water	03/13/21 13:58	03/15/21 12:50	
240-145926-10	MW-1	Water	03/13/21 14:28	03/15/21 12:50	

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: BAC-01 — Lab Sample ID: 240-145926-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	93	J	100	23	ug/L	1		6010B	Total Recoverable
Calcium	100000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	13000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020	Total Recoverable
Sodium	11000		1000	330	ug/L	1		6020	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	32		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.096		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	95		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: MW-6 — Lab Sample ID: 240-145926-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	26	J	100	23	ug/L	1		6010B	Total Recoverable
Calcium	100000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	12000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1700		1000	220	ug/L	1		6020	Total Recoverable
Sodium	12000		1000	330	ug/L	1		6020	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	24		1.0	0.28	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	440		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-07 — Lab Sample ID: 240-145926-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	23	ug/L	1		6010B	Total Recoverable
Calcium	76000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	18000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1400		1000	220	ug/L	1		6020	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020	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	26		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.044	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	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: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: DUPLICATE #1 (BAC-07) — Lab Sample ID: 240-145926-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	23	ug/L	1		6010B	Total Recoverable
Calcium	75000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	18000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1400		1000	220	ug/L	1		6020	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020	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	26		1.0	0.28	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	490		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-06 — Lab Sample ID: 240-145926-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1400		100	23	ug/L	1		6010B	Total Recoverable
Calcium	84000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	20000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020	Total Recoverable
Sodium	13000		1000	330	ug/L	1		6020	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	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.067		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	560		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-05 — Lab Sample ID: 240-145926-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2900		100	23	ug/L	1		6010B	Total Recoverable
Calcium	73000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	17000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020	Total Recoverable
Sodium	21000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	93		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	93		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	29		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.10		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	240	F1	2.0	0.70	mg/L	2		300.0	Total/NA
Total Dissolved Solids	540		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: BAC-04 — Lab Sample ID: 240-145926-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2400		100	23	ug/L	1		6010B	Total Recoverable
Calcium	79000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	17000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1700		1000	220	ug/L	1		6020	Total Recoverable
Sodium	25000		1000	330	ug/L	1		6020	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	41		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.061		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	220		2.0	0.70	mg/L	2		300.0	Total/NA
Total Dissolved Solids	550		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-03 — Lab Sample ID: 240-145926-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1900		100	23	ug/L	1		6010B	Total Recoverable
Calcium	83000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	16000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1800		1000	220	ug/L	1		6020	Total Recoverable
Sodium	32000		1000	330	ug/L	1		6020	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	79		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.045	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	560		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-02 — Lab Sample ID: 240-145926-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1700		100	23	ug/L	1		6010B	Total Recoverable
Calcium	130000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	36000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	2600		1000	220	ug/L	1		6020	Total Recoverable
Sodium	63000		1000	330	ug/L	1		6020	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
Chloride	76		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.14		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	360		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	930		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: MW-1

Lab Sample ID: 240-145926-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	52	J	100	23	ug/L	1		6010B	Total Recoverable
Calcium	110000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	14000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1200		1000	220	ug/L	1		6020	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020	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	41		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.082		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	590		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: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: BAC-01

Date Collected: 03/13/21 09:11
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-1

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	93	J	100	23	ug/L		03/16/21 14:00	03/17/21 22:06	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100000		1000	580	ug/L		03/18/21 14:00	03/22/21 15:02	1
Magnesium	13000		1000	200	ug/L		03/18/21 14:00	03/22/21 15:02	1
Potassium	1500		1000	220	ug/L		03/18/21 14:00	03/22/21 15:02	1
Sodium	11000		1000	330	ug/L		03/18/21 14:00	03/22/21 15:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	200		5.0	2.6	mg/L			03/23/21 19:24	1
Bicarbonate Alkalinity as CaCO3	200		5.0	2.6	mg/L			03/23/21 19:24	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:24	1
Chloride	32		1.0	0.28	mg/L			03/18/21 03:45	1
Fluoride	0.096		0.050	0.024	mg/L			03/18/21 03:45	1
Sulfate	95		1.0	0.35	mg/L			03/18/21 03:45	1
Total Dissolved Solids	440		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: MW-6

Date Collected: 03/13/21 09:38
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-2

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	26	J	100	23	ug/L		03/16/21 14:00	03/17/21 22:10	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:03	1
Magnesium	12000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:03	1
Potassium	1700		1000	220	ug/L		03/16/21 14:00	03/25/21 13:23	1
Sodium	12000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	230		5.0	2.6	mg/L			03/23/21 19:28	1
Bicarbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L			03/23/21 19:28	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:28	1
Chloride	24		1.0	0.28	mg/L			03/18/21 04:05	1
Fluoride	0.071		0.050	0.024	mg/L			03/18/21 04:05	1
Sulfate	120		1.0	0.35	mg/L			03/18/21 04:05	1
Total Dissolved Solids	440		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-145926-1
Project/Site: Gavin CCR

Client Sample ID: BAC-07
Lab Sample ID: 240-145926-3
Date Collected: 03/13/21 10:14
Matrix: Water
Date Received: 03/15/21 12:50

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1100		100	23	ug/L		03/16/21 14:00	03/17/21 22:15	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:06	1
Magnesium	18000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:06	1
Potassium	1400		1000	220	ug/L		03/16/21 14:00	03/25/21 13:27	1
Sodium	14000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	110		5.0	2.6	mg/L			03/23/21 19:32	1
Bicarbonate Alkalinity as CaCO3	110		5.0	2.6	mg/L			03/23/21 19:32	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:32	1
Chloride	26		1.0	0.28	mg/L			03/18/21 05:06	1
Fluoride	0.044	J	0.050	0.024	mg/L			03/18/21 05:06	1
Sulfate	190		1.0	0.35	mg/L			03/18/21 05:06	1
Total Dissolved Solids	460		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: DUPLICATE #1 (BAC-07)

Date Collected: 03/13/21 10:14
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-4

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1100		100	23	ug/L		03/16/21 14:00	03/17/21 22:19	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	75000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:08	1
Magnesium	18000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:08	1
Potassium	1400		1000	220	ug/L		03/16/21 14:00	03/25/21 13:32	1
Sodium	14000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	120		5.0	2.6	mg/L			03/23/21 19:36	1
Bicarbonate Alkalinity as CaCO3	120		5.0	2.6	mg/L			03/23/21 19:36	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:36	1
Chloride	26		1.0	0.28	mg/L			03/18/21 06:06	1
Fluoride	0.049	J	0.050	0.024	mg/L			03/18/21 06:06	1
Sulfate	190		1.0	0.35	mg/L			03/18/21 06:06	1
Total Dissolved Solids	490		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-145926-1
Project/Site: Gavin CCR

Client Sample ID: BAC-06
Lab Sample ID: 240-145926-5

Date Collected: 03/13/21 11:00
Matrix: Water
Date Received: 03/15/21 12:50

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1400		100	23	ug/L		03/16/21 14:00	03/17/21 22:23	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:11	1
Magnesium	20000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:11	1
Potassium	1500		1000	220	ug/L		03/16/21 14:00	03/25/21 13:36	1
Sodium	13000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	140		5.0	2.6	mg/L			03/23/21 19:43	1
Bicarbonate Alkalinity as CaCO3	140		5.0	2.6	mg/L			03/23/21 19:43	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:43	1
Chloride	26		1.0	0.28	mg/L			03/18/21 06:26	1
Fluoride	0.067		0.050	0.024	mg/L			03/18/21 06:26	1
Sulfate	190		1.0	0.35	mg/L			03/18/21 06:26	1
Total Dissolved Solids	560		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: BAC-05

Date Collected: 03/13/21 12:18
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-6

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2900		100	23	ug/L		03/16/21 14:00	03/17/21 22:28	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	73000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:18	1
Magnesium	17000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:18	1
Potassium	1200		1000	220	ug/L		03/16/21 14:00	03/17/21 17:18	1
Sodium	21000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	93		5.0	2.6	mg/L			03/23/21 19:47	1
Bicarbonate Alkalinity as CaCO3	93		5.0	2.6	mg/L			03/23/21 19:47	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:47	1
Chloride	29		1.0	0.28	mg/L			03/18/21 06:46	1
Fluoride	0.10		0.050	0.024	mg/L			03/18/21 06:46	1
Sulfate	240	F1	2.0	0.70	mg/L			03/22/21 19:09	2
Total Dissolved Solids	540		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-145926-1
Project/Site: Gavin CCR

Client Sample ID: BAC-04
Lab Sample ID: 240-145926-7
Date Collected: 03/13/21 12:46
Matrix: Water
Date Received: 03/15/21 12:50

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2400		100	23	ug/L		03/16/21 14:00	03/17/21 22:45	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	79000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:21	1
Magnesium	17000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:21	1
Potassium	1700		1000	220	ug/L		03/16/21 14:00	03/17/21 17:21	1
Sodium	25000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	96		5.0	2.6	mg/L			03/23/21 19:51	1
Bicarbonate Alkalinity as CaCO3	96		5.0	2.6	mg/L			03/23/21 19:51	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:51	1
Chloride	41		1.0	0.28	mg/L			03/18/21 07:06	1
Fluoride	0.061		0.050	0.024	mg/L			03/18/21 07:06	1
Sulfate	220		2.0	0.70	mg/L			03/22/21 20:09	2
Total Dissolved Solids	550		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: BAC-03

Date Collected: 03/13/21 13:25
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-8

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1900		100	23	ug/L		03/16/21 14:00	03/17/21 22:49	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:23	1
Magnesium	16000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:23	1
Potassium	1800		1000	220	ug/L		03/16/21 14:00	03/17/21 17:23	1
Sodium	32000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	89		5.0	2.6	mg/L			03/23/21 19:59	1
Bicarbonate Alkalinity as CaCO3	89		5.0	2.6	mg/L			03/23/21 19:59	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:59	1
Chloride	79		1.0	0.28	mg/L			03/18/21 07:27	1
Fluoride	0.045	J	0.050	0.024	mg/L			03/18/21 07:27	1
Sulfate	180		1.0	0.35	mg/L			03/18/21 07:27	1
Total Dissolved Solids	560		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-145926-1
Project/Site: Gavin CCR

Client Sample ID: BAC-02
Lab Sample ID: 240-145926-9

Date Collected: 03/13/21 13:58
Matrix: Water
Date Received: 03/15/21 12:50

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1700		100	23	ug/L		03/16/21 14:00	03/17/21 22:53	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:26	1
Magnesium	36000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:26	1
Potassium	2600		1000	220	ug/L		03/16/21 14:00	03/17/21 17:26	1
Sodium	63000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	250		5.0	2.6	mg/L			03/23/21 20:03	1
Bicarbonate Alkalinity as CaCO3	250		5.0	2.6	mg/L			03/23/21 20:03	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 20:03	1
Chloride	76		1.0	0.28	mg/L			03/18/21 07:47	1
Fluoride	0.14		0.050	0.024	mg/L			03/18/21 07:47	1
Sulfate	360		5.0	1.7	mg/L			03/18/21 08:07	5
Total Dissolved Solids	930		10	7.8	mg/L			03/17/21 09:12	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-145926-1
Project/Site: Gavin CCR

Client Sample ID: MW-1
Lab Sample ID: 240-145926-10

Date Collected: 03/13/21 14:28
Matrix: Water
Date Received: 03/15/21 12:50

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	52	J	100	23	ug/L		03/16/21 14:00	03/17/21 22:57	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		1000	580	ug/L		03/16/21 14:00	03/17/21 17:28	1
Magnesium	14000		1000	200	ug/L		03/16/21 14:00	03/17/21 17:28	1
Potassium	1200		1000	220	ug/L		03/16/21 14:00	03/17/21 17:28	1
Sodium	14000		1000	330	ug/L		03/16/21 14:00	03/17/21 17:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	230		5.0	2.6	mg/L			03/23/21 20:08	1
Bicarbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L			03/23/21 20:08	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 20:08	1
Chloride	41		1.0	0.28	mg/L			03/18/21 09:07	1
Fluoride	0.082		0.050	0.024	mg/L			03/18/21 09:07	1
Sulfate	140		1.0	0.35	mg/L			03/18/21 09:07	1
Total Dissolved Solids	590		10	7.8	mg/L			03/17/21 09:12	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-476956/1-A
Matrix: Water
Analysis Batch: 477161

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 476956

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	23	ug/L		03/16/21 14:00	03/17/21 21:27	1

Lab Sample ID: LCS 240-476956/2-A
Matrix: Water
Analysis Batch: 477161

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 476956

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-476956/1-A
Matrix: Water
Analysis Batch: 477155

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 476956

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	580	ug/L		03/16/21 14:00	03/17/21 16:19	1
Magnesium	1000	U	1000	200	ug/L		03/16/21 14:00	03/17/21 16:19	1
Sodium	1000	U	1000	330	ug/L		03/16/21 14:00	03/17/21 16:19	1

Lab Sample ID: MB 240-476956/1-A
Matrix: Water
Analysis Batch: 478404

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 476956

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1000	U	1000	220	ug/L		03/16/21 14:00	03/25/21 13:14	1

Lab Sample ID: LCS 240-476956/3-A
Matrix: Water
Analysis Batch: 477155

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 476956

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25000	21400		ug/L		86	80 - 120
Magnesium	25000	21500		ug/L		86	80 - 120
Sodium	25000	21500		ug/L		86	80 - 120

Lab Sample ID: LCS 240-476956/3-A
Matrix: Water
Analysis Batch: 478404

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 476956

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	25000	24100		ug/L		97	80 - 120

Lab Sample ID: MB 240-477291/1-A
Matrix: Water
Analysis Batch: 477809

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	580	ug/L		03/18/21 14:00	03/22/21 14:08	1
Magnesium	1000	U	1000	200	ug/L		03/18/21 14:00	03/22/21 14:08	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-477291/1-A
Matrix: Water
Analysis Batch: 477809

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1000	U	1000	220	ug/L		03/18/21 14:00	03/22/21 14:08	1
Sodium	1000	U	1000	330	ug/L		03/18/21 14:00	03/22/21 14:08	1

Lab Sample ID: LCS 240-477291/3-A
Matrix: Water
Analysis Batch: 477809

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25000	25600		ug/L		102	80 - 120
Magnesium	25000	24900		ug/L		99	80 - 120
Potassium	25000	24700		ug/L		99	80 - 120
Sodium	25000	24500		ug/L		98	80 - 120

Lab Sample ID: 240-145926-1 MS
Matrix: Water
Analysis Batch: 477809

Client Sample ID: BAC-01
Prep Type: Total Recoverable
Prep Batch: 477291

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	100000		25000	125000	4	ug/L		95	75 - 125
Magnesium	13000		25000	36900		ug/L		97	75 - 125
Potassium	1500		25000	26000		ug/L		98	75 - 125
Sodium	11000		25000	34700		ug/L		95	75 - 125

Lab Sample ID: 240-145926-1 MSD
Matrix: Water
Analysis Batch: 477809

Client Sample ID: BAC-01
Prep Type: Total Recoverable
Prep Batch: 477291

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	100000		25000	125000	4	ug/L		94	75 - 125	0	20
Magnesium	13000		25000	36900		ug/L		97	75 - 125	0	20
Potassium	1500		25000	25900		ug/L		98	75 - 125	0	20
Sodium	11000		25000	34700		ug/L		96	75 - 125	0	20

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-477921/4
Matrix: Water
Analysis Batch: 477921

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	5.0	U	5.0	2.6	mg/L			03/23/21 19:00	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:00	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:00	1

Lab Sample ID: LCS 240-477921/3
Matrix: Water
Analysis Batch: 477921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	246	239		mg/L		97	86 - 123

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: 240-145926-8 DU
Matrix: Water
Analysis Batch: 477921

Client Sample ID: BAC-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity	89		88.8		mg/L		0.06	20
Bicarbonate Alkalinity as CaCO3	89		88.8		mg/L		0.06	20
Carbonate Alkalinity as CaCO3	5.0	U	5.0	U	mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-477213/3
Matrix: Water
Analysis Batch: 477213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			03/17/21 21:03	1
Fluoride	0.050	U	0.050	0.024	mg/L			03/17/21 21:03	1
Sulfate	1.0	U	1.0	0.35	mg/L			03/17/21 21:03	1

Lab Sample ID: LCS 240-477213/4
Matrix: Water
Analysis Batch: 477213

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	49.6		mg/L		99	90 - 110
Fluoride	2.50	2.38		mg/L		95	90 - 110
Sulfate	50.0	49.5		mg/L		99	90 - 110

Lab Sample ID: 240-145926-3 MS
Matrix: Water
Analysis Batch: 477213

Client Sample ID: BAC-07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	26		50.0	77.4		mg/L		103	80 - 120
Fluoride	0.044	J	2.50	2.52		mg/L		99	80 - 120
Sulfate	190		50.0	233		mg/L		89	80 - 120

Lab Sample ID: 240-145926-3 MSD
Matrix: Water
Analysis Batch: 477213

Client Sample ID: BAC-07
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	78.3		mg/L		104	80 - 120	1	15
Fluoride	0.044	J	2.50	2.58		mg/L		101	80 - 120	2	15
Sulfate	190		50.0	234		mg/L		91	80 - 120	0	15

Lab Sample ID: MB 240-477736/3
Matrix: Water
Analysis Batch: 477736

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			03/22/21 14:53	1
Fluoride	0.050	U	0.050	0.024	mg/L			03/22/21 14:53	1
Sulfate	1.0	U	1.0	0.35	mg/L			03/22/21 14:53	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 240-477736/4
Matrix: Water
Analysis Batch: 477736

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	49.6		mg/L		99	90 - 110		
Fluoride			2.50	2.33		mg/L		93	90 - 110		
Sulfate			50.0	49.0		mg/L		98	90 - 110		

Lab Sample ID: 240-145926-6 MS
Matrix: Water
Analysis Batch: 477736

Client Sample ID: BAC-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	29		100	126		mg/L		97	80 - 120		
Fluoride	0.10		5.00	4.77		mg/L		93	80 - 120		
Sulfate	240	F1	100	311	F1	mg/L		76	80 - 120		

Lab Sample ID: 240-145926-6 MSD
Matrix: Water
Analysis Batch: 477736

Client Sample ID: BAC-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	29		100	132		mg/L		102	80 - 120	5	15
Fluoride	0.10		5.00	5.02		mg/L		98	80 - 120	5	15
Sulfate	240	F1	100	324		mg/L		89	80 - 120	4	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-477129/1
Matrix: Water
Analysis Batch: 477129

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	10	U	10	7.8	mg/L			03/17/21 09:12	1

Lab Sample ID: LCS 240-477129/2
Matrix: Water
Analysis Batch: 477129

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			245	260		mg/L		106	80 - 120		

Lab Sample ID: 240-145926-5 DU
Matrix: Water
Analysis Batch: 477129

Client Sample ID: BAC-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	560			576		mg/L				4	20

Metals

Prep Batch: 476956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total Recoverable	Water	3005A	
240-145926-2	MW-6	Total Recoverable	Water	3005A	
240-145926-3	BAC-07	Total Recoverable	Water	3005A	
240-145926-4	DUPLICATE #1 (BAC-07)	Total Recoverable	Water	3005A	
240-145926-5	BAC-06	Total Recoverable	Water	3005A	
240-145926-6	BAC-05	Total Recoverable	Water	3005A	
240-145926-7	BAC-04	Total Recoverable	Water	3005A	
240-145926-8	BAC-03	Total Recoverable	Water	3005A	
240-145926-9	BAC-02	Total Recoverable	Water	3005A	
240-145926-10	MW-1	Total Recoverable	Water	3005A	
MB 240-476956/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-476956/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-476956/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 477155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-2	MW-6	Total Recoverable	Water	6020	476956
240-145926-3	BAC-07	Total Recoverable	Water	6020	476956
240-145926-4	DUPLICATE #1 (BAC-07)	Total Recoverable	Water	6020	476956
240-145926-5	BAC-06	Total Recoverable	Water	6020	476956
240-145926-6	BAC-05	Total Recoverable	Water	6020	476956
240-145926-7	BAC-04	Total Recoverable	Water	6020	476956
240-145926-8	BAC-03	Total Recoverable	Water	6020	476956
240-145926-9	BAC-02	Total Recoverable	Water	6020	476956
240-145926-10	MW-1	Total Recoverable	Water	6020	476956
MB 240-476956/1-A	Method Blank	Total Recoverable	Water	6020	476956
LCS 240-476956/3-A	Lab Control Sample	Total Recoverable	Water	6020	476956

Analysis Batch: 477161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total Recoverable	Water	6010B	476956
240-145926-2	MW-6	Total Recoverable	Water	6010B	476956
240-145926-3	BAC-07	Total Recoverable	Water	6010B	476956
240-145926-4	DUPLICATE #1 (BAC-07)	Total Recoverable	Water	6010B	476956
240-145926-5	BAC-06	Total Recoverable	Water	6010B	476956
240-145926-6	BAC-05	Total Recoverable	Water	6010B	476956
240-145926-7	BAC-04	Total Recoverable	Water	6010B	476956
240-145926-8	BAC-03	Total Recoverable	Water	6010B	476956
240-145926-9	BAC-02	Total Recoverable	Water	6010B	476956
240-145926-10	MW-1	Total Recoverable	Water	6010B	476956
MB 240-476956/1-A	Method Blank	Total Recoverable	Water	6010B	476956
LCS 240-476956/2-A	Lab Control Sample	Total Recoverable	Water	6010B	476956

Prep Batch: 477291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total Recoverable	Water	3005A	
MB 240-477291/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-477291/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-145926-1 MS	BAC-01	Total Recoverable	Water	3005A	
240-145926-1 MSD	BAC-01	Total Recoverable	Water	3005A	

Metals

Analysis Batch: 477809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total Recoverable	Water	6020	477291
MB 240-477291/1-A	Method Blank	Total Recoverable	Water	6020	477291
LCS 240-477291/3-A	Lab Control Sample	Total Recoverable	Water	6020	477291
240-145926-1 MS	BAC-01	Total Recoverable	Water	6020	477291
240-145926-1 MSD	BAC-01	Total Recoverable	Water	6020	477291

Analysis Batch: 478404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-2	MW-6	Total Recoverable	Water	6020	476956
240-145926-3	BAC-07	Total Recoverable	Water	6020	476956
240-145926-4	DUPLICATE #1 (BAC-07)	Total Recoverable	Water	6020	476956
240-145926-5	BAC-06	Total Recoverable	Water	6020	476956
MB 240-476956/1-A	Method Blank	Total Recoverable	Water	6020	476956
LCS 240-476956/3-A	Lab Control Sample	Total Recoverable	Water	6020	476956

General Chemistry

Analysis Batch: 477129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total/NA	Water	SM 2540C	
240-145926-2	MW-6	Total/NA	Water	SM 2540C	
240-145926-3	BAC-07	Total/NA	Water	SM 2540C	
240-145926-4	DUPLICATE #1 (BAC-07)	Total/NA	Water	SM 2540C	
240-145926-5	BAC-06	Total/NA	Water	SM 2540C	
240-145926-6	BAC-05	Total/NA	Water	SM 2540C	
240-145926-7	BAC-04	Total/NA	Water	SM 2540C	
240-145926-8	BAC-03	Total/NA	Water	SM 2540C	
240-145926-9	BAC-02	Total/NA	Water	SM 2540C	
240-145926-10	MW-1	Total/NA	Water	SM 2540C	
MB 240-477129/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-477129/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-145926-5 DU	BAC-06	Total/NA	Water	SM 2540C	

Analysis Batch: 477213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total/NA	Water	300.0	
240-145926-2	MW-6	Total/NA	Water	300.0	
240-145926-3	BAC-07	Total/NA	Water	300.0	
240-145926-4	DUPLICATE #1 (BAC-07)	Total/NA	Water	300.0	
240-145926-5	BAC-06	Total/NA	Water	300.0	
240-145926-6	BAC-05	Total/NA	Water	300.0	
240-145926-7	BAC-04	Total/NA	Water	300.0	
240-145926-8	BAC-03	Total/NA	Water	300.0	
240-145926-9	BAC-02	Total/NA	Water	300.0	
240-145926-9	BAC-02	Total/NA	Water	300.0	
240-145926-10	MW-1	Total/NA	Water	300.0	
MB 240-477213/3	Method Blank	Total/NA	Water	300.0	
LCS 240-477213/4	Lab Control Sample	Total/NA	Water	300.0	
240-145926-3 MS	BAC-07	Total/NA	Water	300.0	
240-145926-3 MSD	BAC-07	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 477736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-6	BAC-05	Total/NA	Water	300.0	
240-145926-7	BAC-04	Total/NA	Water	300.0	
MB 240-477736/3	Method Blank	Total/NA	Water	300.0	
LCS 240-477736/4	Lab Control Sample	Total/NA	Water	300.0	
240-145926-6 MS	BAC-05	Total/NA	Water	300.0	
240-145926-6 MSD	BAC-05	Total/NA	Water	300.0	

Analysis Batch: 477921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145926-1	BAC-01	Total/NA	Water	2320B-1997	
240-145926-2	MW-6	Total/NA	Water	2320B-1997	
240-145926-3	BAC-07	Total/NA	Water	2320B-1997	
240-145926-4	DUPLICATE #1 (BAC-07)	Total/NA	Water	2320B-1997	
240-145926-5	BAC-06	Total/NA	Water	2320B-1997	
240-145926-6	BAC-05	Total/NA	Water	2320B-1997	
240-145926-7	BAC-04	Total/NA	Water	2320B-1997	
240-145926-8	BAC-03	Total/NA	Water	2320B-1997	
240-145926-9	BAC-02	Total/NA	Water	2320B-1997	
240-145926-10	MW-1	Total/NA	Water	2320B-1997	
MB 240-477921/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-477921/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-145926-8 DU	BAC-03	Total/NA	Water	2320B-1997	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: BAC-01

Lab Sample ID: 240-145926-1

Date Collected: 03/13/21 09:11

Matrix: Water

Date Received: 03/15/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:06	KLC	TAL CAN
Total Recoverable	Prep	3005A			477291	03/18/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477809	03/22/21 15:02	RKT	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:24	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 03:45	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: MW-6

Lab Sample ID: 240-145926-2

Date Collected: 03/13/21 09:38

Matrix: Water

Date Received: 03/15/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:10	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	478404	03/25/21 13:23	DTN	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:03	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:28	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 04:05	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: BAC-07

Lab Sample ID: 240-145926-3

Date Collected: 03/13/21 10:14

Matrix: Water

Date Received: 03/15/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:15	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	478404	03/25/21 13:27	DTN	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:06	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:32	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 05:06	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: DUPLICATE #1 (BAC-07)

Lab Sample ID: 240-145926-4

Date Collected: 03/13/21 10:14

Matrix: Water

Date Received: 03/15/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:19	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	478404	03/25/21 13:32	DTN	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:08	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:36	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 06:06	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: BAC-06

Lab Sample ID: 240-145926-5

Date Collected: 03/13/21 11:00

Matrix: Water

Date Received: 03/15/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:23	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	478404	03/25/21 13:36	DTN	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:11	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:43	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 06:26	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: BAC-05

Lab Sample ID: 240-145926-6

Date Collected: 03/13/21 12:18

Matrix: Water

Date Received: 03/15/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:28	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:18	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:47	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 06:46	JWW	TAL CAN
Total/NA	Analysis	300.0		2	477736	03/22/21 19:09	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: BAC-04
Date Collected: 03/13/21 12:46
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:45	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:21	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:51	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 07:06	JWW	TAL CAN
Total/NA	Analysis	300.0		2	477736	03/22/21 20:09	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: BAC-03
Date Collected: 03/13/21 13:25
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:49	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:23	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 19:59	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 07:27	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: BAC-02
Date Collected: 03/13/21 13:58
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:53	KLC	TAL CAN
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:26	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 20:03	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 07:47	JWW	TAL CAN
Total/NA	Analysis	300.0		5	477213	03/18/21 08:07	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Client Sample ID: MW-1
Date Collected: 03/13/21 14:28
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477161	03/17/21 22:57	KLC	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-145926-1

Client Sample ID: MW-1

Date Collected: 03/13/21 14:28
Date Received: 03/15/21 12:50

Lab Sample ID: 240-145926-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			476956	03/16/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477155	03/17/21 17:28	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 20:08	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477213	03/18/21 09:07	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477129	03/17/21 09:12	AJ	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-145926-1
Project/Site: Gavin CCR

Laboratory: Eurofins TestAmerica, Canton

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	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Shain	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s): 057	COC No: 240-74320-29945.2
Client Contact: Taylor Huffman	Phone:	E-Mail: roxanne.cisneros@Eurofinset.com		Page: Page 2 of 5
Company: Lightstone Generation Gavin Power LLC				Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620				
Phone:	PO #: 2928210			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	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, 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, Z - other (specify)

240-145926 Chain of Custody

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	2540C_Calcd, 300.0_28D	2320B - Alkalinity	Total	Special Instructions/Note:
			Preservation Code:				D	N	N		
BAC-01	3-13-21	0911	G	Water			1	1	1		
MW-6	3-13-21	0938	G	Water			1	1	1		
BAC-07	3-13-21	1014	G	Water			1	1	1		
Duplicate #1 (BAC-07)	3-13-21	1014	G	Water			1	1	1		
BAC-06	3-13-21	1100	G	Water			1	1	1		
BAC-05	3-13-21	1218	G	Water			1	1	1		
BAC-04	3-13-21	1246	G	Water			1	1	1		
BAC-03	3-13-21	1325	G	Water			1	1	1		
BAC-02	3-13-21	1358	G	Water			1	1	1		
MW-1	3-13-21	1428	G	Water			1	1	1		
				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
Shain	3-15-21 0900	Shain	Thomas D Edwards	3-15-21 1000	Auto Optics
Thomas D. Edwards	3-15-21 12:47	Clayton		3-15-21 1250	TA
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: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 415926**
Canton Facility

Client Lightstone Site Name _____ Cooler unpacked by:

Cooler Received on 3-15-21 Opened on 3 15 21

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ 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# IR-11 (CF +0.1 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°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# HC022887
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: _____

WI-NC-099

Login # : 145926

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	IR-11 IR-12	3.0	3.1	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	2.4	2.5	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	0.7	0.8	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
				☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	pH	Container Temp	Preservative Added (mls)	Lot #
BAC-01	240-145926-C-1	Plastic 250ml - with Nitric Acid	<2			
MW-6	240-145926-C-2	Plastic 250ml - with Nitric Acid	<2			
BAC-07	240-145926-C-3	Plastic 250ml - with Nitric Acid	<2			
DUPLICATE #1 (BAC-07)	240-145926-C-4	Plastic 250ml - with Nitric Acid	<2			
BAC-06	240-145926-C-5	Plastic 250ml - with Nitric Acid	<2			
BAC-05	240-145926-C-6	Plastic 250ml - with Nitric Acid	<2			
BAC-04	240-145926-C-7	Plastic 250ml - with Nitric Acid	<2			
BAC-03	240-145926-C-8	Plastic 250ml - with Nitric Acid	<2			
BAC-02	240-145926-C-9	Plastic 250ml - with Nitric Acid	<2			
MW-1	240-145926-C-10	Plastic 250ml - with Nitric Acid	<2			

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ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-146081-1
Client Project/Site: Gavin CCR

For:
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Attn: Taylor Huffman

Roxanne Cisneros

Authorized for release by:
3/25/2021 2:17:23 PM

Roxanne Cisneros, Senior Project Manager
(615)301-5761
roxanne.cisneros@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

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.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

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: 240-146081-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-146081-1

Comments
No additional comments.

Receipt
The samples were received on 3/18/2021 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 0.2º C, 0.5º C, 0.6º C, 3.6º C, 3.7º C and 5.1º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method 300.0: The following samples were diluted due to the nature of the sample matrix: 2019-02 (240-146081-4) and DUPLICATE #2 (2019-02) (240-146081-5). 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: Gavin CCR

Job ID: 240-146081-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
2320B-1997	Alkalinity, Total	SM	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-146081-1	BOTTOM ASH	Water	03/15/21 12:55	03/18/21 08:00	
240-146081-2	RECLAIM POND	Water	03/15/21 13:00	03/18/21 08:00	
240-146081-3	RIVER	Water	03/15/21 13:30	03/18/21 08:00	
240-146081-4	2019-02	Water	03/16/21 09:10	03/18/21 08:00	
240-146081-5	DUPLICATE #2 (2019-02)	Water	03/16/21 09:10	03/18/21 08:00	
240-146081-6	2019-06	Water	03/16/21 10:13	03/18/21 08:00	
240-146081-7	2016-03	Water	03/16/21 13:07	03/18/21 08:00	

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: BOTTOM ASH — Lab Sample ID: 240-146081-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	410	B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	110000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	22000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	7500		1000	220	ug/L	1		6020	Total Recoverable
Sodium	73000		1000	330	ug/L	1		6020	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	130		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.38		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	720		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: RECLAIM POND — Lab Sample ID: 240-146081-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	370	B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	98000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	22000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	5300		1000	220	ug/L	1		6020	Total Recoverable
Sodium	70000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	68		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	68		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	120		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.38		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	690		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: RIVER — Lab Sample ID: 240-146081-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	39	J B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	28000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	7400		1000	200	ug/L	1		6020	Total Recoverable
Potassium	2100		1000	220	ug/L	1		6020	Total Recoverable
Sodium	18000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	54		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	54		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	27		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.090	F1	0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	45		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	190		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: 240-146081-1

Client Sample ID: 2019-02 — Lab Sample ID: 240-146081-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	31	J B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	240000		1000	580	ug/L	1		6020	Total Recoverable
Potassium	21000		1000	220	ug/L	1		6020	Total Recoverable
Sodium	530000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	1700		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Carbonate Alkalinity as CaCO3	53		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	190		5.0	1.4	mg/L	5		300.0	Total/NA
Fluoride	0.73		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	3.0	J	5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	1700		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUPLICATE #2 (2019-02) — Lab Sample ID: 240-146081-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	31	J B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	250000		1000	580	ug/L	1		6020	Total Recoverable
Potassium	21000		1000	220	ug/L	1		6020	Total Recoverable
Sodium	540000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	1700		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Carbonate Alkalinity as CaCO3	52		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	180		5.0	1.4	mg/L	5		300.0	Total/NA
Fluoride	0.70		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	2.8	J	5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	1800		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 2019-06 — Lab Sample ID: 240-146081-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	280	B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	72000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	21000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	7200		1000	220	ug/L	1		6020	Total Recoverable
Sodium	2300000		1000	330	ug/L	1		6020	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	3800		50	14	mg/L	50		300.0	Total/NA
Fluoride	1.3		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	710		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	7400		100	78	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: 240-146081-1

Client Sample ID: 2016-03

Lab Sample ID: 240-146081-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1700	B	100	23	ug/L	1		6010B	Total Recoverable
Calcium	370000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	94000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	7200		1000	220	ug/L	1		6020	Total Recoverable
Sodium	130000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	340		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	340		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	38		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.18		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	1300		10	3.5	mg/L	10		300.0	Total/NA
Total Dissolved Solids	2100		20	16	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: BOTTOM ASH

Lab Sample ID: 240-146081-1

Date Collected: 03/15/21 12:55

Matrix: Water

Date Received: 03/18/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	410	B	100	23	ug/L		03/19/21 14:00	03/22/21 14:44	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		1000	580	ug/L		03/19/21 14:00	03/23/21 16:11	1
Magnesium	22000		1000	200	ug/L		03/19/21 14:00	03/23/21 16:11	1
Potassium	7500		1000	220	ug/L		03/19/21 14:00	03/23/21 16:11	1
Sodium	73000		1000	330	ug/L		03/19/21 14:00	03/23/21 16:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	70		5.0	2.6	mg/L			03/23/21 20:20	1
Bicarbonate Alkalinity as CaCO3	70		5.0	2.6	mg/L			03/23/21 20:20	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 20:20	1
Chloride	130		1.0	0.28	mg/L			03/24/21 07:35	1
Fluoride	0.38		0.050	0.024	mg/L			03/24/21 07:35	1
Sulfate	300		5.0	1.7	mg/L			03/24/21 07:57	5
Total Dissolved Solids	720		10	7.8	mg/L			03/19/21 09:28	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-146081-1
Project/Site: Gavin CCR

Client Sample ID: RECLAIM POND
Lab Sample ID: 240-146081-2
Date Collected: 03/15/21 13:00
Matrix: Water
Date Received: 03/18/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	370	B	100	23	ug/L		03/19/21 14:00	03/22/21 14:49	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	98000		1000	580	ug/L		03/19/21 14:00	03/23/21 16:14	1
Magnesium	22000		1000	200	ug/L		03/19/21 14:00	03/23/21 16:14	1
Potassium	5300		1000	220	ug/L		03/19/21 14:00	03/23/21 16:14	1
Sodium	70000		1000	330	ug/L		03/19/21 14:00	03/23/21 16:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	68		5.0	2.6	mg/L			03/23/21 20:26	1
Bicarbonate Alkalinity as CaCO3	68		5.0	2.6	mg/L			03/23/21 20:26	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 20:26	1
Chloride	120		1.0	0.28	mg/L			03/24/21 08:19	1
Fluoride	0.38		0.050	0.024	mg/L			03/24/21 08:19	1
Sulfate	300		5.0	1.7	mg/L			03/24/21 09:24	5
Total Dissolved Solids	690		10	7.8	mg/L			03/19/21 09:28	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-146081-1
Project/Site: Gavin CCR

Client Sample ID: RIVER
Lab Sample ID: 240-146081-3
Date Collected: 03/15/21 13:30
Matrix: Water
Date Received: 03/18/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39	J B	100	23	ug/L		03/19/21 14:00	03/22/21 14:53	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	28000		1000	580	ug/L		03/19/21 14:00	03/23/21 16:16	1
Magnesium	7400		1000	200	ug/L		03/19/21 14:00	03/23/21 16:16	1
Potassium	2100		1000	220	ug/L		03/19/21 14:00	03/23/21 16:16	1
Sodium	18000		1000	330	ug/L		03/19/21 14:00	03/23/21 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	54		5.0	2.6	mg/L			03/23/21 20:30	1
Bicarbonate Alkalinity as CaCO3	54		5.0	2.6	mg/L			03/23/21 20:30	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 20:30	1
Chloride	27		1.0	0.28	mg/L			03/24/21 09:45	1
Fluoride	0.090	F1	0.050	0.024	mg/L			03/24/21 09:45	1
Sulfate	45		1.0	0.35	mg/L			03/24/21 09:45	1
Total Dissolved Solids	190		10	7.8	mg/L			03/19/21 09:28	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: 2019-02

Date Collected: 03/16/21 09:10
Date Received: 03/18/21 08:00

Lab Sample ID: 240-146081-4

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**31**	**J B**	100	23	ug/L		03/19/21 14:00	03/22/21 15:05	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**240000**		1000	580	ug/L		03/19/21 14:00	03/23/21 16:19	1
Magnesium	1000	U	1000	200	ug/L		03/19/21 14:00	03/23/21 16:19	1
Potassium	**21000**		1000	220	ug/L		03/19/21 14:00	03/23/21 16:19	1
Sodium	**530000**		1000	330	ug/L		03/19/21 14:00	03/23/21 16:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**1700**		5.0	2.6	mg/L			03/24/21 22:48	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/24/21 22:48	1
Carbonate Alkalinity as CaCO3	**53**		5.0	2.6	mg/L			03/24/21 22:48	1
Chloride	**190**		5.0	1.4	mg/L			03/24/21 10:50	5
Fluoride	**0.73**		0.25	0.12	mg/L			03/24/21 10:50	5
Sulfate	**3.0**	**J**	5.0	1.7	mg/L			03/24/21 10:50	5
Total Dissolved Solids	**1700**		50	39	mg/L			03/22/21 09:01	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: DUPLICATE #2 (2019-02)

Date Collected: 03/16/21 09:10
Date Received: 03/18/21 08:00

Lab Sample ID: 240-146081-5

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	31	J B	100	23	ug/L		03/19/21 14:00	03/22/21 15:10	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	250000		1000	580	ug/L		03/19/21 14:00	03/23/21 16:21	1
Magnesium	1000	U	1000	200	ug/L		03/19/21 14:00	03/23/21 16:21	1
Potassium	21000		1000	220	ug/L		03/19/21 14:00	03/23/21 16:21	1
Sodium	540000		1000	330	ug/L		03/19/21 14:00	03/23/21 16:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	1700		5.0	2.6	mg/L			03/24/21 22:58	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/24/21 22:58	1
Carbonate Alkalinity as CaCO3	52		5.0	2.6	mg/L			03/24/21 22:58	1
Chloride	180		5.0	1.4	mg/L			03/24/21 11:34	5
Fluoride	0.70		0.25	0.12	mg/L			03/24/21 11:34	5
Sulfate	2.8	J	5.0	1.7	mg/L			03/24/21 11:34	5
Total Dissolved Solids	1800		50	39	mg/L			03/22/21 09:01	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: 2019-06

Date Collected: 03/16/21 10:13
Date Received: 03/18/21 08:00

Lab Sample ID: 240-146081-6

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	280	B	100	23	ug/L		03/19/21 14:00	03/22/21 15:15	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	72000		1000	580	ug/L		03/19/21 14:00	03/23/21 16:24	1
Magnesium	21000		1000	200	ug/L		03/19/21 14:00	03/23/21 16:24	1
Potassium	7200		1000	220	ug/L		03/19/21 14:00	03/23/21 16:24	1
Sodium	2300000		1000	330	ug/L		03/19/21 14:00	03/23/21 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	180		5.0	2.6	mg/L			03/24/21 23:03	1
Bicarbonate Alkalinity as CaCO3	180		5.0	2.6	mg/L			03/24/21 23:03	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/24/21 23:03	1
Chloride	3800		50	14	mg/L			03/24/21 12:39	50
Fluoride	1.3		0.25	0.12	mg/L			03/24/21 12:17	5
Sulfate	710		5.0	1.7	mg/L			03/24/21 12:17	5
Total Dissolved Solids	7400		100	78	mg/L			03/22/21 09:01	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-146081-1
Project/Site: Gavin CCR

Client Sample ID: 2016-03
Date Collected: 03/16/21 13:07
Date Received: 03/18/21 08:00

Lab Sample ID: 240-146081-7
Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1700	B	100	23	ug/L		03/19/21 14:00	03/22/21 15:19	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	370000		1000	580	ug/L		03/19/21 14:00	03/23/21 16:26	1
Magnesium	94000		1000	200	ug/L		03/19/21 14:00	03/23/21 16:26	1
Potassium	7200		1000	220	ug/L		03/19/21 14:00	03/23/21 16:26	1
Sodium	130000		1000	330	ug/L		03/19/21 14:00	03/23/21 16:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	340		5.0	2.6	mg/L			03/24/21 23:08	1
Bicarbonate Alkalinity as CaCO3	340		5.0	2.6	mg/L			03/24/21 23:08	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/24/21 23:08	1
Chloride	38		1.0	0.28	mg/L			03/24/21 13:44	1
Fluoride	0.18		0.050	0.024	mg/L			03/24/21 13:44	1
Sulfate	1300		10	3.5	mg/L			03/24/21 14:06	10
Total Dissolved Solids	2100		20	16	mg/L			03/22/21 09:01	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-477468/1-A
Matrix: Water
Analysis Batch: 477805

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477468

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.6	J	100	23	ug/L		03/19/21 14:00	03/22/21 13:24	1

Lab Sample ID: LCS 240-477468/2-A
Matrix: Water
Analysis Batch: 477805

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1040		ug/L		104	80 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-477468/1-A
Matrix: Water
Analysis Batch: 477800

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477468

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	580	ug/L		03/19/21 14:00	03/22/21 14:57	1
Magnesium	1000	U	1000	200	ug/L		03/19/21 14:00	03/22/21 14:57	1
Potassium	1000	U	1000	220	ug/L		03/19/21 14:00	03/22/21 14:57	1
Sodium	1000	U	1000	330	ug/L		03/19/21 14:00	03/22/21 14:57	1

Lab Sample ID: LCS 240-477468/3-A
Matrix: Water
Analysis Batch: 477800

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25000	25000		ug/L		100	80 - 120
Magnesium	25000	24700		ug/L		99	80 - 120
Potassium	25000	24500		ug/L		98	80 - 120
Sodium	25000	24700		ug/L		99	80 - 120

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-477921/4
Matrix: Water
Analysis Batch: 477921

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	5.0	U	5.0	2.6	mg/L			03/23/21 19:00	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:00	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/23/21 19:00	1

Lab Sample ID: LCS 240-477921/3
Matrix: Water
Analysis Batch: 477921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	246	239		mg/L		97	86 - 123

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: MB 240-478279/4
Matrix: Water
Analysis Batch: 478279

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	5.0	U	5.0	2.6	mg/L			03/24/21 22:25	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/24/21 22:25	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			03/24/21 22:25	1

Lab Sample ID: LCS 240-478279/3
Matrix: Water
Analysis Batch: 478279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	246	239		mg/L		97	86 - 123

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-477918/3
Matrix: Water
Analysis Batch: 477918

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			03/24/21 00:43	1
Fluoride	0.050	U	0.050	0.024	mg/L			03/24/21 00:43	1
Sulfate	1.0	U	1.0	0.35	mg/L			03/24/21 00:43	1

Lab Sample ID: LCS 240-477918/4
Matrix: Water
Analysis Batch: 477918

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	50.0		mg/L		100	90 - 110
Fluoride	2.50	2.66		mg/L		106	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

Lab Sample ID: 240-146081-3 MS
Matrix: Water
Analysis Batch: 477918

Client Sample ID: RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	27		50.0	83.2		mg/L		113	80 - 120
Fluoride	0.090	F1	2.50	3.02		mg/L		117	80 - 120
Sulfate	45		50.0	97.3		mg/L		105	80 - 120

Lab Sample ID: 240-146081-3 MSD
Matrix: Water
Analysis Batch: 477918

Client Sample ID: 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	27		50.0	82.4		mg/L		111	80 - 120	1	15
Fluoride	0.090	F1	2.50	3.10	F1	mg/L		121	80 - 120	3	15
Sulfate	45		50.0	99.2		mg/L		109	80 - 120	2	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-477474/1
Matrix: Water
Analysis Batch: 477474

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	10	U	10	7.8	mg/L			03/19/21 09:28	1

Lab Sample ID: LCS 240-477474/2
Matrix: Water
Analysis Batch: 477474

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	245	256		mg/L		104	80 - 120

Lab Sample ID: MB 240-477648/1
Matrix: Water
Analysis Batch: 477648

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	10	U	10	7.8	mg/L			03/22/21 09:01	1

Lab Sample ID: LCS 240-477648/2
Matrix: Water
Analysis Batch: 477648

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	245	251		mg/L		102	80 - 120

Metals

Prep Batch: 477468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-1	BOTTOM ASH	Total Recoverable	Water	3005A	
240-146081-2	RECLAIM POND	Total Recoverable	Water	3005A	
240-146081-3	RIVER	Total Recoverable	Water	3005A	
240-146081-4	2019-02	Total Recoverable	Water	3005A	
240-146081-5	DUPLICATE #2 (2019-02)	Total Recoverable	Water	3005A	
240-146081-6	2019-06	Total Recoverable	Water	3005A	
240-146081-7	2016-03	Total Recoverable	Water	3005A	
MB 240-477468/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-477468/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-477468/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 477800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-477468/1-A	Method Blank	Total Recoverable	Water	6020	477468
LCS 240-477468/3-A	Lab Control Sample	Total Recoverable	Water	6020	477468

Analysis Batch: 477805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-1	BOTTOM ASH	Total Recoverable	Water	6010B	477468
240-146081-2	RECLAIM POND	Total Recoverable	Water	6010B	477468
240-146081-3	RIVER	Total Recoverable	Water	6010B	477468
240-146081-4	2019-02	Total Recoverable	Water	6010B	477468
240-146081-5	DUPLICATE #2 (2019-02)	Total Recoverable	Water	6010B	477468
240-146081-6	2019-06	Total Recoverable	Water	6010B	477468
240-146081-7	2016-03	Total Recoverable	Water	6010B	477468
MB 240-477468/1-A	Method Blank	Total Recoverable	Water	6010B	477468
LCS 240-477468/2-A	Lab Control Sample	Total Recoverable	Water	6010B	477468

Analysis Batch: 477974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-1	BOTTOM ASH	Total Recoverable	Water	6020	477468
240-146081-2	RECLAIM POND	Total Recoverable	Water	6020	477468
240-146081-3	RIVER	Total Recoverable	Water	6020	477468
240-146081-4	2019-02	Total Recoverable	Water	6020	477468
240-146081-5	DUPLICATE #2 (2019-02)	Total Recoverable	Water	6020	477468
240-146081-6	2019-06	Total Recoverable	Water	6020	477468
240-146081-7	2016-03	Total Recoverable	Water	6020	477468

General Chemistry

Analysis Batch: 477474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-1	BOTTOM ASH	Total/NA	Water	SM 2540C	
240-146081-2	RECLAIM POND	Total/NA	Water	SM 2540C	
240-146081-3	RIVER	Total/NA	Water	SM 2540C	
MB 240-477474/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-477474/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 477648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-4	2019-02	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 477648 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-5	DUPLICATE #2 (2019-02)	Total/NA	Water	SM 2540C	
240-146081-6	2019-06	Total/NA	Water	SM 2540C	
240-146081-7	2016-03	Total/NA	Water	SM 2540C	
MB 240-477648/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-477648/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 477918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-1	BOTTOM ASH	Total/NA	Water	300.0	
240-146081-1	BOTTOM ASH	Total/NA	Water	300.0	
240-146081-2	RECLAIM POND	Total/NA	Water	300.0	
240-146081-2	RECLAIM POND	Total/NA	Water	300.0	
240-146081-3	RIVER	Total/NA	Water	300.0	
240-146081-4	2019-02	Total/NA	Water	300.0	
240-146081-5	DUPLICATE #2 (2019-02)	Total/NA	Water	300.0	
240-146081-6	2019-06	Total/NA	Water	300.0	
240-146081-6	2019-06	Total/NA	Water	300.0	
240-146081-7	2016-03	Total/NA	Water	300.0	
240-146081-7	2016-03	Total/NA	Water	300.0	
MB 240-477918/3	Method Blank	Total/NA	Water	300.0	
LCS 240-477918/4	Lab Control Sample	Total/NA	Water	300.0	
240-146081-3 MS	RIVER	Total/NA	Water	300.0	
240-146081-3 MSD	RIVER	Total/NA	Water	300.0	

Analysis Batch: 477921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-1	BOTTOM ASH	Total/NA	Water	2320B-1997	
240-146081-2	RECLAIM POND	Total/NA	Water	2320B-1997	
240-146081-3	RIVER	Total/NA	Water	2320B-1997	
MB 240-477921/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-477921/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Analysis Batch: 478279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-146081-4	2019-02	Total/NA	Water	2320B-1997	
240-146081-5	DUPLICATE #2 (2019-02)	Total/NA	Water	2320B-1997	
240-146081-6	2019-06	Total/NA	Water	2320B-1997	
240-146081-7	2016-03	Total/NA	Water	2320B-1997	
MB 240-478279/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-478279/3	Lab Control Sample	Total/NA	Water	2320B-1997	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: BOTTOM ASH

Lab Sample ID: 240-146081-1
Matrix: Water
Date Collected: 03/15/21 12:55
Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 14:44	KLC	TAL CAN
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:11	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 20:20	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477918	03/24/21 07:35	JWW	TAL CAN
Total/NA	Analysis	300.0		5	477918	03/24/21 07:57	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477474	03/19/21 09:28	AJ	TAL CAN

Client Sample ID: RECLAIM POND

Lab Sample ID: 240-146081-2
Matrix: Water
Date Collected: 03/15/21 13:00
Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 14:49	KLC	TAL CAN
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:14	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 20:26	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477918	03/24/21 08:19	JWW	TAL CAN
Total/NA	Analysis	300.0		5	477918	03/24/21 09:24	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477474	03/19/21 09:28	AJ	TAL CAN

Client Sample ID: RIVER

Lab Sample ID: 240-146081-3
Matrix: Water
Date Collected: 03/15/21 13:30
Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 14:53	KLC	TAL CAN
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:16	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	477921	03/23/21 20:30	AGC	TAL CAN
Total/NA	Analysis	300.0		1	477918	03/24/21 09:45	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477474	03/19/21 09:28	AJ	TAL CAN

Client Sample ID: 2019-02

Lab Sample ID: 240-146081-4
Matrix: Water
Date Collected: 03/16/21 09:10
Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 15:05	KLC	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: 2019-02

Lab Sample ID: 240-146081-4

Date Collected: 03/16/21 09:10

Matrix: Water

Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:19	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	478279	03/24/21 22:48	JMB	TAL CAN
Total/NA	Analysis	300.0		5	477918	03/24/21 10:50	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477648	03/22/21 09:01	AJ	TAL CAN

Client Sample ID: DUPLICATE #2 (2019-02)

Lab Sample ID: 240-146081-5

Date Collected: 03/16/21 09:10

Matrix: Water

Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 15:10	KLC	TAL CAN
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:21	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	478279	03/24/21 22:58	JMB	TAL CAN
Total/NA	Analysis	300.0		5	477918	03/24/21 11:34	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477648	03/22/21 09:01	AJ	TAL CAN

Client Sample ID: 2019-06

Lab Sample ID: 240-146081-6

Date Collected: 03/16/21 10:13

Matrix: Water

Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 15:15	KLC	TAL CAN
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:24	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	478279	03/24/21 23:03	JMB	TAL CAN
Total/NA	Analysis	300.0		5	477918	03/24/21 12:17	JWW	TAL CAN
Total/NA	Analysis	300.0		50	477918	03/24/21 12:39	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477648	03/22/21 09:01	AJ	TAL CAN

Client Sample ID: 2016-03

Lab Sample ID: 240-146081-7

Date Collected: 03/16/21 13:07

Matrix: Water

Date Received: 03/18/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	477805	03/22/21 15:19	KLC	TAL CAN
Total Recoverable	Prep	3005A			477468	03/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	477974	03/23/21 16:26	DTN	TAL CAN
Total/NA	Analysis	2320B-1997		1	478279	03/24/21 23:08	JMB	TAL CAN
Total/NA	Analysis	300.0		1	477918	03/24/21 13:44	JWW	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-146081-1

Client Sample ID: 2016-03

Date Collected: 03/16/21 13:07
Date Received: 03/18/21 08:00

Lab Sample ID: 240-146081-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	477918	03/24/21 14:06	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	477648	03/22/21 09:01	AJ	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-146081-1
Project/Site: Gavin CCR

Laboratory: Eurofins TestAmerica, Canton

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	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Cambridge 208

Chain of Custody Record

Cambridge 208

eurofins | Environment Testing America

Client Information	Sampler: Shawn	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s): 063	COC No: 240-74320-29945.3
Client Contact: Taylor Huffman	Phone:	E-Mail: roxanne.cisneros@Eurofinset.com		Page: Page 3 of 5
Company: Lightstone Generation Gavin Power LLC				Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620				
Phone:	PO #: 2928210			
Email: taylor.huffman@lightstonegen.com	WO #:			
Project Name: Gavin CCR	Project #: 24019633			
Site:	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)	6010B, 6020	2540C_Calcd, 300.0_28D	2320B - Alkalinity	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	N		
Bottom Ash	3-15-21	1255	G	Water			1	1	1		
Reclaim Pond	3-15-21	1300	G	Water			1	1	1		
River	3-15-21	1330	G	Water			1	1	1		
2019-02	3-16-21	0910	G	Water			1	1	1		
Duplicate #2 (2019-02)	3-16-21	0910	G	Water			1	1	1		
2019-06	3-16-21	1013	G	Water			1	1	1		
2016-03	3-16-21	1307	G	Water			1	1	1		
				Water							
				Water							
				Water							
				Water							

240-146081 Chain of Custody

Cambridge 208

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	Shawn	3-17-21 0900	Gavin	R Bidwell	3/17/21 1017	ET
2	R Bidwell	3/17/21 1600	ET	MJS ETA CANTON	MAR 18 2021	800
3						

Cambridge 208

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 240-146681

Client Lightstone Generation Cavu Site Name _____

Cooler unpacked by: MJS ETA CANTON

Cooler Received on MAR 18 2021 Opened on MAR 18 2021

FedEx: 1st Grd Exp UPS FAS (Clipper) Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A 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# IR-11 (CF +0.1 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 6	(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# HC022887
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: _____

WI-NC-099

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
BOTTOM ASH	240-146081-C-1	Plastic 500ml - with Nitric Acid	<2			
RECLAIM POND	240-146081-C-2	Plastic 500ml - with Nitric Acid	<2			
RIVER	240-146081-C-3	Plastic 500ml - with Nitric Acid	<2			
2019-02	240-146081-C-4	Plastic 500ml - with Nitric Acid	<2			
DUPLICATE #2 (2019-02)	240-146081-C-5	Plastic 500ml - with Nitric Acid	<2			
2019-06	240-146081-C-6	Plastic 500ml - with Nitric Acid	<2			
2019-03	240-146081-C-7	Plastic 500ml - with Nitric Acid	<2			

Login # : _______________

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	IR-11 IR-12	0.4	0.5	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	0.1	0.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	0.5	0.6	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	3.6	3.7	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	3.5	3.6	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	5.0	5.1	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

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ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-156536-1
Client Project/Site: Gavin CCR

For:
Lightstone Generation Gavin Power LLC
7397 OH-7
Cheshire, Ohio 45620

Attn: Taylor Huffman

Roxanne Cisneros

Authorized for release by:
10/12/2021 9:45:53 AM

Roxanne Cisneros, Senior Project Manager
(615)301-5761
roxanne.cisneros@Eurofinset.com

Table of Contents

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Qualifiers

Metals

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
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.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

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: 240-156536-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-156536-1

Comments
No additional comments.

Receipt
The samples were received on 9/22/2021 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 7 coolers at receipt time were 1.5º C, 2.2º C, 3.3º C, 3.7º C, 3.8º C, 4.1º C and 4.8º C.

Metals
Method 6020: The continuing calibration blank (CCB) for samples: 2016-09 (240-156536-1), DUPLICATE #2 (240-156536-2), 96154R (240-156536-3), 96153R (240-156536-4), MW-20 (240-156536-5), 93108 (240-156536-7), MW-1 (240-156536-8), RIVER (240-156536-9), BAC-02 (240-156536-14), BAC-05 (240-156536-15) and BAC-04 (240-156536-16) contained Sodium above the requested reporting limit (RL). Associated samples were not re-analyzed because results were greater than 10X the value found in the CCB.

Method 6020: The following sample was diluted due to the nature of the sample matrix: 2016-10 (240-156536-6). 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.

General Chemistry
Method SM 2320B: The following sample was analyzed outside of analytical holding time due to lab oversight: 96154R (240-156536-3).

Method 300.0: The following sample was diluted due to the nature of the sample matrix: 2016-10 (240-156536-6). 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: Gavin CCR

Job ID: 240-156536-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
2320B-1997	Alkalinity, Total	SM	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-156536-1	2016-09	Water	09/20/21 09:38	09/22/21 08:00
240-156536-2	DUPLICATE #2	Water	09/20/21 09:38	09/22/21 08:00
240-156536-3	96154R	Water	09/20/21 10:03	09/22/21 08:00
240-156536-4	96153R	Water	09/20/21 10:44	09/22/21 08:00
240-156536-5	MW-20	Water	09/20/21 11:13	09/22/21 08:00
240-156536-6	2016-10	Water	09/20/21 13:23	09/22/21 08:00
240-156536-7	93108	Water	09/20/21 14:27	09/22/21 08:00
240-156536-8	MW-1	Water	09/20/21 15:33	09/22/21 08:00
240-156536-9	RIVER	Water	09/20/21 15:54	09/22/21 08:00
240-156536-10	BAC-1	Water	09/18/21 09:39	09/22/21 08:00
240-156536-11	MW-6	Water	09/18/21 10:13	09/22/21 08:00
240-156536-12	BAC-07	Water	09/18/21 10:51	09/22/21 08:00
240-156536-13	BAC-06	Water	09/18/21 12:47	09/22/21 08:00
240-156536-14	BAC-02	Water	09/18/21 13:24	09/22/21 08:00
240-156536-15	BAC-05	Water	09/18/21 13:55	09/22/21 08:00
240-156536-16	BAC-04	Water	09/18/21 15:11	09/22/21 08:00
240-156536-17	BAC-03	Water	09/18/21 15:44	09/22/21 08:00
240-156536-18	DUPLICATE #1 (BAC-03)	Water	09/18/21 15:44	09/22/21 08:00
240-156536-19	94136	Water	09/19/21 08:59	09/22/21 08:00
240-156536-20	94137	Water	09/19/21 09:22	09/22/21 08:00
240-156536-21	2000	Water	09/19/21 09:57	09/22/21 08:00
240-156536-22	MW-15	Water	09/19/21 12:06	09/22/21 08:00
240-156536-23	MW-17	Water	09/19/21 13:02	09/22/21 08:00
240-156536-24	B0903	Water	09/19/21 14:35	09/22/21 08:00
240-156536-25	BOTTOM ASH POND	Water	09/19/21 14:55	09/22/21 08:00
240-156536-26	RECLAIM POND	Water	09/19/21 15:08	09/22/21 08:00

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 2016-09 — Lab Sample ID: 240-156536-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	120		100	57	ug/L	1		6010B	Total Recoverable
Calcium	52000		1000	580	ug/L	1		6020	Total Recoverable
Potassium	8800		1000	220	ug/L	1		6020	Total Recoverable
Sodium	1000000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	1500		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Carbonate Alkalinity as CaCO3	77		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	870		5.0	1.4	mg/L	5		300.0	Total/NA
Fluoride	1.1		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	43		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	2200		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUPLICATE #2 — Lab Sample ID: 240-156536-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	130		100	57	ug/L	1		6010B	Total Recoverable
Calcium	56000		1000	580	ug/L	1		6020	Total Recoverable
Potassium	9600		1000	220	ug/L	1		6020	Total Recoverable
Sodium	1100000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	1500		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Carbonate Alkalinity as CaCO3	75		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	860		5.0	1.4	mg/L	5		300.0	Total/NA
Fluoride	1.0		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	42		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	2700		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 96154R — Lab Sample ID: 240-156536-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	530		100	57	ug/L	1		6010B	Total Recoverable
Calcium	14000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	1500		1000	200	ug/L	1		6020	Total Recoverable
Potassium	3800		1000	220	ug/L	1		6020	Total Recoverable
Sodium	570000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	550	H	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	500	H	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Carbonate Alkalinity as CaCO3	48	H	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	520		10	2.8	mg/L	10		300.0	Total/NA
Fluoride	4.4		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	41		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	1300		20	16	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: 240-156536-1

Client Sample ID: 96153R — Lab Sample ID: 240-156536-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	510		100	57	ug/L	1		6010B	Total Recoverable
Calcium	120000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	23000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	5800		1000	220	ug/L	1		6020	Total Recoverable
Sodium	320000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	350		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
Carbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	11		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.80		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	950		10	3.5	mg/L	10		300.0	Total/NA
Total Dissolved Solids	1500		20	16	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-20 — Lab Sample ID: 240-156536-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	99	J	100	57	ug/L	1		6010B	Total Recoverable
Calcium	440000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	100000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	5400		1000	220	ug/L	1		6020	Total Recoverable
Sodium	24000	^2	1000	330	ug/L	1		6020	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	1.8		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	1.4		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	1600		10	3.5	mg/L	10		300.0	Total/NA
Total Dissolved Solids	2100		20	16	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 2016-10 — Lab Sample ID: 240-156536-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	430		100	57	ug/L	1		6010B	Total Recoverable
Calcium	650000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	220000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	60000		1000	220	ug/L	1		6020	Total Recoverable
Sodium	8000000		10000	3300	ug/L	10		6020	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	15000		1000	280	mg/L	1000		300.0	Total/NA
Sulfate	300		50	17	mg/L	50		300.0	Total/NA
Total Dissolved Solids	22000		1000	780	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 93108 — Lab Sample ID: 240-156536-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	440		100	57	ug/L	1		6010B	Total Recoverable
Calcium	15000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	3800		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020	Total Recoverable
Sodium	1100000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	520		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	520		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	1500		20	5.7	mg/L	20		300.0	Total/NA
Fluoride	3.2		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	39		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	2800		50	39	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-1 — Lab Sample ID: 240-156536-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	69	J	100	57	ug/L	1		6010B	Total Recoverable
Calcium	130000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	15000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020	Total Recoverable
Sodium	17000	^2	1000	330	ug/L	1		6020	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	41		1.0	0.28	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: RIVER — Lab Sample ID: 240-156536-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	65	J	100	57	ug/L	1		6010B	Total Recoverable
Calcium	33000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	8700		1000	200	ug/L	1		6020	Total Recoverable
Potassium	3000		1000	220	ug/L	1		6020	Total Recoverable
Sodium	23000	^2	1000	330	ug/L	1		6020	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	25		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.14		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	66		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	220		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: 240-156536-1

Client Sample ID: BAC-1 — Lab Sample ID: 240-156536-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	100		100	57	ug/L	1		6010B	Total Recoverable
Calcium	100000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	13000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1400		1000	220	ug/L	1		6020	Total Recoverable
Sodium	13000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	190	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	190	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	34		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.13		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	94		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: MW-6 — Lab Sample ID: 240-156536-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	14000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1600		1000	220	ug/L	1		6020	Total Recoverable
Sodium	14000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	210	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	210	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	26		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.097		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-07 — Lab Sample ID: 240-156536-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	57	ug/L	1		6010B	Total Recoverable
Calcium	87000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	20000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1300		1000	220	ug/L	1		6020	Total Recoverable
Sodium	16000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	110	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	110	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	27		1.0	0.28	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	510		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: 240-156536-1

Client Sample ID: BAC-06 — Lab Sample ID: 240-156536-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1700		100	57	ug/L	1		6010B	Total Recoverable
Calcium	120000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	28000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1500		1000	220	ug/L	1		6020	Total Recoverable
Sodium	17000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	170	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	170	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	25		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.11		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	570		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-02 — Lab Sample ID: 240-156536-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1400		100	57	ug/L	1		6010B	Total Recoverable
Calcium	130000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	37000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	2800		1000	220	ug/L	1		6020	Total Recoverable
Sodium	65000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	230	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	230	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	69		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.19		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	860		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-05 — Lab Sample ID: 240-156536-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3000		100	57	ug/L	1		6010B	Total Recoverable
Calcium	100000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	21000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1400		1000	220	ug/L	1		6020	Total Recoverable
Sodium	21000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	140	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	22		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.20		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	520		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: 240-156536-1

Client Sample ID: BAC-04 — Lab Sample ID: 240-156536-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2400		100	57	ug/L	1		6010B	Total Recoverable
Calcium	92000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	19000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1800		1000	220	ug/L	1		6020	Total Recoverable
Sodium	26000	^2	1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	94	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	94	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	42		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.087		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	230		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	560		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: BAC-03 — Lab Sample ID: 240-156536-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1800		100	57	ug/L	1		6010B	Total Recoverable
Calcium	84000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	16000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020	Total Recoverable
Sodium	34000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	86	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	86	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	64		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.065		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	470		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUPLICATE #1 (BAC-03) — Lab Sample ID: 240-156536-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1800		100	57	ug/L	1		6010B	Total Recoverable
Calcium	84000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	17000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020	Total Recoverable
Sodium	34000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	85	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	85	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	64		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.066		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	510		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: 240-156536-1

Client Sample ID: 94136 — Lab Sample ID: 240-156536-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	350		100	57	ug/L	1		6010B	Total Recoverable
Calcium	14000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	3500		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1700		1000	220	ug/L	1		6020	Total Recoverable
Sodium	650000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	300	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	300	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	930		10	2.8	mg/L	10		300.0	Total/NA
Fluoride	1.3		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	59		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	1800		20	16	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 94137 — Lab Sample ID: 240-156536-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	46000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	1600		1000	220	ug/L	1		6020	Total Recoverable
Sodium	59000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	310	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	310	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	28		1.0	0.28	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	900		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 2000 — Lab Sample ID: 240-156536-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	320		100	57	ug/L	1		6010B	Total Recoverable
Calcium	2700		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	700	J	1000	200	ug/L	1		6020	Total Recoverable
Potassium	780	J	1000	220	ug/L	1		6020	Total Recoverable
Sodium	460000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	360	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	320	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Carbonate Alkalinity as CaCO3	38		5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	110		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	2.5		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	530		10	3.5	mg/L	10		300.0	Total/NA
Total Dissolved Solids	1400		20	16	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: 240-156536-1

Client Sample ID: MW-15 — Lab Sample ID: 240-156536-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	200		100	57	ug/L	1		6010B	Total Recoverable
Calcium	380000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	120000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	4200		1000	220	ug/L	1		6020	Total Recoverable
Sodium	190000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	400	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	400	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	22		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.18		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	1800		10	3.5	mg/L	10		300.0	Total/NA
Total Dissolved Solids	2900		40	31	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-17 — Lab Sample ID: 240-156536-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	440		100	57	ug/L	1		6010B	Total Recoverable
Calcium	96000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	18000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	5500		1000	220	ug/L	1		6020	Total Recoverable
Sodium	2600000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	270	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	270	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	4500		50	14	mg/L	50		300.0	Total/NA
Fluoride	1.7		0.25	0.12	mg/L	5		300.0	Total/NA
Sulfate	47		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	7900		100	78	mg/L	1		SM 2540C	Total/NA

Client Sample ID: B0903 — Lab Sample ID: 240-156536-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	23000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	11000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	2600		1000	220	ug/L	1		6020	Total Recoverable
Sodium	15000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	29	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	29	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	35		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.049	J	0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	53		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	270		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: 240-156536-1

Client Sample ID: BOTTOM ASH POND — Lab Sample ID: 240-156536-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	430		100	57	ug/L	1		6010B	Total Recoverable
Calcium	130000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	30000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	9700		1000	220	ug/L	1		6020	Total Recoverable
Sodium	81000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	69	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	69	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	100		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.59		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	440		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	890		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: RECLAIM POND — Lab Sample ID: 240-156536-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	420		100	57	ug/L	1		6010B	Total Recoverable
Calcium	130000		1000	580	ug/L	1		6020	Total Recoverable
Magnesium	29000		1000	200	ug/L	1		6020	Total Recoverable
Potassium	9600		1000	220	ug/L	1		6020	Total Recoverable
Sodium	79000		1000	330	ug/L	1		6020	Total Recoverable
Total Alkalinity	66	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	66	B	5.0	2.6	mg/L	1		2320B-1997	Total/NA
Chloride	100		1.0	0.28	mg/L	1		300.0	Total/NA
Fluoride	0.57		0.050	0.024	mg/L	1		300.0	Total/NA
Sulfate	440		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	840		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
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: 2016-09
Lab Sample ID: 240-156536-1
Date Collected: 09/20/21 09:38
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**120**		100	57	ug/L		09/23/21 14:00	10/04/21 21:15	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**52000**		1000	580	ug/L		09/23/21 14:00	09/24/21 15:35	1
Magnesium	1000	U	1000	200	ug/L		09/23/21 14:00	09/24/21 15:35	1
Potassium	**8800**		1000	220	ug/L		09/23/21 14:00	09/24/21 15:35	1
Sodium	**1000000**	**^2**	1000	330	ug/L		09/23/21 14:00	09/24/21 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**1500**		5.0	2.6	mg/L			10/04/21 12:48	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 12:48	1
Carbonate Alkalinity as CaCO3	**77**		5.0	2.6	mg/L			10/04/21 12:48	1
Chloride	**870**		5.0	1.4	mg/L			10/02/21 11:45	5
Fluoride	**1.1**		0.25	0.12	mg/L			10/02/21 11:45	5
Sulfate	**43**		5.0	1.7	mg/L			10/02/21 11:45	5
Total Dissolved Solids	**2200**		50	39	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: DUPLICATE #2

Date Collected: 09/20/21 09:38
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-2

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**130**		100	57	ug/L		09/23/21 14:00	10/04/21 21:20	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**56000**		1000	580	ug/L		09/23/21 14:00	09/24/21 15:38	1
Magnesium	1000	U	1000	200	ug/L		09/23/21 14:00	09/24/21 15:38	1
Potassium	**9600**		1000	220	ug/L		09/23/21 14:00	09/24/21 15:38	1
Sodium	**1100000**	**^2**	1000	330	ug/L		09/23/21 14:00	09/24/21 15:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**1500**		5.0	2.6	mg/L			10/04/21 12:57	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 12:57	1
Carbonate Alkalinity as CaCO3	**75**		5.0	2.6	mg/L			10/04/21 12:57	1
Chloride	**860**		5.0	1.4	mg/L			10/02/21 12:26	5
Fluoride	**1.0**		0.25	0.12	mg/L			10/02/21 12:26	5
Sulfate	**42**		5.0	1.7	mg/L			10/02/21 12:26	5
Total Dissolved Solids	**2700**		50	39	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 96154R

Date Collected: 09/20/21 10:03
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-3

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	530		100	57	ug/L		09/23/21 14:00	10/04/21 21:24	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	14000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:40	1
Magnesium	1500		1000	200	ug/L		09/23/21 14:00	09/24/21 15:40	1
Potassium	3800		1000	220	ug/L		09/23/21 14:00	09/24/21 15:40	1
Sodium	570000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	550	H	5.0	2.6	mg/L			10/05/21 17:58	1
Bicarbonate Alkalinity as CaCO3	500	H	5.0	2.6	mg/L			10/05/21 17:58	1
Carbonate Alkalinity as CaCO3	48	H	5.0	2.6	mg/L			10/05/21 17:58	1
Chloride	520		10	2.8	mg/L			10/02/21 13:26	10
Fluoride	4.4		0.050	0.024	mg/L			10/02/21 13:06	1
Sulfate	41		1.0	0.35	mg/L			10/02/21 13:06	1
Total Dissolved Solids	1300		20	16	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 96153R

Date Collected: 09/20/21 10:44
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-4

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	510		100	57	ug/L		09/23/21 14:00	10/04/21 21:29	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:43	1
Magnesium	23000		1000	200	ug/L		09/23/21 14:00	09/24/21 15:43	1
Potassium	5800		1000	220	ug/L		09/23/21 14:00	09/24/21 15:43	1
Sodium	320000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 15:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	350		5.0	2.6	mg/L			10/04/21 13:12	1
Bicarbonate Alkalinity as CaCO3	120		5.0	2.6	mg/L			10/04/21 13:12	1
Carbonate Alkalinity as CaCO3	230		5.0	2.6	mg/L			10/04/21 13:12	1
Chloride	11		1.0	0.28	mg/L			10/02/21 13:46	1
Fluoride	0.80		0.050	0.024	mg/L			10/02/21 13:46	1
Sulfate	950		10	3.5	mg/L			10/02/21 14:06	10
Total Dissolved Solids	1500		20	16	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: MW-20
Lab Sample ID: 240-156536-5

Date Collected: 09/20/21 11:13
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	99	J	100	57	ug/L		09/23/21 14:00	10/04/21 21:33	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	440000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:45	1
Magnesium	100000		1000	200	ug/L		09/23/21 14:00	09/24/21 15:45	1
Potassium	5400		1000	220	ug/L		09/23/21 14:00	09/24/21 15:45	1
Sodium	24000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 15:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	170		5.0	2.6	mg/L			10/04/21 13:17	1
Bicarbonate Alkalinity as CaCO3	170		5.0	2.6	mg/L			10/04/21 13:17	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 13:17	1
Chloride	1.8		1.0	0.28	mg/L			10/02/21 15:07	1
Fluoride	1.4		0.050	0.024	mg/L			10/02/21 15:07	1
Sulfate	1600		10	3.5	mg/L			10/02/21 15:27	10
Total Dissolved Solids	2100		20	16	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: 2016-10
Lab Sample ID: 240-156536-6

Date Collected: 09/20/21 13:23
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	430		100	57	ug/L		09/23/21 14:00	10/04/21 21:46	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	650000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:48	1
Magnesium	220000		1000	200	ug/L		09/23/21 14:00	09/24/21 15:48	1
Potassium	60000		1000	220	ug/L		09/23/21 14:00	09/24/21 15:48	1
Sodium	8000000		10000	3300	ug/L		09/23/21 14:00	09/27/21 14:05	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	110		5.0	2.6	mg/L			10/04/21 13:21	1
Bicarbonate Alkalinity as CaCO3	110		5.0	2.6	mg/L			10/04/21 13:21	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 13:21	1
Chloride	15000		1000	280	mg/L			10/02/21 16:07	1000
Fluoride	2.5	U	2.5	1.2	mg/L			10/02/21 15:47	50
Sulfate	300		50	17	mg/L			10/02/21 15:47	50
Total Dissolved Solids	22000		1000	780	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: 93108
Lab Sample ID: 240-156536-7

Date Collected: 09/20/21 14:27
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	440		100	57	ug/L		09/23/21 14:00	10/04/21 21:51	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	15000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:55	1
Magnesium	3800		1000	200	ug/L		09/23/21 14:00	09/24/21 15:55	1
Potassium	1900		1000	220	ug/L		09/23/21 14:00	09/24/21 15:55	1
Sodium	1100000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 15:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	520		5.0	2.6	mg/L			10/04/21 13:27	1
Bicarbonate Alkalinity as CaCO3	520		5.0	2.6	mg/L			10/04/21 13:27	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 13:27	1
Chloride	1500		20	5.7	mg/L			10/02/21 16:47	20
Fluoride	3.2		0.25	0.12	mg/L			10/02/21 16:27	5
Sulfate	39		5.0	1.7	mg/L			10/02/21 16:27	5
Total Dissolved Solids	2800		50	39	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: MW-1
Lab Sample ID: 240-156536-8

Date Collected: 09/20/21 15:33
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	69	J	100	57	ug/L		09/23/21 14:00	10/04/21 21:55	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:58	1
Magnesium	15000		1000	200	ug/L		09/23/21 14:00	09/24/21 15:58	1
Potassium	1500		1000	220	ug/L		09/23/21 14:00	09/24/21 15:58	1
Sodium	17000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 15:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	240		5.0	2.6	mg/L			10/04/21 13:31	1
Bicarbonate Alkalinity as CaCO3	240		5.0	2.6	mg/L			10/04/21 13:31	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 13:31	1
Chloride	41		1.0	0.28	mg/L			10/02/21 17:08	1
Fluoride	0.11		0.050	0.024	mg/L			10/02/21 17:08	1
Sulfate	140		1.0	0.35	mg/L			10/02/21 17:08	1
Total Dissolved Solids	490		10	7.8	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: RIVER
Lab Sample ID: 240-156536-9

Date Collected: 09/20/21 15:54
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	65	J	100	57	ug/L		09/23/21 14:00	10/04/21 22:00	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	33000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:01	1
Magnesium	8700		1000	200	ug/L		09/23/21 14:00	09/24/21 16:01	1
Potassium	3000		1000	220	ug/L		09/23/21 14:00	09/24/21 16:01	1
Sodium	23000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 16:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	82		5.0	2.6	mg/L			10/04/21 13:39	1
Bicarbonate Alkalinity as CaCO3	82		5.0	2.6	mg/L			10/04/21 13:39	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 13:39	1
Chloride	25		1.0	0.28	mg/L			10/02/21 17:48	1
Fluoride	0.14		0.050	0.024	mg/L			10/02/21 17:48	1
Sulfate	66		1.0	0.35	mg/L			10/02/21 17:48	1
Total Dissolved Solids	220		10	7.8	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: BAC-1
Lab Sample ID: 240-156536-10

Date Collected: 09/18/21 09:39
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100		100	57	ug/L		09/23/21 14:00	10/04/21 22:04	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:03	1
Magnesium	13000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:03	1
Potassium	1400		1000	220	ug/L		09/23/21 14:00	09/24/21 16:03	1
Sodium	13000		1000	330	ug/L		09/23/21 14:00	09/27/21 14:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	190	B	5.0	2.6	mg/L			09/26/21 19:17	1
Bicarbonate Alkalinity as CaCO3	190	B	5.0	2.6	mg/L			09/26/21 19:17	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:17	1
Chloride	34		1.0	0.28	mg/L			10/02/21 19:28	1
Fluoride	0.13		0.050	0.024	mg/L			10/02/21 19:28	1
Sulfate	94		1.0	0.35	mg/L			10/02/21 19:28	1
Total Dissolved Solids	420		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: MW-6
Lab Sample ID: 240-156536-11
Date Collected: 09/18/21 10:13
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	57	ug/L		09/23/21 14:00	10/04/21 22:08	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**110000**		1000	580	ug/L		09/23/21 14:00	09/24/21 16:05	1
Magnesium	**14000**		1000	200	ug/L		09/23/21 14:00	09/24/21 16:05	1
Potassium	**1600**		1000	220	ug/L		09/23/21 14:00	09/24/21 16:05	1
Sodium	**14000**		1000	330	ug/L		09/23/21 14:00	09/27/21 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**210**	**B**	5.0	2.6	mg/L			09/26/21 19:21	1
Bicarbonate Alkalinity as CaCO3	**210**	**B**	5.0	2.6	mg/L			09/26/21 19:21	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:21	1
Chloride	**26**		1.0	0.28	mg/L			10/02/21 20:09	1
Fluoride	**0.097**		0.050	0.024	mg/L			10/02/21 20:09	1
Sulfate	**120**		1.0	0.35	mg/L			10/02/21 20:09	1
Total Dissolved Solids	**490**		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: BAC-07
Lab Sample ID: 240-156536-12
Date Collected: 09/18/21 10:51
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1100		100	57	ug/L		09/23/21 14:00	10/04/21 22:13	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:08	1
Magnesium	20000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:08	1
Potassium	1300		1000	220	ug/L		09/23/21 14:00	09/24/21 16:08	1
Sodium	16000		1000	330	ug/L		09/23/21 14:00	09/27/21 14:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	110	B	5.0	2.6	mg/L			09/26/21 19:25	1
Bicarbonate Alkalinity as CaCO3	110	B	5.0	2.6	mg/L			09/26/21 19:25	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:25	1
Chloride	27		1.0	0.28	mg/L			10/02/21 20:29	1
Fluoride	0.082		0.050	0.024	mg/L			10/02/21 20:29	1
Sulfate	180		1.0	0.35	mg/L			10/02/21 20:29	1
Total Dissolved Solids	510		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: BAC-06
Lab Sample ID: 240-156536-13
Date Collected: 09/18/21 12:47
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1700		100	57	ug/L		09/23/21 14:00	10/04/21 22:17	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:11	1
Magnesium	28000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:11	1
Potassium	1500		1000	220	ug/L		09/23/21 14:00	09/24/21 16:11	1
Sodium	17000		1000	330	ug/L		09/23/21 14:00	09/27/21 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	170	B	5.0	2.6	mg/L			09/26/21 19:29	1
Bicarbonate Alkalinity as CaCO3	170	B	5.0	2.6	mg/L			09/26/21 19:29	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:29	1
Chloride	25		1.0	0.28	mg/L			10/02/21 21:29	1
Fluoride	0.11		0.050	0.024	mg/L			10/02/21 21:29	1
Sulfate	220		5.0	1.7	mg/L			10/11/21 15:53	5
Total Dissolved Solids	570		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: BAC-02

Date Collected: 09/18/21 13:24
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-14

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1400		100	57	ug/L		09/23/21 14:00	10/04/21 22:21	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:13	1
Magnesium	37000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:13	1
Potassium	2800		1000	220	ug/L		09/23/21 14:00	09/24/21 16:13	1
Sodium	65000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 16:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	230	B	5.0	2.6	mg/L			09/26/21 19:33	1
Bicarbonate Alkalinity as CaCO3	230	B	5.0	2.6	mg/L			09/26/21 19:33	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:33	1
Chloride	69		1.0	0.28	mg/L			10/02/21 21:49	1
Fluoride	0.19		0.050	0.024	mg/L			10/02/21 21:49	1
Sulfate	340		5.0	1.7	mg/L			10/02/21 22:09	5
Total Dissolved Solids	860		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: BAC-05
Lab Sample ID: 240-156536-15

Date Collected: 09/18/21 13:55
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3000		100	57	ug/L		09/23/21 14:00	10/04/21 22:26	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:15	1
Magnesium	21000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:15	1
Potassium	1400		1000	220	ug/L		09/23/21 14:00	09/24/21 16:15	1
Sodium	21000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 16:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	140	B	5.0	2.6	mg/L			09/26/21 19:36	1
Bicarbonate Alkalinity as CaCO3	140	B	5.0	2.6	mg/L			09/26/21 19:36	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:36	1
Chloride	22		1.0	0.28	mg/L			10/02/21 23:10	1
Fluoride	0.20		0.050	0.024	mg/L			10/02/21 23:10	1
Sulfate	210		5.0	1.7	mg/L			10/02/21 23:30	5
Total Dissolved Solids	520		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: BAC-04
Lab Sample ID: 240-156536-16

Date Collected: 09/18/21 15:11
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2400		100	57	ug/L		09/23/21 14:00	10/04/21 22:38	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:18	1
Magnesium	19000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:18	1
Potassium	1800		1000	220	ug/L		09/23/21 14:00	09/24/21 16:18	1
Sodium	26000	^2	1000	330	ug/L		09/23/21 14:00	09/24/21 16:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	94	B	5.0	2.6	mg/L			09/26/21 19:40	1
Bicarbonate Alkalinity as CaCO3	94	B	5.0	2.6	mg/L			09/26/21 19:40	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:40	1
Chloride	42		1.0	0.28	mg/L			10/02/21 23:50	1
Fluoride	0.087		0.050	0.024	mg/L			10/02/21 23:50	1
Sulfate	230		5.0	1.7	mg/L			10/11/21 17:11	5
Total Dissolved Solids	560		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: BAC-03
Lab Sample ID: 240-156536-17
Date Collected: 09/18/21 15:44
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1800		100	57	ug/L		09/23/21 14:00	10/04/21 22:43	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:25	1
Magnesium	16000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:25	1
Potassium	1900		1000	220	ug/L		09/23/21 14:00	09/24/21 16:25	1
Sodium	34000		1000	330	ug/L		09/23/21 14:00	09/24/21 16:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	86	B	5.0	2.6	mg/L			09/26/21 19:44	1
Bicarbonate Alkalinity as CaCO3	86	B	5.0	2.6	mg/L			09/26/21 19:44	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:44	1
Chloride	64		1.0	0.28	mg/L			10/03/21 00:10	1
Fluoride	0.065		0.050	0.024	mg/L			10/03/21 00:10	1
Sulfate	180		1.0	0.35	mg/L			10/03/21 00:10	1
Total Dissolved Solids	470		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: DUPLICATE #1 (BAC-03)

Date Collected: 09/18/21 15:44
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-18

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1800		100	57	ug/L		09/23/21 14:00	10/04/21 22:47	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:28	1
Magnesium	17000		1000	200	ug/L		09/23/21 14:00	09/24/21 16:28	1
Potassium	1900		1000	220	ug/L		09/23/21 14:00	09/24/21 16:28	1
Sodium	34000		1000	330	ug/L		09/23/21 14:00	09/24/21 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	85	B	5.0	2.6	mg/L			09/26/21 19:51	1
Bicarbonate Alkalinity as CaCO3	85	B	5.0	2.6	mg/L			09/26/21 19:51	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:51	1
Chloride	64		1.0	0.28	mg/L			10/03/21 00:30	1
Fluoride	0.066		0.050	0.024	mg/L			10/03/21 00:30	1
Sulfate	180		1.0	0.35	mg/L			10/03/21 00:30	1
Total Dissolved Solids	510		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: 94136
Lab Sample ID: 240-156536-19
Date Collected: 09/19/21 08:59
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	350		100	57	ug/L		09/23/21 14:00	10/04/21 22:51	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	14000		1000	580	ug/L		09/23/21 14:00	09/24/21 16:30	1
Magnesium	3500		1000	200	ug/L		09/23/21 14:00	09/24/21 16:30	1
Potassium	1700		1000	220	ug/L		09/23/21 14:00	09/24/21 16:30	1
Sodium	650000		1000	330	ug/L		09/23/21 14:00	09/24/21 16:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	300	B	5.0	2.6	mg/L			09/26/21 19:57	1
Bicarbonate Alkalinity as CaCO3	300	B	5.0	2.6	mg/L			09/26/21 19:57	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 19:57	1
Chloride	930		10	2.8	mg/L			10/03/21 01:10	10
Fluoride	1.3		0.050	0.024	mg/L			10/03/21 00:50	1
Sulfate	59		1.0	0.35	mg/L			10/03/21 00:50	1
Total Dissolved Solids	1800		20	16	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: 94137
Lab Sample ID: 240-156536-20
Date Collected: 09/19/21 09:22
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	57	ug/L		09/23/21 14:00	10/04/21 20:11	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**140000**		1000	580	ug/L		09/23/21 14:00	09/24/21 14:26	1
Magnesium	**46000**		1000	200	ug/L		09/23/21 14:00	09/24/21 14:26	1
Potassium	**1600**		1000	220	ug/L		09/23/21 14:00	09/24/21 14:26	1
Sodium	**59000**		1000	330	ug/L		09/23/21 14:00	09/24/21 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**310**	**B**	5.0	2.6	mg/L			09/26/21 20:02	1
Bicarbonate Alkalinity as CaCO3	**310**	**B**	5.0	2.6	mg/L			09/26/21 20:02	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 20:02	1
Chloride	**28**		1.0	0.28	mg/L			10/03/21 01:31	1
Fluoride	**0.13**		0.050	0.024	mg/L			10/03/21 01:31	1
Sulfate	**340**		5.0	1.7	mg/L			10/03/21 01:51	5
Total Dissolved Solids	**900**		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 2000

Date Collected: 09/19/21 09:57
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-21

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	320		100	57	ug/L		09/23/21 14:00	10/04/21 20:19	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	2700		1000	580	ug/L		09/23/21 14:00	09/24/21 14:28	1
Magnesium	700	J	1000	200	ug/L		09/23/21 14:00	09/24/21 14:28	1
Potassium	780	J	1000	220	ug/L		09/23/21 14:00	09/24/21 14:28	1
Sodium	460000		1000	330	ug/L		09/23/21 14:00	09/24/21 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	360	B	5.0	2.6	mg/L			09/26/21 20:07	1
Bicarbonate Alkalinity as CaCO3	320	B	5.0	2.6	mg/L			09/26/21 20:07	1
Carbonate Alkalinity as CaCO3	38		5.0	2.6	mg/L			09/26/21 20:07	1
Chloride	110		1.0	0.28	mg/L			10/03/21 03:31	1
Fluoride	2.5		0.050	0.024	mg/L			10/03/21 03:31	1
Sulfate	530		10	3.5	mg/L			10/03/21 03:51	10
Total Dissolved Solids	1400		20	16	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: MW-15
Lab Sample ID: 240-156536-22

Date Collected: 09/19/21 12:06
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	200		100	57	ug/L		09/23/21 14:00	10/04/21 20:24	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	380000		1000	580	ug/L		09/23/21 14:00	09/24/21 14:31	1
Magnesium	120000		1000	200	ug/L		09/23/21 14:00	09/24/21 14:31	1
Potassium	4200		1000	220	ug/L		09/23/21 14:00	09/24/21 14:31	1
Sodium	190000		1000	330	ug/L		09/23/21 14:00	09/24/21 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	400	B	5.0	2.6	mg/L			09/26/21 20:11	1
Bicarbonate Alkalinity as CaCO3	400	B	5.0	2.6	mg/L			09/26/21 20:11	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 20:11	1
Chloride	22		1.0	0.28	mg/L			10/03/21 04:12	1
Fluoride	0.18		0.050	0.024	mg/L			10/03/21 04:12	1
Sulfate	1800		10	3.5	mg/L			10/03/21 04:32	10
Total Dissolved Solids	2900		40	31	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: MW-17
Lab Sample ID: 240-156536-23

Date Collected: 09/19/21 13:02
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	440		100	57	ug/L		09/23/21 14:00	10/04/21 20:58	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	96000		1000	580	ug/L		09/23/21 14:00	09/24/21 15:16	1
Magnesium	18000		1000	200	ug/L		09/23/21 14:00	09/24/21 15:16	1
Potassium	5500		1000	220	ug/L		09/23/21 14:00	09/24/21 15:16	1
Sodium	2600000		1000	330	ug/L		09/23/21 14:00	09/24/21 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	270	B	5.0	2.6	mg/L			09/26/21 20:16	1
Bicarbonate Alkalinity as CaCO3	270	B	5.0	2.6	mg/L			09/26/21 20:16	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 20:16	1
Chloride	4500		50	14	mg/L			10/03/21 05:52	50
Fluoride	1.7		0.25	0.12	mg/L			10/03/21 04:52	5
Sulfate	47		5.0	1.7	mg/L			10/03/21 04:52	5
Total Dissolved Solids	7900		100	78	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: B0903
Lab Sample ID: 240-156536-24

Date Collected: 09/19/21 14:35
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	57	ug/L		09/23/21 14:00	10/04/21 20:28	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**23000**		1000	580	ug/L		09/23/21 14:00	09/24/21 14:33	1
Magnesium	**11000**		1000	200	ug/L		09/23/21 14:00	09/24/21 14:33	1
Potassium	**2600**		1000	220	ug/L		09/23/21 14:00	09/24/21 14:33	1
Sodium	**15000**		1000	330	ug/L		09/23/21 14:00	09/24/21 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**29**	**B**	5.0	2.6	mg/L			09/26/21 20:20	1
Bicarbonate Alkalinity as CaCO3	**29**	**B**	5.0	2.6	mg/L			09/26/21 20:20	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 20:20	1
Chloride	**35**		1.0	0.28	mg/L			10/03/21 07:33	1
Fluoride	**0.049**	**J**	0.050	0.024	mg/L			10/03/21 07:33	1
Sulfate	**53**		1.0	0.35	mg/L			10/03/21 07:33	1
Total Dissolved Solids	**270**		10	7.8	mg/L			09/23/21 16:57	1

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: BOTTOM ASH POND

Lab Sample ID: 240-156536-25

Date Collected: 09/19/21 14:55

Matrix: Water

Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	430		100	57	ug/L		09/23/21 14:00	10/04/21 20:33	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		1000	580	ug/L		09/23/21 14:00	09/24/21 14:36	1
Magnesium	30000		1000	200	ug/L		09/23/21 14:00	09/24/21 14:36	1
Potassium	9700		1000	220	ug/L		09/23/21 14:00	09/24/21 14:36	1
Sodium	81000		1000	330	ug/L		09/23/21 14:00	09/24/21 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	69	B	5.0	2.6	mg/L			09/26/21 20:23	1
Bicarbonate Alkalinity as CaCO3	69	B	5.0	2.6	mg/L			09/26/21 20:23	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 20:23	1
Chloride	100		1.0	0.28	mg/L			10/03/21 07:53	1
Fluoride	0.59		0.050	0.024	mg/L			10/03/21 07:53	1
Sulfate	440		5.0	1.7	mg/L			10/03/21 08:13	5
Total Dissolved Solids	890		10	7.8	mg/L			09/24/21 09:38	1

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Client Sample ID: RECLAIM POND
Lab Sample ID: 240-156536-26

Date Collected: 09/19/21 15:08
Matrix: Water
Date Received: 09/22/21 08:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	420		100	57	ug/L		09/23/21 14:00	10/04/21 20:37	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		1000	580	ug/L		09/23/21 14:00	09/24/21 14:38	1
Magnesium	29000		1000	200	ug/L		09/23/21 14:00	09/24/21 14:38	1
Potassium	9600		1000	220	ug/L		09/23/21 14:00	09/24/21 14:38	1
Sodium	79000		1000	330	ug/L		09/23/21 14:00	09/24/21 14:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	66	B	5.0	2.6	mg/L			09/26/21 20:27	1
Bicarbonate Alkalinity as CaCO3	66	B	5.0	2.6	mg/L			09/26/21 20:27	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 20:27	1
Chloride	100		1.0	0.28	mg/L			10/03/21 08:33	1
Fluoride	0.57		0.050	0.024	mg/L			10/03/21 08:33	1
Sulfate	440		5.0	1.7	mg/L			10/03/21 08:53	5
Total Dissolved Solids	840		10	7.8	mg/L			09/24/21 09:38	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-505016/1-A
Matrix: Water
Analysis Batch: 506593

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	57	ug/L		09/23/21 14:00	10/04/21 20:41	1

Lab Sample ID: LCS 240-505016/2-A
Matrix: Water
Analysis Batch: 506593

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	100	103		ug/L		103	80 - 120

Lab Sample ID: 240-156536-23 MS
Matrix: Water
Analysis Batch: 506593

Client Sample ID: MW-17
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	440		100	518	4	ug/L		78	75 - 125

Lab Sample ID: 240-156536-23 MSD
Matrix: Water
Analysis Batch: 506593

Client Sample ID: MW-17
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	440		100	546	4	ug/L		106	75 - 125	5	20

Lab Sample ID: MB 240-505017/1-A
Matrix: Water
Analysis Batch: 506593

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 505017

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	57	ug/L		09/23/21 14:00	10/04/21 19:49	1

Lab Sample ID: LCS 240-505017/2-A
Matrix: Water
Analysis Batch: 506593

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 505017

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	100	108		ug/L		108	80 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-505016/1-A
Matrix: Water
Analysis Batch: 505474

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	580	ug/L		09/23/21 14:00	09/24/21 15:11	1
Magnesium	1000	U	1000	200	ug/L		09/23/21 14:00	09/24/21 15:11	1
Potassium	1000	U	1000	220	ug/L		09/23/21 14:00	09/24/21 15:11	1
Sodium	1000	U	1000	330	ug/L		09/23/21 14:00	09/24/21 15:11	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-505016/2-A
Matrix: Water
Analysis Batch: 505474

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Calcium			25000	24000		ug/L		96	80 - 120		
Magnesium			25000	23800		ug/L		95	80 - 120		
Potassium			25000	23500		ug/L		94	80 - 120		
Sodium			25000	24100		ug/L		96	80 - 120		

Lab Sample ID: 240-156536-23 MS
Matrix: Water
Analysis Batch: 505474

Client Sample ID: MW-17
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Calcium	96000		25000	117000		ug/L		85	75 - 125		
Magnesium	18000		25000	41900		ug/L		95	75 - 125		
Potassium	5500		25000	29000		ug/L		94	75 - 125		
Sodium	2600000		25000	2590000	4	ug/L		-24	75 - 125		

Lab Sample ID: 240-156536-23 MSD
Matrix: Water
Analysis Batch: 505474

Client Sample ID: MW-17
Prep Type: Total Recoverable
Prep Batch: 505016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	96000		25000	123000		ug/L		106	75 - 125	4	20
Magnesium	18000		25000	42500		ug/L		97	75 - 125	1	20
Potassium	5500		25000	29700		ug/L		97	75 - 125	3	20
Sodium	2600000		25000	2720000	4	ug/L		475	75 - 125	5	20

Lab Sample ID: MB 240-505017/1-A
Matrix: Water
Analysis Batch: 505474

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 505017

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	580	ug/L		09/23/21 14:00	09/24/21 13:59	1
Magnesium	1000	U	1000	200	ug/L		09/23/21 14:00	09/24/21 13:59	1
Potassium	1000	U	1000	220	ug/L		09/23/21 14:00	09/24/21 13:59	1
Sodium	1000	U	1000	330	ug/L		09/23/21 14:00	09/24/21 13:59	1

Lab Sample ID: LCS 240-505017/2-A
Matrix: Water
Analysis Batch: 505474

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 505017

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Calcium			25000	25700		ug/L		103	80 - 120		
Magnesium			25000	25400		ug/L		102	80 - 120		
Potassium			25000	25500		ug/L		102	80 - 120		
Sodium			25000	25300		ug/L		101	80 - 120		

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-505614/30
Matrix: Water
Analysis Batch: 505614

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	3.63	J	5.0	2.6	mg/L			09/26/21 18:57	1
Bicarbonate Alkalinity as CaCO3	3.63	J	5.0	2.6	mg/L			09/26/21 18:57	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 18:57	1

Lab Sample ID: MB 240-505614/4
Matrix: Water
Analysis Batch: 505614

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	5.0	U	5.0	2.6	mg/L			09/26/21 17:21	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 17:21	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			09/26/21 17:21	1

Lab Sample ID: LCS 240-505614/29
Matrix: Water
Analysis Batch: 505614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Alkalinity			66.8	68.1		mg/L		102	86 - 123		

Lab Sample ID: 240-156536-17 DU
Matrix: Water
Analysis Batch: 505614

Client Sample ID: BAC-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	86	B		84.9		mg/L				2	20
Bicarbonate Alkalinity as CaCO3	86	B		84.9		mg/L				2	20
Carbonate Alkalinity as CaCO3	5.0	U		5.0	U	mg/L				NC	20

Lab Sample ID: MB 240-506646/4
Matrix: Water
Analysis Batch: 506646

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	5.0	U	5.0	2.6	mg/L			10/04/21 12:24	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 12:24	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/04/21 12:24	1

Lab Sample ID: LCS 240-506646/3
Matrix: Water
Analysis Batch: 506646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Alkalinity			66.8	71.5		mg/L		107	86 - 123		

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: 240-156536-8 DU
Matrix: Water
Analysis Batch: 506646

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	240			242		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	240			242		mg/L				0.3	20
Carbonate Alkalinity as CaCO3	5.0	U		5.0	U	mg/L				NC	20

Lab Sample ID: MB 240-506981/4
Matrix: Water
Analysis Batch: 506981

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	5.0	U	5.0	2.6	mg/L			10/05/21 17:52	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/05/21 17:52	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	2.6	mg/L			10/05/21 17:52	1

Lab Sample ID: LCS 240-506981/3
Matrix: Water
Analysis Batch: 506981

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Alkalinity			66.8	69.4		mg/L		104	86 - 123		

Lab Sample ID: 240-156536-3 DU
Matrix: Water
Analysis Batch: 506981

Client Sample ID: 96154R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	550	H		551		mg/L				0.9	20
Bicarbonate Alkalinity as CaCO3	500	H		503		mg/L				0.9	20
Carbonate Alkalinity as CaCO3	48	H		48.2		mg/L				0.2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-506429/3
Matrix: Water
Analysis Batch: 506429

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			10/02/21 11:05	1
Fluoride	0.050	U	0.050	0.024	mg/L			10/02/21 11:05	1
Sulfate	1.0	U	1.0	0.35	mg/L			10/02/21 11:05	1

Lab Sample ID: MB 240-506429/48
Matrix: Water
Analysis Batch: 506429

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			10/03/21 02:11	1
Fluoride	0.050	U	0.050	0.024	mg/L			10/03/21 02:11	1
Sulfate	1.0	U	1.0	0.35	mg/L			10/03/21 02:11	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-506429/4
Matrix: Water
Analysis Batch: 506429

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	2.63		mg/L		105	90 - 110		
Sulfate			50.0	51.5		mg/L		103	90 - 110		

Lab Sample ID: LCS 240-506429/51
Matrix: Water
Analysis Batch: 506429

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	2.62		mg/L		105	90 - 110		
Sulfate			50.0	51.3		mg/L		103	90 - 110		

Lab Sample ID: 240-156536-9 MS
Matrix: Water
Analysis Batch: 506429

Client Sample ID: RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	25		50.0	77.0		mg/L		104	80 - 120		
Fluoride	0.14		2.50	2.87		mg/L		109	80 - 120		
Sulfate	66		50.0	116		mg/L		101	80 - 120		

Lab Sample ID: 240-156536-9 MSD
Matrix: Water
Analysis Batch: 506429

Client Sample ID: 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	25		50.0	78.8		mg/L		107	80 - 120	2	15
Fluoride	0.14		2.50	2.97		mg/L		113	80 - 120	3	15
Sulfate	66		50.0	118		mg/L		104	80 - 120	2	15

Lab Sample ID: 240-156536-12 MS
Matrix: Water
Analysis Batch: 506429

Client Sample ID: BAC-07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	27		50.0	79.4		mg/L		105	80 - 120		
Fluoride	0.082		2.50	2.79		mg/L		108	80 - 120		
Sulfate	180		50.0	228		mg/L		93	80 - 120		

Lab Sample ID: 240-156536-12 MSD
Matrix: Water
Analysis Batch: 506429

Client Sample ID: BAC-07
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	27		50.0	80.6		mg/L		107	80 - 120	1	15
Fluoride	0.082		2.50	2.84		mg/L		110	80 - 120	2	15
Sulfate	180		50.0	228		mg/L		92	80 - 120	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-156536-23 MS
Matrix: Water
Analysis Batch: 506429

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	1.7		12.5	15.1		mg/L		108	80 - 120		
Sulfate	47		250	306		mg/L		104	80 - 120		

Lab Sample ID: 240-156536-23 MS
Matrix: Water
Analysis Batch: 506429

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	4500		2500	6880		mg/L		94	80 - 120		

Lab Sample ID: 240-156536-23 MSD
Matrix: Water
Analysis Batch: 506429

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.7		12.5	15.0		mg/L		107	80 - 120	1	15
Sulfate	47		250	303		mg/L		102	80 - 120	1	15

Lab Sample ID: 240-156536-23 MSD
Matrix: Water
Analysis Batch: 506429

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4500		2500	6840		mg/L		92	80 - 120	1	15

Lab Sample ID: MB 240-507659/3
Matrix: Water
Analysis Batch: 507659

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			10/11/21 14:10	1
Fluoride	0.050	U	0.050	0.024	mg/L			10/11/21 14:10	1
Sulfate	1.0	U	1.0	0.35	mg/L			10/11/21 14:10	1

Lab Sample ID: LCS 240-507659/4
Matrix: Water
Analysis Batch: 507659

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	2.57		mg/L		103	90 - 110
Sulfate	50.0	50.8		mg/L		102	90 - 110

Lab Sample ID: 240-156536-13 MS
Matrix: Water
Analysis Batch: 507659

Client Sample ID: BAC-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	220		250	483		mg/L		104	80 - 120		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-156536-13 MSD
Matrix: Water
Analysis Batch: 507659

Client Sample ID: BAC-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	220		250	473		mg/L		100	80 - 120	2	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-505126/1
Matrix: Water
Analysis Batch: 505126

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	10	U	10	7.8	mg/L			09/23/21 16:57	1

Lab Sample ID: LCS 240-505126/2
Matrix: Water
Analysis Batch: 505126

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	422	424		mg/L		100	80 - 120

Lab Sample ID: 240-156536-23 DU
Matrix: Water
Analysis Batch: 505126

Client Sample ID: MW-17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7900		7520		mg/L		5	20

Lab Sample ID: MB 240-505246/1
Matrix: Water
Analysis Batch: 505246

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	10	U	10	7.8	mg/L			09/24/21 09:38	1

Lab Sample ID: LCS 240-505246/2
Matrix: Water
Analysis Batch: 505246

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	422	418		mg/L		99	80 - 120

Lab Sample ID: 240-156536-9 DU
Matrix: Water
Analysis Batch: 505246

Client Sample ID: RIVER
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	220		212		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 240-156536-26 DU
Client Sample ID: RECLAIM POND
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 505246

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	840			858		mg/L				2	20

Metals

Prep Batch: 505016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-1	2016-09	Total Recoverable	Water	3005A	
240-156536-2	DUPLICATE #2	Total Recoverable	Water	3005A	
240-156536-3	96154R	Total Recoverable	Water	3005A	
240-156536-4	96153R	Total Recoverable	Water	3005A	
240-156536-5	MW-20	Total Recoverable	Water	3005A	
240-156536-6	2016-10	Total Recoverable	Water	3005A	
240-156536-7	93108	Total Recoverable	Water	3005A	
240-156536-8	MW-1	Total Recoverable	Water	3005A	
240-156536-9	RIVER	Total Recoverable	Water	3005A	
240-156536-10	BAC-1	Total Recoverable	Water	3005A	
240-156536-11	MW-6	Total Recoverable	Water	3005A	
240-156536-12	BAC-07	Total Recoverable	Water	3005A	
240-156536-13	BAC-06	Total Recoverable	Water	3005A	
240-156536-14	BAC-02	Total Recoverable	Water	3005A	
240-156536-15	BAC-05	Total Recoverable	Water	3005A	
240-156536-16	BAC-04	Total Recoverable	Water	3005A	
240-156536-17	BAC-03	Total Recoverable	Water	3005A	
240-156536-18	DUPLICATE #1 (BAC-03)	Total Recoverable	Water	3005A	
240-156536-19	94136	Total Recoverable	Water	3005A	
240-156536-23	MW-17	Total Recoverable	Water	3005A	
MB 240-505016/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-505016/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-156536-23 MS	MW-17	Total Recoverable	Water	3005A	
240-156536-23 MSD	MW-17	Total Recoverable	Water	3005A	

Prep Batch: 505017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-20	94137	Total Recoverable	Water	3005A	
240-156536-21	2000	Total Recoverable	Water	3005A	
240-156536-22	MW-15	Total Recoverable	Water	3005A	
240-156536-24	B0903	Total Recoverable	Water	3005A	
240-156536-25	BOTTOM ASH POND	Total Recoverable	Water	3005A	
240-156536-26	RECLAIM POND	Total Recoverable	Water	3005A	
MB 240-505017/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-505017/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 505474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-1	2016-09	Total Recoverable	Water	6020	505016
240-156536-2	DUPLICATE #2	Total Recoverable	Water	6020	505016
240-156536-3	96154R	Total Recoverable	Water	6020	505016
240-156536-4	96153R	Total Recoverable	Water	6020	505016
240-156536-5	MW-20	Total Recoverable	Water	6020	505016
240-156536-6	2016-10	Total Recoverable	Water	6020	505016
240-156536-7	93108	Total Recoverable	Water	6020	505016
240-156536-8	MW-1	Total Recoverable	Water	6020	505016
240-156536-9	RIVER	Total Recoverable	Water	6020	505016
240-156536-10	BAC-1	Total Recoverable	Water	6020	505016
240-156536-11	MW-6	Total Recoverable	Water	6020	505016
240-156536-12	BAC-07	Total Recoverable	Water	6020	505016
240-156536-13	BAC-06	Total Recoverable	Water	6020	505016

Metals (Continued)

Analysis Batch: 505474 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-14	BAC-02	Total Recoverable	Water	6020	505016
240-156536-15	BAC-05	Total Recoverable	Water	6020	505016
240-156536-16	BAC-04	Total Recoverable	Water	6020	505016
240-156536-17	BAC-03	Total Recoverable	Water	6020	505016
240-156536-18	DUPLICATE #1 (BAC-03)	Total Recoverable	Water	6020	505016
240-156536-19	94136	Total Recoverable	Water	6020	505016
240-156536-20	94137	Total Recoverable	Water	6020	505017
240-156536-21	2000	Total Recoverable	Water	6020	505017
240-156536-22	MW-15	Total Recoverable	Water	6020	505017
240-156536-23	MW-17	Total Recoverable	Water	6020	505016
240-156536-24	B0903	Total Recoverable	Water	6020	505017
240-156536-25	BOTTOM ASH POND	Total Recoverable	Water	6020	505017
240-156536-26	RECLAIM POND	Total Recoverable	Water	6020	505017
MB 240-505016/1-A	Method Blank	Total Recoverable	Water	6020	505016
MB 240-505017/1-A	Method Blank	Total Recoverable	Water	6020	505017
LCS 240-505016/2-A	Lab Control Sample	Total Recoverable	Water	6020	505016
LCS 240-505017/2-A	Lab Control Sample	Total Recoverable	Water	6020	505017
240-156536-23 MS	MW-17	Total Recoverable	Water	6020	505016
240-156536-23 MSD	MW-17	Total Recoverable	Water	6020	505016

Analysis Batch: 505655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-6	2016-10	Total Recoverable	Water	6020	505016
240-156536-10	BAC-1	Total Recoverable	Water	6020	505016
240-156536-11	MW-6	Total Recoverable	Water	6020	505016
240-156536-12	BAC-07	Total Recoverable	Water	6020	505016
240-156536-13	BAC-06	Total Recoverable	Water	6020	505016

Analysis Batch: 506593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-1	2016-09	Total Recoverable	Water	6010B	505016
240-156536-2	DUPLICATE #2	Total Recoverable	Water	6010B	505016
240-156536-3	96154R	Total Recoverable	Water	6010B	505016
240-156536-4	96153R	Total Recoverable	Water	6010B	505016
240-156536-5	MW-20	Total Recoverable	Water	6010B	505016
240-156536-6	2016-10	Total Recoverable	Water	6010B	505016
240-156536-7	93108	Total Recoverable	Water	6010B	505016
240-156536-8	MW-1	Total Recoverable	Water	6010B	505016
240-156536-9	RIVER	Total Recoverable	Water	6010B	505016
240-156536-10	BAC-1	Total Recoverable	Water	6010B	505016
240-156536-11	MW-6	Total Recoverable	Water	6010B	505016
240-156536-12	BAC-07	Total Recoverable	Water	6010B	505016
240-156536-13	BAC-06	Total Recoverable	Water	6010B	505016
240-156536-14	BAC-02	Total Recoverable	Water	6010B	505016
240-156536-15	BAC-05	Total Recoverable	Water	6010B	505016
240-156536-16	BAC-04	Total Recoverable	Water	6010B	505016
240-156536-17	BAC-03	Total Recoverable	Water	6010B	505016
240-156536-18	DUPLICATE #1 (BAC-03)	Total Recoverable	Water	6010B	505016
240-156536-19	94136	Total Recoverable	Water	6010B	505016
240-156536-20	94137	Total Recoverable	Water	6010B	505017
240-156536-21	2000	Total Recoverable	Water	6010B	505017

Metals (Continued)

Analysis Batch: 506593 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-22	MW-15	Total Recoverable	Water	6010B	505017
240-156536-23	MW-17	Total Recoverable	Water	6010B	505016
240-156536-24	B0903	Total Recoverable	Water	6010B	505017
240-156536-25	BOTTOM ASH POND	Total Recoverable	Water	6010B	505017
240-156536-26	RECLAIM POND	Total Recoverable	Water	6010B	505017
MB 240-505016/1-A	Method Blank	Total Recoverable	Water	6010B	505016
MB 240-505017/1-A	Method Blank	Total Recoverable	Water	6010B	505017
LCS 240-505016/2-A	Lab Control Sample	Total Recoverable	Water	6010B	505016
LCS 240-505017/2-A	Lab Control Sample	Total Recoverable	Water	6010B	505017
240-156536-23 MS	MW-17	Total Recoverable	Water	6010B	505016
240-156536-23 MSD	MW-17	Total Recoverable	Water	6010B	505016

General Chemistry

Analysis Batch: 505126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-10	BAC-1	Total/NA	Water	SM 2540C	
240-156536-11	MW-6	Total/NA	Water	SM 2540C	
240-156536-12	BAC-07	Total/NA	Water	SM 2540C	
240-156536-13	BAC-06	Total/NA	Water	SM 2540C	
240-156536-14	BAC-02	Total/NA	Water	SM 2540C	
240-156536-15	BAC-05	Total/NA	Water	SM 2540C	
240-156536-16	BAC-04	Total/NA	Water	SM 2540C	
240-156536-17	BAC-03	Total/NA	Water	SM 2540C	
240-156536-18	DUPLICATE #1 (BAC-03)	Total/NA	Water	SM 2540C	
240-156536-19	94136	Total/NA	Water	SM 2540C	
240-156536-20	94137	Total/NA	Water	SM 2540C	
240-156536-21	2000	Total/NA	Water	SM 2540C	
240-156536-22	MW-15	Total/NA	Water	SM 2540C	
240-156536-23	MW-17	Total/NA	Water	SM 2540C	
240-156536-24	B0903	Total/NA	Water	SM 2540C	
MB 240-505126/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-505126/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-156536-23 DU	MW-17	Total/NA	Water	SM 2540C	

Analysis Batch: 505246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-1	2016-09	Total/NA	Water	SM 2540C	
240-156536-2	DUPLICATE #2	Total/NA	Water	SM 2540C	
240-156536-3	96154R	Total/NA	Water	SM 2540C	
240-156536-4	96153R	Total/NA	Water	SM 2540C	
240-156536-5	MW-20	Total/NA	Water	SM 2540C	
240-156536-6	2016-10	Total/NA	Water	SM 2540C	
240-156536-7	93108	Total/NA	Water	SM 2540C	
240-156536-8	MW-1	Total/NA	Water	SM 2540C	
240-156536-9	RIVER	Total/NA	Water	SM 2540C	
240-156536-25	BOTTOM ASH POND	Total/NA	Water	SM 2540C	
240-156536-26	RECLAIM POND	Total/NA	Water	SM 2540C	
MB 240-505246/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-505246/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-156536-9 DU	RIVER	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 505246 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-26 DU	RECLAIM POND	Total/NA	Water	SM 2540C	

Analysis Batch: 505614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-10	BAC-1	Total/NA	Water	2320B-1997	
240-156536-11	MW-6	Total/NA	Water	2320B-1997	
240-156536-12	BAC-07	Total/NA	Water	2320B-1997	
240-156536-13	BAC-06	Total/NA	Water	2320B-1997	
240-156536-14	BAC-02	Total/NA	Water	2320B-1997	
240-156536-15	BAC-05	Total/NA	Water	2320B-1997	
240-156536-16	BAC-04	Total/NA	Water	2320B-1997	
240-156536-17	BAC-03	Total/NA	Water	2320B-1997	
240-156536-18	DUPLICATE #1 (BAC-03)	Total/NA	Water	2320B-1997	
240-156536-19	94136	Total/NA	Water	2320B-1997	
240-156536-20	94137	Total/NA	Water	2320B-1997	
240-156536-21	2000	Total/NA	Water	2320B-1997	
240-156536-22	MW-15	Total/NA	Water	2320B-1997	
240-156536-23	MW-17	Total/NA	Water	2320B-1997	
240-156536-24	B0903	Total/NA	Water	2320B-1997	
240-156536-25	BOTTOM ASH POND	Total/NA	Water	2320B-1997	
240-156536-26	RECLAIM POND	Total/NA	Water	2320B-1997	
MB 240-505614/30	Method Blank	Total/NA	Water	2320B-1997	
MB 240-505614/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-505614/29	Lab Control Sample	Total/NA	Water	2320B-1997	
240-156536-17 DU	BAC-03	Total/NA	Water	2320B-1997	

Analysis Batch: 506429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-1	2016-09	Total/NA	Water	300.0	
240-156536-2	DUPLICATE #2	Total/NA	Water	300.0	
240-156536-3	96154R	Total/NA	Water	300.0	
240-156536-3	96154R	Total/NA	Water	300.0	
240-156536-4	96153R	Total/NA	Water	300.0	
240-156536-4	96153R	Total/NA	Water	300.0	
240-156536-5	MW-20	Total/NA	Water	300.0	
240-156536-5	MW-20	Total/NA	Water	300.0	
240-156536-6	2016-10	Total/NA	Water	300.0	
240-156536-6	2016-10	Total/NA	Water	300.0	
240-156536-7	93108	Total/NA	Water	300.0	
240-156536-7	93108	Total/NA	Water	300.0	
240-156536-8	MW-1	Total/NA	Water	300.0	
240-156536-9	RIVER	Total/NA	Water	300.0	
240-156536-10	BAC-1	Total/NA	Water	300.0	
240-156536-11	MW-6	Total/NA	Water	300.0	
240-156536-12	BAC-07	Total/NA	Water	300.0	
240-156536-13	BAC-06	Total/NA	Water	300.0	
240-156536-14	BAC-02	Total/NA	Water	300.0	
240-156536-14	BAC-02	Total/NA	Water	300.0	
240-156536-15	BAC-05	Total/NA	Water	300.0	
240-156536-15	BAC-05	Total/NA	Water	300.0	
240-156536-16	BAC-04	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 506429 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-17	BAC-03	Total/NA	Water	300.0	
240-156536-18	DUPLICATE #1 (BAC-03)	Total/NA	Water	300.0	
240-156536-19	94136	Total/NA	Water	300.0	
240-156536-19	94136	Total/NA	Water	300.0	
240-156536-20	94137	Total/NA	Water	300.0	
240-156536-20	94137	Total/NA	Water	300.0	
240-156536-21	2000	Total/NA	Water	300.0	
240-156536-21	2000	Total/NA	Water	300.0	
240-156536-22	MW-15	Total/NA	Water	300.0	
240-156536-22	MW-15	Total/NA	Water	300.0	
240-156536-23	MW-17	Total/NA	Water	300.0	
240-156536-23	MW-17	Total/NA	Water	300.0	
240-156536-24	B0903	Total/NA	Water	300.0	
240-156536-25	BOTTOM ASH POND	Total/NA	Water	300.0	
240-156536-25	BOTTOM ASH POND	Total/NA	Water	300.0	
240-156536-26	RECLAIM POND	Total/NA	Water	300.0	
240-156536-26	RECLAIM POND	Total/NA	Water	300.0	
MB 240-506429/3	Method Blank	Total/NA	Water	300.0	
MB 240-506429/48	Method Blank	Total/NA	Water	300.0	
LCS 240-506429/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 240-506429/51	Lab Control Sample	Total/NA	Water	300.0	
240-156536-9 MS	RIVER	Total/NA	Water	300.0	
240-156536-9 MSD	RIVER	Total/NA	Water	300.0	
240-156536-12 MS	BAC-07	Total/NA	Water	300.0	
240-156536-12 MSD	BAC-07	Total/NA	Water	300.0	
240-156536-23 MS	MW-17	Total/NA	Water	300.0	
240-156536-23 MS	MW-17	Total/NA	Water	300.0	
240-156536-23 MSD	MW-17	Total/NA	Water	300.0	
240-156536-23 MSD	MW-17	Total/NA	Water	300.0	

Analysis Batch: 506646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-1	2016-09	Total/NA	Water	2320B-1997	
240-156536-2	DUPLICATE #2	Total/NA	Water	2320B-1997	
240-156536-4	96153R	Total/NA	Water	2320B-1997	
240-156536-5	MW-20	Total/NA	Water	2320B-1997	
240-156536-6	2016-10	Total/NA	Water	2320B-1997	
240-156536-7	93108	Total/NA	Water	2320B-1997	
240-156536-8	MW-1	Total/NA	Water	2320B-1997	
240-156536-9	RIVER	Total/NA	Water	2320B-1997	
MB 240-506646/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-506646/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-156536-8 DU	MW-1	Total/NA	Water	2320B-1997	

Analysis Batch: 506981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-3	96154R	Total/NA	Water	2320B-1997	
MB 240-506981/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 240-506981/3	Lab Control Sample	Total/NA	Water	2320B-1997	
240-156536-3 DU	96154R	Total/NA	Water	2320B-1997	

QC Association Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

General Chemistry

Analysis Batch: 507659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-156536-13	BAC-06	Total/NA	Water	300.0	
240-156536-16	BAC-04	Total/NA	Water	300.0	
MB 240-507659/3	Method Blank	Total/NA	Water	300.0	
LCS 240-507659/4	Lab Control Sample	Total/NA	Water	300.0	
240-156536-13 MS	BAC-06	Total/NA	Water	300.0	
240-156536-13 MSD	BAC-06	Total/NA	Water	300.0	

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 2016-09

Lab Sample ID: 240-156536-1
Matrix: Water
Date Collected: 09/20/21 09:38
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:15	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:35	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 12:48	JMB	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/02/21 11:45	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: DUPLICATE #2

Lab Sample ID: 240-156536-2
Matrix: Water
Date Collected: 09/20/21 09:38
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:20	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:38	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 12:57	JMB	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/02/21 12:26	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: 96154R

Lab Sample ID: 240-156536-3
Matrix: Water
Date Collected: 09/20/21 10:03
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:24	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:40	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506981	10/05/21 17:58	JMR	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 13:06	JWW	TAL CAN
Total/NA	Analysis	300.0		10	506429	10/02/21 13:26	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: 96153R

Lab Sample ID: 240-156536-4
Matrix: Water
Date Collected: 09/20/21 10:44
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:29	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:43	AJC	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: 96153R
Date Collected: 09/20/21 10:44
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 13:12	JMB	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 13:46	JWW	TAL CAN
Total/NA	Analysis	300.0		10	506429	10/02/21 14:06	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: MW-20
Date Collected: 09/20/21 11:13
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:33	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:45	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 13:17	JMB	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 15:07	JWW	TAL CAN
Total/NA	Analysis	300.0		10	506429	10/02/21 15:27	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: 2016-10
Date Collected: 09/20/21 13:23
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:46	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:48	AJC	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		10	505655	09/27/21 14:05	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 13:21	JMB	TAL CAN
Total/NA	Analysis	300.0		50	506429	10/02/21 15:47	JWW	TAL CAN
Total/NA	Analysis	300.0		1000	506429	10/02/21 16:07	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: 93108
Date Collected: 09/20/21 14:27
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:51	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:55	AJC	TAL CAN

Client Sample ID: 93108

Lab Sample ID: 240-156536-7

Date Collected: 09/20/21 14:27

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 13:27	JMB	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/02/21 16:27	JWW	TAL CAN
Total/NA	Analysis	300.0		20	506429	10/02/21 16:47	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: MW-1

Lab Sample ID: 240-156536-8

Date Collected: 09/20/21 15:33

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 21:55	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:58	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 13:31	JMB	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 17:08	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: RIVER

Lab Sample ID: 240-156536-9

Date Collected: 09/20/21 15:54

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:00	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:01	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	506646	10/04/21 13:39	JMB	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 17:48	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: BAC-1

Lab Sample ID: 240-156536-10

Date Collected: 09/18/21 09:39

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:04	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:03	AJC	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505655	09/27/21 14:07	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:17	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 19:28	JWW	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: BAC-1

Date Collected: 09/18/21 09:39
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: MW-6

Date Collected: 09/18/21 10:13
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:08	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:05	AJC	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505655	09/27/21 14:10	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:21	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 20:09	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BAC-07

Date Collected: 09/18/21 10:51
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:13	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:08	AJC	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505655	09/27/21 14:12	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:25	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 20:29	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BAC-06

Date Collected: 09/18/21 12:47
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:17	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:11	AJC	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505655	09/27/21 14:15	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:29	JWW	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: BAC-06
Date Collected: 09/18/21 12:47
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	506429	10/02/21 21:29	JWW	TAL CAN
Total/NA	Analysis	300.0		5	507659	10/11/21 15:53	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BAC-02
Date Collected: 09/18/21 13:24
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:21	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:13	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:33	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 21:49	JWW	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/02/21 22:09	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BAC-05
Date Collected: 09/18/21 13:55
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:26	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:15	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:36	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 23:10	JWW	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/02/21 23:30	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BAC-04
Date Collected: 09/18/21 15:11
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:38	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:18	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:40	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/02/21 23:50	JWW	TAL CAN
Total/NA	Analysis	300.0		5	507659	10/11/21 17:11	JWW	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: BAC-04
Date Collected: 09/18/21 15:11
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BAC-03
Date Collected: 09/18/21 15:44
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:43	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:25	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:44	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 00:10	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: DUPLICATE #1 (BAC-03)
Date Collected: 09/18/21 15:44
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:47	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:28	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:51	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 00:30	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: 94136
Date Collected: 09/19/21 08:59
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 22:51	RKT	TAL CAN
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 16:30	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 19:57	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 00:50	JWW	TAL CAN
Total/NA	Analysis	300.0		10	506429	10/03/21 01:10	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: 94137

Lab Sample ID: 240-156536-20

Date Collected: 09/19/21 09:22

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:11	RKT	TAL CAN
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 14:26	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:02	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 01:31	JWW	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/03/21 01:51	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: 2000

Lab Sample ID: 240-156536-21

Date Collected: 09/19/21 09:57

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:19	RKT	TAL CAN
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 14:28	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:07	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 03:31	JWW	TAL CAN
Total/NA	Analysis	300.0		10	506429	10/03/21 03:51	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: MW-15

Lab Sample ID: 240-156536-22

Date Collected: 09/19/21 12:06

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:24	RKT	TAL CAN
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 14:31	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:11	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 04:12	JWW	TAL CAN
Total/NA	Analysis	300.0		10	506429	10/03/21 04:32	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: MW-17

Lab Sample ID: 240-156536-23

Date Collected: 09/19/21 13:02

Matrix: Water

Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:58	RKT	TAL CAN

Client Sample ID: MW-17
Lab Sample ID: 240-156536-23

Date Collected: 09/19/21 13:02
Matrix: Water
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505016	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 15:16	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:16	JWW	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/03/21 04:52	JWW	TAL CAN
Total/NA	Analysis	300.0		50	506429	10/03/21 05:52	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: B0903
Lab Sample ID: 240-156536-24

Date Collected: 09/19/21 14:35
Matrix: Water
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:28	RKT	TAL CAN
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 14:33	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:20	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 07:33	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505126	09/23/21 16:57	JWW	TAL CAN

Client Sample ID: BOTTOM ASH POND
Lab Sample ID: 240-156536-25

Date Collected: 09/19/21 14:55
Matrix: Water
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:33	RKT	TAL CAN
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 14:36	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:23	JWW	TAL CAN
Total/NA	Analysis	300.0		1	506429	10/03/21 07:53	JWW	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/03/21 08:13	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Client Sample ID: RECLAIM POND
Lab Sample ID: 240-156536-26

Date Collected: 09/19/21 15:08
Matrix: Water
Date Received: 09/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	506593	10/04/21 20:37	RKT	TAL CAN
Total Recoverable	Prep	3005A			505017	09/23/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	505474	09/24/21 14:38	AJC	TAL CAN
Total/NA	Analysis	2320B-1997		1	505614	09/26/21 20:27	JWW	TAL CAN

Lab Chronicle

Client: Lightstone Generation Gavin Power LLC
Project/Site: Gavin CCR

Job ID: 240-156536-1

Client Sample ID: RECLAIM POND

Date Collected: 09/19/21 15:08
Date Received: 09/22/21 08:00

Lab Sample ID: 240-156536-26

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	506429	10/03/21 08:33	JWW	TAL CAN
Total/NA	Analysis	300.0		5	506429	10/03/21 08:53	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	505246	09/24/21 09:38	JMR	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Lightstone Generation Gavin Power LLC
Job ID: 240-156536-1
Project/Site: Gavin CCR

Laboratory: Eurofins TestAmerica, Canton

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	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

Columbus 209 TestAmerica

Client Information	Sampler: Shaine	Lab PM: McFadden, John	Carrier Tracking No(s): 229	COC No:
Client Contact: Taylor Huffman	Phone: 740-925-3171	E-Mail: john.mcfadden@testamericainc.com		Page: Page of
Company: Lightstone Generation Gavin Power LLC				Job #:

Address: 7397 OH-7	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Cheshire	TAT Requested (days):		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; Other:
State, Zip: OH, 45620			
Phone: 740-925-3171(Tel)	PO #: 2911431		
Email: Taylor.Huffman@lightstonegen.com	WO #:		
Project Name: CCR WELLS	Project #: 24019633		
Company: GAVIN LLC	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(Calcium, Magnesium, Sodium, Potassium)	2540C_Calcd, 300.0_28D(Chloride, Fluoride, Sulfate)	2320B(Carbonate Alkalinity/Bi-Carbonate Alkalinity)	Total Number of containers
Preservation Code:							D	N	N	
2016-09	9-20-21	0938	G	W			1	1	1	3
Duplicate #2 (2016-09)	9-20-21	0938	G	W			1	1	1	3
96154R	9-20-21	1003	G	W			1	1	1	3
96153R	9-20-21	1044	G	W			1	1	1	3
MW-20	9-20-21	1113	G	W			1	1	1	3
2016-10	9-20-21	1323	G	W			1	1	1	3
93108	9-20-21	1427	G	W			1	1	1	3
MW-1	9-20-21	1533	G	W			1	1	1	3
River	9-20-21	1554	G	W			1	1	1	3

240-156536 Chain of Custody

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ 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
Shaine	9-21-21 0900	Gavin		9-21-21 1115	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	9/21/21 1700	ETA		9/22/21 800	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Δ | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

Columbus 209 TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Shain	Lab PM: McFadden, John	Carrier Tracking No(s): 229	COC No:
Client Contact: Taylor Huffman	Phone: 740-925-3171	E-Mail: john.mcfadden@testamericainc.com		Page: Page of
Company: Lightstone Generation Gavin Power LLC				Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620				
Phone: 740-925-3171(Tel)	PO #: 2911431			
Email: Taylor.Huffman@lightstonegen.com	WO #:			
Project Name: CCR WELLS	Project #: 24019633			
Site: GAVIN LLC	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, Z - other, 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(Calcium, Magnesium, Sodium, Potassium)	2540C_Calcd, 300.0_28D(Chloride, Fluoride, Sulfate)	2320B(Carbonate Alkalinity/Bi-Carbonate Alkalinity)	Total Number of containers
			Preservation Code:				D	N		
BAC-01	9-18-21	0939	G	W			1	1	1	3
MW-6	9-18-21	1013	G	W			1	1	1	3
BAC-07	9-18-21	1051	G	W			1	1	1	3
BAC-06	9-18-21	1247	G	W			1	1	1	3
BAC-02	9-18-21	1324	G	W			1	1	1	3
BAC-05	9-18-21	1355	G	W			1	1	1	3
BAC-04	9-18-21	1511	G	W			1	1	1	3
BAC-03	9-18-21	1544	G	W			1	1	1	3
Duplicate #1 (BAC-03)	9-18-21	1544	G	W			1	1	1	3

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	Shain	9-21-21 0900			9-21-21 1115	
2		9/21/21 1700			9/21/21 800	
3						

Custody Seals Intact: Δ | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

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10/12/2021

13 12 11 10 9 8 7 6 5 4 3 2 1

3.6/3.7 Columbus 209

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Shaini	Lab PM: McFadden, John	Carrier Tracking No(s): 229	COC No:
Client Contact: Taylor Huffman	Phone: 740-925-3171	E-Mail: john.mcfadden@testamericainc.com		Page: Page of
Company: Lightstone Generation Gavin Power LLC				Job #:
Address: 7397 OH-7	Due Date Requested:			
City: Cheshire	TAT Requested (days):			
State, Zip: OH, 45620				
Phone: 740-925-3171(Tel)	PO #: 2911431			
Email: Taylor.Huffman@lightstonegen.com	WO #:			
Project Name: CCR WELLS	Project #: 24019633			
Company: GAVIN LLC	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, Z - other, 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(Calcium, Magnesium, Sodium, Potassium)	2540C_Calcd, 300.0_28D(Chloride, Fluoride, Sulfate)	2320B(Carbonate Alkalinity/Bi-Carbonate Alkalinity)	Total Number of containers
			Preservation Code:				D	N	N	
94136	9-19-21	0859	G	W			1	1	1	3
94137	9-19-21	0922	G	W			1	1	1	3
2000	9-19-21	0957	G	W			1	1	1	3
MW-15	9-19-21	1206	G	W			1	1	1	3
MW-17	9-19-21	1302	G	W			1	1	1	3
MS/MSD (MW-17)	9-19-21	1304	G	W			3	3	3	9
B0903	9-19-21	1435	G	W			1	1	1	3
Bottom Ash Pond	9-19-21	1455	G	W			1	1	1	3
Reclaim Pond	9-19-21	1508	G	W			1	1	1	3

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] 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
Shaini	9-21-21 0900			9-21-21 1115	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	9/21/21 1700			9/22/21 800	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

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10/12/2021

13

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 156536**
Canton Facility

Client Lightstone, Glen Gavin Site Name _____ Cooler unpacked by: Trent

Cooler Received on 9/22/21 Opened on 9/22/21

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # ~~NA~~ 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# IR-11 (CF +0.1 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-12 (CF +0.2°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# HC157842
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: _____

WI-NC-099

Login # : 156536

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form				
Cooler Description (Circle)	**IR Gun # (Circle)**	**Observed Temp °C**	**Corrected Temp °C**	**Coolant (Circle)**
TA Client Box Other	IR-11 IR-12	1.4	1.5	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	2.1	2.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	4.0	4.1	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	3.6	3.7	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	3.7	3.8	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	4.7	4.8	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12	3.2	3.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-11 IR-12			Wet Ice Blue Ice Dry Ice Water None
				☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
2016-09	240-156536-C-1	Plastic 500ml - with Nitric Acid	<2			
DUPLICATE #2	240-156536-C-2	Plastic 500ml - with Nitric Acid	<2			
96154R	240-156536-C-3	Plastic 500ml - with Nitric Acid	<2			
96153R	240-156536-C-4	Plastic 500ml - with Nitric Acid	<2			
MW-20	240-156536-C-5	Plastic 500ml - with Nitric Acid	<2			
2016-10	240-156536-C-6	Plastic 500ml - with Nitric Acid	<2			
93108	240-156536-C-7	Plastic 500ml - with Nitric Acid	<2			
MW-1	240-156536-C-8	Plastic 500ml - with Nitric Acid	<2			
RIVER	240-156536-C-9	Plastic 500ml - with Nitric Acid	<2			
BAC-1	240-156536-C-10	Plastic 500ml - with Nitric Acid	<2			
MW-6	240-156536-C-11	Plastic 500ml - with Nitric Acid	<2			
BAC-07	240-156536-C-12	Plastic 500ml - with Nitric Acid	<2			
BAC-06	240-156536-C-13	Plastic 500ml - with Nitric Acid	<2			
BAC-02	240-156536-C-14	Plastic 500ml - with Nitric Acid	<2			
BAC-05	240-156536-C-15	Plastic 500ml - with Nitric Acid	<2			
BAC-04	240-156536-C-16	Plastic 500ml - with Nitric Acid	<2			
BAC-03	240-156536-C-17	Plastic 500ml - with Nitric Acid	<2			
DUPCIATE #1 (BAC-03)	240-156536-C-18	Plastic 500ml - with Nitric Acid	<2			
94136	240-156536-C-19	Plastic 500ml - with Nitric Acid	<2			
94137	240-156536-C-20	Plastic 500ml - with Nitric Acid	<2			
2000	240-156536-C-21	Plastic 500ml - with Nitric Acid	<2			
MW-15	240-156536-C-22	Plastic 500ml - with Nitric Acid	<2			
MW-17	240-156536-I-23	Plastic 500ml - with Nitric Acid	<2			
MW-17	240-156536-J-23	Plastic 500ml - with Nitric Acid	<2			
MW-17	240-156536-K-23	Plastic 500ml - with Nitric Acid	<2			
MW-17	240-156536-L-23	Plastic 500ml - with Nitric Acid	<2			
B0903	240-156536-C-24	Plastic 500ml - with Nitric Acid	<2			
BOTTOM ASH POND	240-156536-C-25	Plastic 500ml - with Nitric Acid	<2			
RECLAIM POND	240-156536-C-26	Plastic 500ml - with Nitric Acid	<2			

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ERM's Boston Office
One Beacon Street, 5th Floor
Boston, MA
02108

T: +1 617 646 7800
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