Kincaid Generation, LLC
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May 10, 2024

Illinois Environmental Protection Agency
DWPC – Permits MC #15
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 N. Grand Avenue East
Springfield, IL 62794-9276

Re: Kincaid Generation, LLC – Kincaid Power Plant (ID No. W0218140002-01)

Kincaid Generation, LLC is hereby submitting this assessment of groundwater corrective measures for Kincaid Power Plant Ash Pond to satisfy the following provisions:

- 35 I.A.C. 845.660 (Assessment of Corrective Measures), and
- 35 I.A.C. 845.650(d) (Characterization of Nature and Extent)

Along with this letter, these plans will be posted to Luminant's publicly accessible internet site: www.luminant.com/ccr/illinois-ccr/.

If you have any questions regarding this submittal, please contact Phil Morris at 618-343-7799 or phil.morris@vistracorp.com.

Sincerely,



Phil Morris
Sr. Director Environmental
Illinois Power Generating Company

Enclosure

Intended for
Illinois Power Generating Company

Date
May 12, 2024

Project No.
1940103584-007

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT

KINCAID POWER PLANT, ASH POND, IEPA ID: W0218140002-01

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35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT KINCAID POWER PLANT, ASH POND, IEPA ID: W0218140002-01

Project name	**Kincaid Power Plant Ash Pond**
Project no.	**1940103584-007**
Recipient	**Kincaid Generation, LLC**
Document type	**35 I.A.C. § 845 Corrective Measures Assessment**
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ATTACHMENTS

Attachment A Selected Construction Permit Application Plans

ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
AP	Ash Pond
ASD	alternative source demonstration
CAAA	Corrective Action Alternatives Analysis
CAP	Corrective Action Plan
CCR	coal combustion residuals
CIP	closure-in-place
CMA	Corrective Measures Assessment
cm/s	centimeters per second
CSM	conceptual site model
EPRI	Electric Power Research Institute
E001	Event 1
GMP	Groundwater Monitoring Plan
GWPS	groundwater protection standard(s)
ID	identification
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
ITRC	National Research Council, Interstate Technology & Regulatory Council
KPP	Kincaid Power Plant
LCU	lower confining unit
NAVD88	North American Vertical Datum of 1988
NID	National Inventory of Dams
No.	number
NPDES	National Pollutant Discharge Elimination System
NRT/OBG	Natural Resource Technology, an OBG Company
PRB	Permeable Reactive Barrier
PMP	Potential Migration Pathway
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SI	surface impoundment
TDS	total dissolved solids
UA	Uppermost Aquifer
USCU	Upper Semi-Confining Unit
USEPA	United States Environmental Protection Agency
ZVI	zero-valent iron

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) has developed this assessment of groundwater corrective measures on behalf of the Kincaid Power Plant (KPP), operated by Kincaid Generation, LLC, to assist in the compliance with the requirements of Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments. This assessment applies specifically to the coal combustion residuals (CCR) surface impoundments (SI) referred to as the Ash Pond (AP), also referred to as CCR Unit Identification (ID) Number (No.) 141, Illinois Environmental Protection Agency (IEPA) ID No. W0218140002-01, and National Inventory of Dams (NID) No. IL50706. This report addresses content requirements specific to 35 I.A.C. § 845.660 (Assessment of Corrective Measures) for exceedances of boron, sulfate, and total dissolved solids (TDS) at the AP.

1.1 Source Control and Residual Plume Management

Kincaid Generation, LLC intends to initiate significant source control and residual plume management efforts as part of the AP closure, as documented in the Construction Permit Application that was submitted to IEPA in July of 2022 (Burns & McDonnell Engineering Company, Inc., 2022). The proposed closure exceeds the minimum Closure Performance Standards listed in 35 I.A.C. § 845.750. The closure will include removing free liquids in accordance with the performance standard in 35 I.A.C. § 845 and maintaining that condition during the closure construction period. The closure will control infiltration in accordance with the performance standard in 35 I.A.C. § 845, thus removing the hydraulic head that can force leachate into subsurface soils and is the mechanism that can drive risk (United States Environmental Protection Agency [USEPA], 2015a, p. 21342):

> *EPA's risk assessment shows that the highest risks are associated with CCR surface impoundments due to the hydraulic head imposed by impounded water. Dewatered CCR surface impoundments will no longer be subjected to hydraulic head so the risk of releases, including the risk that the unit will leach into the groundwater, would be no greater than those from CCR landfills.*

The AP will be closed using a consolidate-and-cap approach consisting of excavating nearly 2 million cubic yards of CCR and placing it in a consolidated CCR footprint at an elevation greater than 12 feet above the uppermost aquifer (UA) and above the estimated post-closure water table. The consolidated CCR will be covered with an alternate geomembrane final cover system having performance that exceeds the 35 I.A.C. § 845.750(c)(2) minimum final cover requirements. The proposed source control is predicted to reduce water flux into and out of the AP by greater than 99 percent and allow the groundwater protection standards (GWPS) to be achieved within approximately 17 years (Ramboll, 2022). These source control activities will serve as the primary groundwater corrective measure at the AP. The potentially feasible corrective measures presented herein are intended to be supplementary to the primary source control and are intended to serve as management measures to address any residual plumes that remain after completion of source control.

Attachment A includes summary figures from the Construction Permit Application that show the proposed final source control and primary corrective action.

1.2 Adaptive Site Management

Adaptive site management strategies will be employed as an integral part of ongoing corrective action at the AP. The adaptive site management approach will allow timely incorporation of new site information over the closure and post-closure life cycle of the AP to ensure the achievement of the GWPS. The adaptive site management approach is proposed to expedite progress toward meeting the GWPS while acknowledging uncertainties, such as the persistence of current groundwater flow directions and flux quantities and potential related changes in geochemical conditions. A structured decision-making process and explicitly planned iterations between the implemented corrective measures and monitoring results will ensure that remediation is occurring. System performance and the condition of the residual plume will be monitored as the corrective measure(s) selected through the 35 I.A.C. § 845.710 Corrective Action Plan (CAP) process are implemented to supplement the source control measures described above. If the groundwater concentrations do not decrease consistent with the modeling prediction, the adaptive site management approach will facilitate timely modifications or enhancements to the corrective measure(s), as needed in accordance with 35 I.A.C. § 845.680(b). This approach will be employed to provide continuous improvement to the AP groundwater remediation in response to new site information and/or the performance of the selected corrective measure(s).

The planned adaptive site management strategies are generally consistent with National Research Council, Interstate Technology & Regulatory Council (ITRC) and USEPA methodologies developed to address sites with long remediation times and high levels of uncertainty regarding the remedial actions necessary to achieve final and protective remediation goals (USEPA, 2022). The elements of the proposed adaptive site management strategy at the AP will be responsive to the changing conditions associated with pond closure and performance of the selected corrective measure(s) and will include the following:

1. Implementing the groundwater corrective measure(s) selected as part of the CAP for the current conditions at the AP. The selected corrective measures may include a combination of the technologies presented in this Corrective Measures Assessment (CMA).

2. Establishing both the absolute remedial objective and functional (interim) goals to monitor progress toward the remedial objective. Achieving the GWPS for 35 I.A.C. § 845.600 constituents at the downgradient waste boundary is the remedial objective for the AP. Specific functional goals will be developed as part of the CAP process. The functional goals will be measurable thresholds for future action and may include short-term or technology-specific objectives and triggers. Functional goals may vary for different locations, CCR constituents or other site-specific considerations (ITRC, 2017) and will serve as benchmarks for comparison to ongoing groundwater monitoring at the AP.

3. Ongoing groundwater monitoring at the AP will continue throughout the implementation of source control and residual plume management activities. Post-closure monitoring will continue for a period of at least 30 years, in accordance with 35 I.A.C. § 845.780(c). A comprehensive groundwater monitoring plan (GMP) will be developed as part of the CAP process in accordance with 35 I.A.C. § 845.670 and 35 I.A.C. § 845.220(c)(4). The GMP will include the functional goals and proposed action levels.

4. Groundwater monitoring information will be used to guide decisions regarding whether progress toward the remedial goal is advancing as expected and/or whether additional actions may be needed to achieve the remedial objective, in conjunction with IEPA, as required by 35 I.A.C. § 845.680(b).

2. SITE INFORMATION

The KPP is located in the southwest quarter of Section 1, and the northeast quarter of Section 12, Township 13 North, Range 4 West, along West Route 104 Christian County, Illinois and approximately four miles west of the Village of Kincaid (**Figure 2-1**). The KPP operates as a coal-fired power plant and consists of one CCR unit, the AP, with a total storage capacity of approximately 3,560 acre-feet.

The AP is located between two lobes of Sangchris Lake, which was formed in 1964 by damming Clear Creek, a tributary to the south fork of the Sangamon River (**Figure 2-2**). Sangchris Lake was created to provide a source of cooling water for the KPP. The western lobe of Sangchris Lake forms part of the western and northern border of the AP and is connected to an intake flume for the KPP on the western edge of the AP. A discharge flume from the KPP forms the southern border of the AP and is connected to the eastern lobe of Sangchris Lake.

Construction of the AP began in 1964 and the impoundment was commissioned for use in 1967. The AP primarily contains bottom ash and boiler slag, and other minor materials including water and wastewater treatment solids, excavation spoils, and dredge spoils. Discharge for the AP is located at the southeast corner of the unit. A construction permit application for the closure of the AP (*e.g.,* source control) was submitted to IEPA on July 28, 2022 (Burns & McDonnell Engineering Company, Inc., 2022); permit approval is pending at this time.

2.1 Conceptual Site Model

Significant site investigation has been completed at the KPP to characterize the geology, hydrogeology, and groundwater quality. Based on extensive investigation and monitoring, the AP has been well characterized and detailed in the Hydrogeologic Site Characterization Report (Ramboll, 2021), which was prepared to comply with the requirements specified in 35 I.A.C. § 845.620 and expands upon the Hydrogeologic Monitoring Plan (Natural Resource Technology/O'Brien & Gere Engineers, Inc. [NRT/OBG], 2017). The conceptual site model (CSM) is presented below.

In addition to the CCR present at the AP, there are three principal layers of unlithified material present above the bedrock, which are categorized into the hydrostratigraphic units described below (from surface downward) based on stratigraphic relationships and common hydrogeologic characteristics:

- **Upper Semi-Confining Unit (USCU)**: Low permeability clay with some silt and minor sand, silt layers, and occasional discontinuous sand lenses. Includes the lithologic layers identified as the Cahokia Formation. Sand lenses within the USCU with higher permeability within the USCU have a higher probability of contaminant transport and these materials are referred to as the potential migration pathways (PMPs).
- **Uppermost Aquifer (UA)**: Thin (generally less than 4 feet), moderate permeability sand, silty sand, and clayey sand and gravel units, which includes the unconfined clays and silts of the Upper Cahokia Formation, where saturated, and the thin, moderate permeability sands and gravels of the Lower Cahokia Formation, which, at some locations also includes the interface with the Vandalia Till.

- **Lower Confining Unit (LCU):** Underlying the aquifer unit is dense grey clay till; this till is easily distinguished during investigation by difficult drilling and/or refusal and is apparent on boring logs. The till was encountered at elevations ranging from approximately 570 to 583.5 feet[1]. The LCU is comprised of low permeability silt and clay with minor sand, silt layers, and occasional discontinuous sand lenses (more frequently near the top of the unit). Includes the lithologic layers identified as the Vandalia Till.
- **Bedrock**: This unit is composed of interbedded shale and limestone of the Bond Formation that underlie the Vandalia Till, and underlies the entire AP.

In the vicinity of the AP, groundwater generally flows north and northwest through the USCU toward the western lobe of Sangchris Lake. There also appears to be a component of groundwater flow to the south and east toward the discharge flume that flows towards the eastern lobe of Sangchris Lake, as evidenced by groundwater elevations on the southern side of the AP. These two components of groundwater flow suggest a groundwater divide beneath the AP. Groundwater elevations and contours for the first quarterly sampling event (Event 1 [E001]) are presented in **Figure 2-3**.

2.2 Groundwater Quality

Groundwater monitoring in accordance with the proposed GMP and sampling methodologies provided in the operating permit application for the AP began in the second quarter of 2023. The 35 I.A.C. § 845 groundwater monitoring system is displayed on **Figure 2-4** and consists of 16 wells screened in the UA (two background and 14 compliance), five compliance wells screened in the USCU, and two temporary water level only surface water staff gages. The groundwater samples collected from the 21 wells are used to monitor and evaluate groundwater quality and demonstrate compliance with the groundwater quality standards listed in 35 I.A.C. § 845.600(a). The proposed monitoring wells yield groundwater samples that represent the quality of downgradient groundwater at the CCR boundary (as required in 35 I.A.C. § 845.630(a)(2)).

The E001 sampling event was completed on June 13, 2023. In accordance with 35 I.A.C. § 845.610(b)(3)(C), statistically derived values were compared with the GWPSs summarized in 35 I.A.C. § 845.600 to determine exceedances of the GWPS. The statistical determination initiated during E001 identified the following GWPS exceedances at compliance groundwater monitoring wells (Ramboll, 2023):

- Boron in MW-12, MW-28 and MW-7S
- Sulfate in MW-28, MW-32 and MW-7S
- TDS in MW-28

The boron, sulfate, and TDS exceedances are addressed in this CMA, in accordance with 35 I.A.C. § 845.660.

[1] All elevations in this report are referenced to North American Vertical Datum of 1988 (NAVD88) unless otherwise noted.

3. CORRECTIVE MEASURES ASSESSMENT METHODOLOGY

This section describes the CMA methodology initiated in response to the identification of exceedances of the GWPSs for 35 I.A.C. § 845.600 constituents at the downgradient waste boundary of the AP during the E001 groundwater monitoring event (Ramboll, 2023). The CMA was initiated on December 14 2023, within 90 days after the detection of exceedance(s) of GWPS. Under 35 I.A.C. § 845, owners and operators of existing CCR SI must initiate the assessment of corrective measures in accordance with 35 I.A.C. § 845.660 if one or more constituents are detected, and confirmed by an immediate resample, to be in exceedance of a GWPS in 35 I.A.C. § 845.600, and the owner or operator has not demonstrated that: a source other than the CCR SI caused the exceedance, or; that the exceedance of the GWPS resulted from error in sampling, analysis, statistical evaluation, natural variation in groundwater quality or a change in the potentiometric surface and groundwater flow direction (an alternative source demonstration [ASD]).

The CMA is the first step in developing a long-term CAP to address the GWPS exceedances at CCR SIs. The process provides a systematic, rational method for evaluating potential corrective measures by first identifying potentially viable technologies and assessing them using qualitative information to eliminate from consideration infeasible or otherwise unacceptable remedial technologies (*i.e.,* the 35 I.A.C. § 845.660 CMA). The remaining technologies will be evaluated individually, or assembled into combined alternatives, and further evaluated under the 35 I.A.C. § 845.670 CAP process.

This CMA identified applicable corrective measure technologies and evaluated them for viability, given the site-specific conditions and considerations at the AP, by addressing the following 35 I.A.C. § 845.660 evaluation criteria:

- Performance, reliability, ease of implementation and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- Time required to begin and complete the CAP; and
- Institutional requirements, such as State or local permit requirements or other environmental or public health requirements, that may substantially affect implementation of the CAP.

The evaluation included qualitative and/or semi-quantitative screening of the potential corrective measures (technologies) relative to their general performance, reliability, and ease of implementation characteristics and their potential impacts, timeframes, and institutional requirements to assess the viability of each technology to address the GWPS exceedances at the AP. This approach provided a reasoned set of corrective measures that could be used, either individually or in combination, to supplement the primary source control measures described in **Section 1.1**. This set of corrective measures will be further evaluated in the Corrective Action Alternatives Analysis (CAAA).

4. DESCRIPTION OF POTENTIAL CORRECTIVE MEASURE TECHNOLOGIES

The potential groundwater corrective measures summarized below are applicable to the AP and were included in the CMA development and analysis. Site-specific considerations provided in **Section 2** were used to evaluate potential groundwater corrective measures. Each of the corrective measures evaluated may be capable of satisfying the requirements and objectives, listed in **Section 3**, to varying degrees of effectiveness. The corrective measure review process was intended to yield a set of applicable corrective measures that could be used to supplement the primary corrective action, which will be the source control activities described in **Section 1.1** (consolidate-and-cap approach with a geomembrane final cover system). The source control is expected to reduce downgradient concentrations in the UA to less than the GWPS via naturally occurring physical and chemical processes over an approximately 17-year timeframe. Ongoing monitoring will be an integral part of all corrective measures to verify and document the remedial process. The corrective measures ultimately advanced to the CAAA and selected in the CAP will be used to enhance the effectiveness of the source control and may be used independently or combined into specific remedial alternatives to leverage the advantages of multiple corrective measures to attain GWPSs.

Source control measures will be initiated for the AP, as described in **Section 1.1**; all of the evaluated additional corrective measure technologies are proposed to be supplemental and complementary to source control activities. The following potential corrective measures, commonly used to mitigate groundwater impacts, were considered as a part of the CMA process:

- Source Control with Groundwater Polishing;
- Source Control with Groundwater Extraction (groundwater pumping wells or collection trenches);
- Source Control with a Cutoff Wall; and
- Source Control with In-Situ Treatment (Permeable Reactive Barrier [PRB] or In-Situ Chemical Treatment).
- Source Control with Phytoremediation

4.1 Source Control with Groundwater Polishing

Both federal and state regulators have long recognized that natural geochemical processes can be an acceptable component of a remedial action when it can achieve remedial action objectives in a reasonable timeframe. In 1999, the USEPA published a final policy directive (USEPA, 1999a) for groundwater remediation and described the process as follows:

> *"The reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods. The natural attenuation processes that are at work in such a remediation approach include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. These in-situ processes include biodegradation; dispersion; dilution; sorption; volatilization;*

radioactive decay; and chemical or biological stabilization, transformation, or destruction of contaminants."

The USEPA has stated that source control is the most effective means of ensuring the timely attainment of remediation objectives (USEPA, 1999a). Natural geochemical processes may be appropriate as a "finishing step" after effective source control implementation (*i.e.*, groundwater polishing), to reduce the residual mass remaining in the groundwater after closure, if there are no risks to receptors and/or the contaminant plume is not expanding. Thus, groundwater polishing would be used in conjunction with the significant planned source control effort at the site, which will consist of a hybrid consolidate-and-cap approach with a final cover system described in **Section 1.1**.

In 2015, USEPA addressed remediation of inorganic compounds in groundwater and noted that the use of natural geochemical processes to address inorganic contaminants: (1) is not intended to constitute a treatment process for inorganic contaminants; (2) when appropriately implemented, can help to restore an aquifer to beneficial uses by immobilizing contaminants onto aquifer solids and providing the primary means for attenuation of contaminants in groundwater; and (3) is not intended to be a "do nothing" response (USEPA, 2015b). Rather, documenting the applicability of natural geochemical processes for groundwater remediation should be thoroughly and adequately supported with site-specific characterization data and analysis (USEPA, 1999a; USEPA, 2007; USEPA, 2015b):

Both physical and chemical processes can contribute to the reduction of the small amount of residual mass remaining after closure of the AP, and the toxicity, mobility, volume, or concentration of contaminants in groundwater. Physical processes applicable to CCR constituents in groundwater include dilution, dispersion, and flushing. Chemical processes applicable to CCR constituents in groundwater include precipitation and coprecipitation (*e.g.,* incorporation into sulfide minerals), sorption (*e.g.,* to iron, manganese, aluminum; to other metal oxides or oxyhydroxides; or to sulfide minerals or organic matter), and ion exchange.

All inorganic compounds are subject to physical processes and under typical environmental conditions, the physical mechanisms most often exert the dominant control on the CCR constituents of interest. Chemical mechanisms are also likely to be active, though not often dominant, such as adsorption, ion exchange, and organic complexation. In combination with source control, these natural controls can provide an effective means to polish residual loading and achieve the GWPS in a reasonable timeframe. Additional data collection and analysis may be required to support the USEPA's evaluation framework (USEPA, 2015b) and obtain regulatory approval.

4.2 Source Control with Groundwater Extraction

Groundwater extraction is one of the most widely used groundwater corrective technologies and has a long history of performance. This corrective measure includes installation of one or more groundwater pumping wells or an extraction trench to control and extract impacted groundwater. Groundwater extraction captures and contains impacted groundwater and can limit plume expansion and/or off-site migration. Construction of a groundwater extraction system typically includes, but is not limited to, the following primary components:

- Designing and constructing a groundwater extraction system consisting of one or more extraction wells or trenches and operating at a rate to allow capture of CCR impacted groundwater within the UA and or the PMP.
- Management of extracted groundwater, which may include modification to the existing National Pollutant Discharge Elimination System (NPDES) permit.
- Ongoing inspection and maintenance of the groundwater extraction system.

Remediation of inorganics by groundwater extraction can be effective, but systems do not always perform as expected. A combination of factors, including geologic heterogeneities, difficulty in flushing low-permeability zones, and rates of contaminant desorption from aquifer solids can limit effectiveness. Groundwater extraction systems require ongoing operation and maintenance to address issues such as iron bacteria and well fouling and to ensure optimal performance. The extracted groundwater must be managed, either by ex-situ treatment or disposal.

Groundwater extraction may reduce the timeframe to achieve GWPS and limit the off-site migration of constituents that exceed the GWPS. Extraction could be accomplished using a groundwater pumping well system or an extraction trench.

4.3 Source Control with Groundwater Cutoff Wall

Since the late 1970s and early 1980s, vertical cutoff walls have been used to control and/or isolate impacted groundwater. Low-permeability cutoff walls can be used to prevent horizontal off-site migration of potentially impacted groundwater. Cutoff walls act as barriers to lateral transport of impacted groundwater and can isolate soils that have been impacted by CCR to prevent mixing with unimpacted groundwater. Cutoff walls are often used in conjunction with an interior pumping system to establish an inward gradient within the cutoff wall. The gradient imparted by the pumping system maintains an inward flow through the wall, keeping it from acting as a groundwater dam and controlling potential end-around or breakout flow of contaminated groundwater. Constructing the cutoff wall such that it intersects a low-permeability material at its base, referred to as "keying", greatly increases its effectiveness.

A commonly used cutoff wall construction technology is the slurry trench method, which consists of excavating a trench and backfilling it with a soil-bentonite mixture, often created with the excavated soils, or, for deeper walls, a cement-bentonite mixture that is produced at an onsite batch plant. The trench is temporarily supported with bentonite slurry pumped into the trench during excavation (D'Appolonia & Ryan, 1979). Cutoff wall excavation uses conventional hydraulic excavators, hydraulic excavators equipped with specialized booms to extend their reach (*i.e.,* long-stick excavators), clamshells, or more specialized equipment such as hydromills, secant-pile drill rigs, or one-pass machines, depending upon trench depth, material excavated, and type of material that the wall is keyed into.

Cutoff walls are a widely accepted technology for containing impacted groundwater. Combining groundwater polishing with a limited cutoff wall and groundwater extraction in specific areas may provide advantages over independent use of these potential corrective technologies. Cutoff walls can be used in combination with groundwater extraction or as part of a PRB system (as the "funnel" in a funnel-and-gate system; **Section 4.4**).

4.4 Source Control with In-Situ Chemical Treatment

The use of in-situ treatment, either by injection or PRBs is a widely used technology for treating impacted groundwater. However, in-situ treatment techniques for boron and sulfate are not well established, therefore performance is unknown.

Chemical treatment could consist of injection of reactive materials into the subsurface to treat contaminants at specific, targeted locations. Alternatively, treatment could be accomplished via PRB, where subsurface barriers (*i.e.,* cutoff walls) are placed at locations designed to direct the contaminant plume along a flow path through the reactive media. In either system, the contaminants are transformed or otherwise rendered into environmentally acceptable forms to attain remediation concentration goals downgradient of the barrier (Electric Power Research Institute [EPRI], 2006).

As groundwater passes through the PRB under natural gradients, dissolved constituents in the groundwater react with the reactive media and are transformed or immobilized. A variety of media have been used or proposed for use in PRBs. Zero-valent iron (ZVI) is a chemical treatment that has been shown to effectively immobilize some CCR constituents, including arsenic, chromium, cobalt, molybdenum, selenium, and sulfate. Use of a combination media consisting of ZVI and a boron-selective ion exchange resin to treat boron has been documented in a pilot-scale test (EPRI, 2006).

System configurations include continuous PRBs, in which the reactive media extends across the entire path of the contaminant plume; and funnel-and-gate systems, where low-permeability barriers are installed to control groundwater flow through a permeable gate containing the reactive media. Continuous PRBs intersect the entire contaminant plume and do not materially impact the groundwater flow system. Design may or may not include keying the PRB into a low-permeability unit at depth. Funnel-and-gate systems utilize a system of barriers to groundwater flow (funnels) to direct the contaminant plume through the reactive gate. The barriers, typically some form of cutoff wall, are keyed into a low-permeability unit at depth to prevent short circuiting of the plume. Funnel-and-gate design must consider the residence time to allow chemical reactions to occur. Directing the contaminant plume through the reactive gate can significantly increase the flow velocity, thus reducing residence time.

Design of in-situ treatment systems requires rigorous site investigation to characterize the site hydrogeology and to delineate the contaminant plume. A thorough understanding of the geochemical and redox characteristics of the plume is critical to assess the feasibility of the process and select appropriate reactive media. Laboratory studies, including batch studies and column studies using samples of site groundwater, are needed to determine the effectiveness of the selected reactive media at the site (EPRI, 2006). The main considerations in selecting reactive media are as follows (Gavaskar et al., 1998; cited by EPRI, 2006):

- Reactivity - The media should be of adequate reactivity to immobilize a contaminant within the residence time of the design.
- Hydraulic performance - The media should provide adequate flow through the PRB, meaning a greater particle size than the surrounding aquifer materials. Alternatively, gravel beds have been emplaced in front of barriers to direct flow through the barrier.
- Stability - The media should remain reactive for an amount of time that makes its use economically advantageous over other technologies.

- Environmentally compatible by-products - Any by-products of media reaction should be environmentally acceptable. For example, iron released by zero-valent iron corrosion should not occur at levels exceeding regulatory acceptance levels.
- Availability and price: The media should be easy to obtain in large quantities at a price that does not negate the economic feasibility of using a PRB.

4.5 Source Control with Phytoremediation

Phytoremediation has been shown to be effective for treating groundwater up to 30 feet below ground surface when correctly implemented. Phytoremediation is an accepted and proven remedial technology that refers to several ways in which plants are used to remediate sites by removing pollutants from soil and water. Phytoremediation can provide an aesthetically pleasing, solar-energy driven technique that can be used to clean up sites with shallow, low to moderate levels of contamination (USEPA, 1999b).

The specific mechanisms that contribute to phytoremediation are largely a function of the site conditions, plant species, and the nature of the contaminant. Phytoremediation can be an effective treatment for boron (Bañuelos et al., 1999), and boron is an essential micronutrient for plant growth. However, if boron concentrations in irrigation water become too elevated (greater than approximately 20 mg/L for poplars and willows), the water can be toxic to plants (Yıldırım & Kasım, 2018). While sulfate phytoremediation is not well documented, sulfate is a necessary nutrient for plant growth, and phytoremediation would likely reduce sulfate concentrations in groundwater. Boron and sulfate (and TDS) impacts to groundwater would also be reduced via increased groundwater uptake by the phytoremediation plantation.

Several different phytoremediation mechanisms can contribute to contaminant degradation, removal (through accumulation or dissipation), or immobilization:

- Degradation (for destruction or alteration of organic contaminants)
  - Rhizodegradation: enhancement of biodegradation in the below-ground root zone by microorganisms;
  - Phytodegradation: contaminant uptake and metabolism above or below ground, within the root, stem, or leaves;
- Accumulation (for containment or removal of organic and/or metal contaminants)
  - Phytoextraction: contaminant uptake and accumulation for removal;
  - Rhizofiltration: contaminant adsorption on roots for containment and/or removal;
- Dissipation (for removal of organic and/or inorganic contaminants into the atmosphere)
  - Phytovolatilization: contaminant uptake and volatilization;
- Immobilization (for containment of organic and/or inorganic contaminants)
  - Hydraulic Control: control of ground-water flow by plant uptake of water;
  - Phytostabilization: contaminant immobilization in the soil.

In most circumstances, multiple mechanisms act simultaneously and synergistically to remediate contaminants.

Phytoremediation requires more effort than simply planting vegetation with minimal maintenance and assuming that the contaminant will disappear. Phytoremediation requires an understanding of the applicable remediation mechanisms, careful plant species selection, and the provision of an environment conducive to successful plant growth to achieve optimal results. Site specific verification of the applicability and efficacy of phytoremediation would be required (USEPA, 2001).

At the AP, two phytoremediation mechanisms would be the predominant contributors to reduction of contaminants in groundwater: phytoextraction and hydraulic control. Phytoextraction would consist of uptake of impacted groundwater through tree roots and storage of the contaminants in the above-ground tree tissues (predominantly leaves). Simultaneously, the plantings would improve hydraulic control of impacted groundwater due to the root systems impeding the downgradient groundwater flux and thereby reducing the downgradient contaminant mass flux.

Phytoremediation could be implemented in a variety of different ways. One straightforward approach involves planting directly into contaminated soil or in areas where roots can directly contact contaminated groundwater. This strategy provides a simple approach under the proper conditions (roots can naturally reach contamination, environment is not toxic to plants, etc.); however, in some cases contaminated groundwater cannot be easily accessed by plant roots and other strategies are required.

Where groundwater is too deep for roots to naturally access it, specialized planting systems can be utilized to provide access to the groundwater. At each planting location the groundwater wells or soil borings are backfilled with a coarse grained material, allowing groundwater to rise to its potentiometric surface elevation. When designed correctly, these systems provide significantly increased access to groundwater for the tree roots, especially when combined with other cultivation techniques to encourage deep root growth such as deep irrigation during the tree establishment, aeration tubes to provide oxygen to the subsurface, and utilizing long tree cuttings planted deeply. An additional technique to encourage deep root growth is to install a casing or liner around the root zone that requires tree roots to advance downward toward groundwater.

Phytoremediation implementation at the AP would consist of planting phreatophytes (plants that thrive with roots submerged in water) in downgradient area(s) where elevated concentrations of boron, sulfate, and TDS have been observed in groundwater. Following installation, the trees would require an initial establishment period of several (3 to 5) years to grow large enough for roots to reach the groundwater table and begin uptake of groundwater. During this establishment period supplemental irrigation would be necessary. Once the trees have sufficiently matured to uptake groundwater, boron (and possibly sulfate and TDS) would be incorporated into tree tissues, including the leaves of the trees. Leaves from the trees would be collected and removed from the tree plantation, thereby providing for a mechanism of boron (and possibly sulfate and TDS) removal from the site.

Since phytoremediation is dependent upon the tree roots contacting and extracting groundwater, enhancements could be implemented to promote downward root growth. Examples include planting long tree cuttings deeper in the ground, having deep irrigation systems that encourage downward root growth, and planting boron accumulating grass cover or utilizing impermeable membranes to reduce infiltration and thereby encourage tree root growth toward the groundwater table. Phreatophytes are favored for their ability to grow deep root systems quickly

as well as their capability to utilize high volumes of water once established. Phytoremediation using phreatophytes has been shown to be effective for treating groundwater up to 30 feet below ground surface if appropriate measures are implemented.

Phytoremediation can offer several advantages over traditional remedial technologies. When properly applied, phytoremediation can be a low cost, low maintenance, environmentally friendly, and aesthetically pleasing technology while also providing effective contaminant reduction. Phytoremediation can be well-suited for projects with longer time frames (tens of years) or low concentration contaminant fluxes. However, under some conditions, clean-up can be achieved in shorter time frames (several years).

5. ASSESSMENT OF CORRECTIVE MEASURE TECHNOLOGIES

This CMA was initiated to address exceedances of the 35 I.A.C. § 845.600 GWPS for boron, sulfate and TDS at the downgradient waste boundary of the AP identified during the E001 groundwater monitoring event (**Section 2.2**).

5.1 Requirements

The potential groundwater corrective technologies described in the previous section were evaluated relative to the requirements presented in **Section 3** and reiterated below:

- Performance, reliability, ease of implementation and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- Time required to begin and complete the CAP; and
- Institutional requirements, such as State or local permit requirement or other environmental or public health requirements that may substantially affect implementation of the CAP.

Table 5-1 presents the qualitative CMA evaluation of each corrective technology relative to these requirements, as well as their ability to address boron, sulfate, and TDS GWPS exceedances. The following sections provide a summary of these evaluations and a discussion of the potential groundwater corrective measure technologies that may be viable, either independently or in combination, to address GWPS exceedances. This section also provides a summary of corrective measure technologies that have been retained and advanced for evaluation as part of the 35 I.A.C. § 845.670 CAAA process for selecting the final remedy for the AP.

5.2 Groundwater Corrective Technology Assessment

Source control, consisting of CCR consolidation and closure-in-place (CIP) with a final cover system, will be the primary groundwater corrective measure for the AP. Closure is expected to be completed in 2028 and each of the potential groundwater corrective measure technologies would supplement the positive impact of the closure activities. The following sections evaluate groundwater corrective measure technologies that, when combined with site closure, may be viable to address the boron, sulfate, and TDS GWPS exceedances. Technologies that are not viable for addressing the GWPS at the AP will be eliminated from further evaluation and viable technologies will be advanced for further evaluation as part of the 35 I.A.C. § 845.600 CAAA process.

5.2.1 Source Control with Groundwater Polishing

Source control corrective measures (**Section 1.1**) will reduce the mass loading to the groundwater system and the groundwater polishing process could decrease the timeframe for attainment of GWPS in the UA. Groundwater flow and fate and transport modeling incorporating only physical processes indicate that source control is expected to meet GWPS in approximately 17 years. Physical processes are expected to perform well in the UA, as discussed below.

Groundwater polishing by natural geochemical processes is a widely accepted component of groundwater remediation and is routinely approved by the IEPA when paired with source control. The performance of groundwater polishing as a groundwater corrective measure varies based on

site-specific conditions and additional data collection may be needed to support the design and regulatory approval. The sandy nature of the UA suggests good performance by physical processes in addressing the boron, sulfate, and TDS in the UA. The chemical processes in the fine-grained USCU require further evaluation.

Naturally occurring geochemical processes are ongoing at the AP and will continue to affect groundwater constituent concentrations during and after AP closure. Ongoing monitoring of groundwater conditions is needed to better understand the mechanisms and efficacy of the groundwater polishing process and to confirm the effectiveness over time. Thus, additional groundwater sample collection and analyses would be required to characterize potential mechanisms, as discussed above, and to provide long term monitoring of the remedial progress. Enhancements to the groundwater monitoring system may be required to ensure that groundwater polishing is occurring as predicted by the groundwater and consistent with the adaptive site management approach. The reliability of groundwater polishing as a groundwater corrective measure is high because operation and maintenance requirements are limited. However, the reliability can also vary based on site-specific hydrogeologic and geochemical conditions.

Following characterization and approval of the CAP, monitoring of the groundwater polishing processes and comparison to functional goals established to monitor progress toward the remedial objective could begin prior to, or concurrently with, site closure activities. Installing additional monitoring wells could begin as quickly as within a few months of CAP approval. The time required could be reduced if existing groundwater monitoring well systems could be utilized for monitoring.

No potential safety impacts or exposure to human health or environmental receptors are expected to result from the groundwater polishing processes. Timeframes to achieve GWPS are dependent on site-specific conditions, which require detailed technical analysis which are ongoing and will be evaluated in connection with the CAAA. Selecting groundwater polishing as a corrective measure for the AP will require approval of the closure and CAP permits by the IEPA.

Monitoring the groundwater polishing to track progress toward achievement of the GWPS, in conjunction with source control at the AP, would require long-term maintenance and monitoring of the groundwater monitoring system to confirm source control and verify the effectiveness in reducing groundwater concentrations to levels below the GWPS. System design could begin immediately after approval of the CAP permit. Additional investigations to characterize site conditions and installation of the final monitoring system could be performed concurrently with the source control (unit closure) activities, which are currently expected to be completed in 2028.

Groundwater polishing processes will continue before and after source control implementation and may be a viable corrective measure for the boron, sulfate, and TDS exceedances at the AP. Therefore, these processes are being advanced to the CAAA for further evaluation.

5.2.2 Source Control with Groundwater Extraction

Source control will reduce the mass loading to the groundwater system and implementing a groundwater extraction system may reduce the time required to attain the GWPS in the UA. However, the groundwater impacts already present in the low permeability PMP may limit the reduction in time to attain the GWPS that can be achieved by a groundwater extraction system.

Groundwater extraction is a widely accepted corrective measure with a long track record of performance and reliability. It is routinely approved by the IEPA as a remedial approach. For a corrective measure using groundwater extraction to effectively control off-site flow and/or to remove potentially contaminated groundwater, horizontal and vertical capture zone(s) must be created. However, the low permeability PMP would restrict the ability to pump at rates high enough to establish the required capture zone(s) or would require a high density of wells or a trench drainage system. Variable performance of a groundwater extraction system would be expected in the UA due to the heterogeneous nature of the UA. In addition, the proximity and influence of Sangchris Lake would potentially result in large volumes of extracted groundwater and lake water. Cutoff walls (**Section 4.3**) could also be used in conjunction with a pumping system to control potential groundwater movement from the lake. A groundwater extraction system in the PMP would be limited by its low permeability; however, a low volume extraction trench in the PMP could be used to enhance groundwater capture from the PMP.

Implementation of a groundwater extraction system presents design challenges due to the heterogeneous and varied nature of the UA as well as the potential for extracting unimpacted lake water. Extracted groundwater (and potentially lake water, depending on the required trench depths relative to lake levels) would need to be managed, which may include modification to the existing NPDES permit and treatment prior to discharge, if necessary. Specialized treatment equipment may be required, and ongoing operations and maintenance activities would be necessary.

There could be some impacts associated with constructing and operating a groundwater extraction system, including some limited exposure to extracted groundwater. Additional data collection and analyses would be required to design an extraction system. Construction could be completed within 1 year following completion of a final design. Time of implementation is approximately 3 to 4 years after approval of the CAP permit, including characterization, design, permitting, and construction. Timeframes to achieve GWPS are dependent on site-specific conditions. An extraction system may reduce the time to attain GWPS in the UA relative to the post-closure timeframe predicted by the groundwater modeling. However, accelerated attainment of the GWPS is expected to be limited by the low permeability of the PMP.

Implementing a groundwater extraction system at the AP would require IEPA approval of the CAP permit, and discharge of extracted groundwater may require a modification to the NPDES permit, as well as possibly permitting and construction of a new outfall. Depending upon the location of the extraction system, an Illinois Department of Natural Resources (IDNR) dam safety modification permit may also be required to construct an extraction system. The potential for wetlands impacts would require evaluation, depending upon the location of the extraction system.

Groundwater extraction could be a viable corrective measure for the boron, sulfate, and TDS exceedances at the AP. Implementation of groundwater extraction may require combining an extraction system with a cutoff wall to prevent potential inflow of water from Sangchris Lake. Therefore, groundwater extraction is being advanced to the CAAA for further evaluation.

5.2.3 Source Control with Groundwater Cutoff Wall

Source control will reduce the mass loading to the groundwater system and implementing additional groundwater corrective measures may reduce the time required to attain the GWPS in

the UA. A low permeability cutoff wall could be used in combination with a groundwater extraction system in the UA to reduce the potentially high volumes of extracted groundwater that would be captured by an extraction system between the AP and Sangchris Lake. A cutoff wall could reduce the water management and treatment requirements for an extraction system.

Groundwater cutoff walls are a widely accepted corrective measure used to control and/or isolate impacted groundwater and are routinely approved by the IEPA. Cutoff walls have a long history of reliable performance as hydraulic barriers, provided they are properly designed and constructed. However, if not coupled with a groundwater extraction system, a cutoff wall will provide directional groundwater control only and may result in redistribution of contaminants and potentially GWPS exceedances at new locations.

Cutoff walls are designed to act as hydraulic barriers; as a result, cutoff walls inherently alter the existing groundwater flow system. Changes to the existing groundwater flow system may need to be controlled to maximize the effectiveness of the remedy by, for example, combining a cutoff wall with groundwater extraction to control build-up of hydraulic head upgradient and around the cutoff walls. The effectiveness of a cutoff wall as a hydraulic barrier also relies on the contrast between the hydraulic conductivity of the aquifer and the cutoff wall. The most effective barriers have hydraulic conductivity values that are several orders of magnitude lower than the geologic materials they are in contact with. A cutoff wall designed with hydraulic conductivity of 1×10^{-7} centimeters per second (cm/s) would be two orders of magnitude lower than the PMP and UA, which have mean horizontal hydraulic conductivities around 5×10^{-5} cm/s (Ramboll, 2021) and could improve the performance of a UA extraction system.

Additional data collection and analyses would be required to design a cutoff wall. Construction could be completed within 2 to 3 years. Time of implementation is approximately 4 to 5 years, including characterization, design, permitting and construction. Construction could possibly be accelerated by combining with site closure activities. To attain GWPS, cutoff walls require a separate groundwater corrective measure to operate in concert with the cutoff wall(s). Cutoff walls are commonly coupled with groundwater polishing and/or groundwater extraction as groundwater corrective measures. The time to attain GWPS is dependent on the selected groundwater corrective measure or measures that are coupled with the cutoff walls.

Constructing a cutoff wall at the AP would require IEPA approval of the CAP permit and, depending on the location, an IDNR dam safety modification permit may be required. The potential for wetlands impacts would require evaluation, depending upon the location of the cutoff wall.

A cutoff wall alone would not be a viable corrective measure for the boron, sulfate, and TDS exceedances at the AP. Although a cutoff wall could serve to increase the efficiency of a groundwater extraction system by preventing inflow of water from Sangchris Lake, it would provide directional control only and the likely location of the proposed groundwater extraction system may not benefit from inclusion of a cutoff wall. Therefore, the cutoff wall is not being advanced to the CAAA for further evaluation.

5.2.4 Source Control with In-Situ Chemical Treatment

Source control will reduce the mass loading to the groundwater system and implementing additional groundwater corrective measures may reduce the time required to attain the GWPS in the UA. Use of in-situ treatment, either through targeted injection of reactive media or in PRB

systems, to transform contaminants into environmentally acceptable forms to attain the GWPS was considered.

In-situ treatment using ion exchange to address boron, sulfate, and TDS exceedances in groundwater is not an established or widely accepted groundwater corrective measure; therefore, its performance and reliability are unknown. Regulatory acceptance of this innovative approach to achieving the GWPS is uncertain.

In-situ treatment presents design and construction challenges, including targeted reactive media delivery via injection to the low permeability PMP and to the heterogeneous and discontinuous UA. Complicated construction, if feasible, may be required for a PRB system in close proximity to Sangchris Lake. Depending upon the location of the PRB system, construction may affect the AP embankment and/or final cover system and periodic change-outs of ion exchange resin media may be required.

Additional data collection and analyses would be required to design an in-situ treatment system, and bench scale and/or pilot scale testing may be required to demonstrate performance and reliability. Time of implementation is approximately 4 to 6 years after approval of the CAP permit, including characterization, design, permitting, and construction. Timeframes to achieve GWPS are dependent on demonstrations of performance and reliability and on ultimate regulatory acceptance. It is not known whether in-situ treatment would reduce the time to attain GWPS in the UA relative to the post-closure timeframe predicted by the groundwater modeling.

Due to the uncertain performance, reliability and potential for regulatory acceptance, in-situ chemical treatment is not a viable corrective measure for the boron, sulfate, and TDS exceedances at the AP and is not being advanced to the CAAA for further evaluation.

5.2.5 Source Control with Phytoremediation

Source control will reduce the mass loading to the groundwater system, and implementing a groundwater phytoremediation system may reduce the time required to attain the GWPS in the UA and in the PMP. Groundwater extraction via phytoremediation (“phytoextraction”) is a proven and accepted corrective measure with a track record of performance and reliability and has been approved by the IEPA. However, phytoremediation has not been widely implemented to reduce groundwater contaminant migration from CCR impoundments to date. For phytoextraction to effectively control off-site flow and/or to remove potentially contaminated groundwater, horizontal and vertical capture zone(s) must be created. Implementation of phytoremediation may be viable for boron, sulfate, and TDS impacts in the post-closure CCR removal areas of the AP.

Phytoremediation design may be less complicated than a groundwater extraction system or a cutoff wall, but specialty contractors may be required. Uptake of impacted groundwater would occur through the tree roots and contaminants would be stored in the above-ground tree tissues (stems and leaves), which would need to be managed and/or disposed of following extraction. Specialized treatment equipment may be required, and ongoing operations and maintenance activities would be necessary, including leaf collection and disposal, and possible tree replacement, depending upon the time required to achieve GWPS.

Additional data collection and analyses would be required to design a phytoextraction system. Construction could be completed within 1 year following design. Time of implementation is

approximately 3 to 4 years after approval of the CAP permit, including characterization, design, pilot-scale testing of phytoremediation at the site, permitting, and construction. Timeframes to achieve GWPS are dependent on site-specific conditions. A phytoextraction system may reduce the time to attain GWPS in the UA relative to the post-closure timeframe predicted by the groundwater modeling depending upon the ability of the root structures to access the UA.

Implementing a groundwater phytoextraction system at the AP would require IEPA approval of the CAP permit. An IDNR dam safety modification permit and special design considerations may also be required, depending upon the location of the trees.

Groundwater phytoextraction could be viable corrective measure for the boron (and possibly sulfate and TDS) exceedances at the AP. Therefore, phytoremediation is being advanced to the CAAA for further evaluation.

5.3 Technologies Advanced to CAAA

Based on the evaluations presented above, the following potential corrective technologies are being advanced to the CAAA, individually or in combination, for more detailed evaluations:

- Source control with groundwater polishing;
- Source control and with groundwater extraction; and
- Source control with phytoremediation.

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Tables

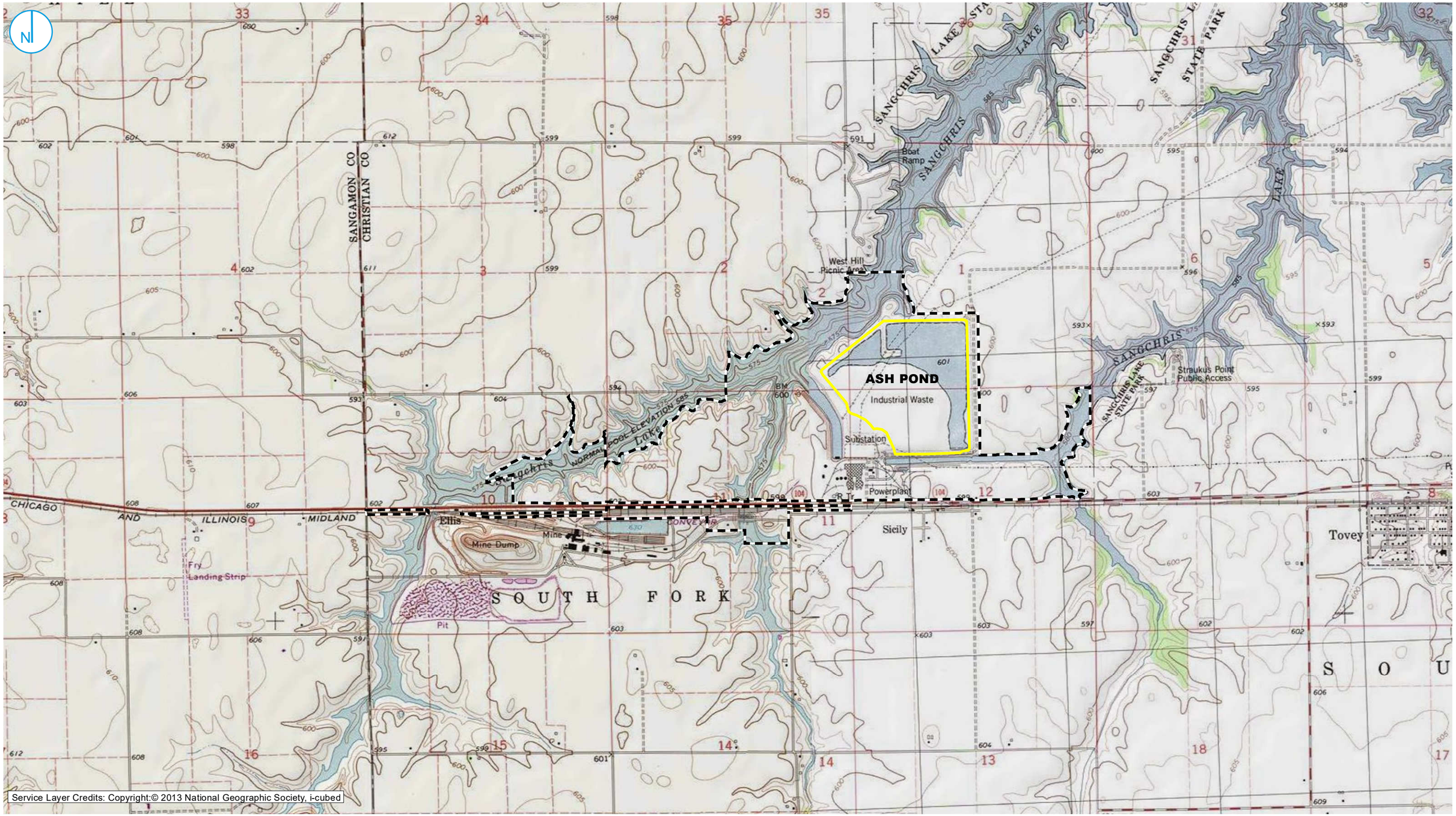
TABLE 5-1. CORRECTIVE MEASURES ASSESSMENT MATRIX
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS
5/12/2024

Remedy	Evaluation Factors						
	Performance	**Reliability**	**Ease of Implementation**	**Potential Impacts of Remedy (safety impacts, cross-media impacts, control of exposure to any residual contamination)**	**Time Required to Begin and Implement Remedy[1]**	**Time to Attain Groundwater Protection Standards**	**Institutional Requirements (state/local permit requirements, environmental/public health requirements that affect implementation of remedy)**
Source Control with Groundwater Polishing	Performs best paired with source control, which is expected to be completed prior to 2028. Site conditions are favorable for physical processes, while chemical processes may limited under normal aquifer conditions.	Ongoing analysis will evaluate if the attenuation mechanism has low reversibility, the aquifer has sufficient capacity, and the hydrogeology is favorable for dilution/dispersion.	Long-term monitoring would be required. Implementing would not require extensive specialized equipment or contractors	None identified.	Approximately 90 days after closure is completed (consolidation of the northern portion).	Estimated to be 17 years post-closure, as predicted by the groundwater model.	IEPA approval of the closure and CAP permits is required.
Source Control with Groundwater Extraction	Widely accepted, routinely approved technology; variable performance anticipated due to the heterogeneous, varied nature of uppermost aquifer. An extraction trench may be more effective than a pumping system. Proximity to the lake may require groundwater extraction to be combined with a cutoff wall to prevent capturing lake water.	Reliable if properly designed, constructed and maintained. However, the heterogeneous, varied nature of uppermost aquifer may present reliability challenges for pumping wells.	Design challenges due to heterogenous, varied nature of uppermost aquifer. Specialized contractors not needed for construction of a pumping well system but may be required for an extraction trench. The extraction system would require ongoing routine operation and maintenance activities and extracted groundwater would require management, possibly including treatment, which may also require specialized equipment/contractors and higher maintenance costs.	Alters groundwater flow system and there is the some limited potential for contact exposure to extracted groundwater. Groundwater extraction may induce settlement, which could cause structural impacts to adjacent structures.	Design, permitting and construction is expected to take 3 to 4 years after CAP permit approval.	Dependent on site-specific conditions not yet fully characterized. May be similar to the 17 years predicted by the groundwater model due to the low permeability Semi-Confining Unit (PMP).	IEPA approval of the closure and CAP permits is required. Extracted groundwater may require modification to the NPDES permit. IDNR dam safety modification permit might also be required, depending on location of the extraction system and settlement potential. May require permitting for wetlands impacts, if determined to be necessary.
Source Control with Groundwater Cutoff Wall	Widely accepted and routinely approved technology with good performance if properly designed and constructed. If not combined with groundwater extraction, a cutoff wall will provide directional control only, thus redirecting flow to other areas where GWPS may be exceeded.	Reliable for groundwater directional control if properly designed and constructed.	Widely used, established technology. May require specialized contractors depending upon the construction/implementation method.	Alters groundwater flow system but does not provide any treatment. Can result in unintended consequences resulting from redirecting contaminants to areas where they are not currently present. May cause structural impacts to existing embankments, depending on the location of the cutoff wall.	Design, permitting and construction is expected to take 4 to 5 years after CAP approval. Implementation could be accelerated by combining with closure construction activities.	Provides groundwater directional control only. Combination with other groundwater corrective measure(s), such as groundwater extraction or a permeable reactive barrier, may reduce the time required to achieve and attain GWPS. Time required may be similar to the 17 years predicted by the groundwater model due to the low permeability Upper Semi-Confining Unit.	IEPA approval of the closure and CAP permits is required. IDNR dam safety modification permit might also be required, depending on location of wells and potential impacts to embankments. May require permitting for wetlands impacts, if determined to be necessary.
Source Control with In-Situ Treatment	PRB or in-situ treatment using IX is not well established for sulfate or boron, therefore performance is unknown.	Unknown reliability for sulfate or boron.	Design challenges related to reactive material delivery due to heterogenous, discontinuous nature of uppermost aquifer. Could require periodic change-outs of resin media.	May cause structural impacts to existing embankments, depending on the location of the PRB.	May require bench scale and/or pilot scale testing as part of design. Design, permitting and construction is expected to take 4 to 6 years after CAP approval.	There is uncertainty regarding whether a in-situ treatment would reduce sulfate or boron concentrations to achieve the GWPS. Dependent on conditions specific to the reactive media used and the site. Treatment technology is not well understood.	IEPA approval of the CAP permit is required. IEPA approval of this innovative and relatively unproved solution may be challenging. IDNR dam safety modification permit might also be required, depending on location of wells/PRB and impacts to existing embankments. May require permitting for wetlands impacts, if determined to be necessary.
Source Control with Phytoremediation	Accepted and proven remedial strategy. Physical removal without active treatment (sequestration). May be viable for boron and sulfate impacts in the portion of the Ash Pond undergoing closure by removal.	Reliable for hydraulic control of groundwater and phytoextraction of boron if tree variety is properly selected for site conditions. Unknown reliability of phytoremediation mechanisms for sulfate that may compliment hydraulic control.	Less complicated engineering design but may require specialized contractors depending upon the construction/implementation method.	Potential need for future management/disposal of trees following extraction of contaminant mass.	Permitting and construction would take 3 to 4 years after closure. Could be combined with closure.	Phytoremediation has the potential to reduce the time required to achieve and attain GWPS. Time required is dependent on ability of root structure to access the UA.	IEPA approval of the CAP permit is required. IEPA approval of this innovative and relatively unproved solution may be challenging. May require a IDNR dam safety permit and special design considerations, depending on location of the trees.

Notes:
[1] Time required to begin and implement remedy includes design, permitting, and construction.

Figures

Y:\Mapping\Projects\221228\5\MXD\845_Operating_Permit\Kincaid\GMP\Figure 1-1_Site Location Map.mxd



REGULATED UNIT (SUBJECT UNIT)

PROPERTY BOUNDARY

0 1,000 2,000 Feet

SITE LOCATION MAP

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 1690000XXX | DATED: 8/5/2021 | DESIGNER: galarnmc



Y:\Mapping\Projects\22\22845\MXD\845_Operating_Permit\Kincaid\GMP\Figure 1-2_Site_Map.mxd

PROJECT: 169000XXXX | DATED: 8/5/2021 | DESIGNER: galarnmc

REGULATED UNIT (SUBJECT UNIT)

PROPERTY BOUNDARY

0 250 500 Feet

SITE MAP

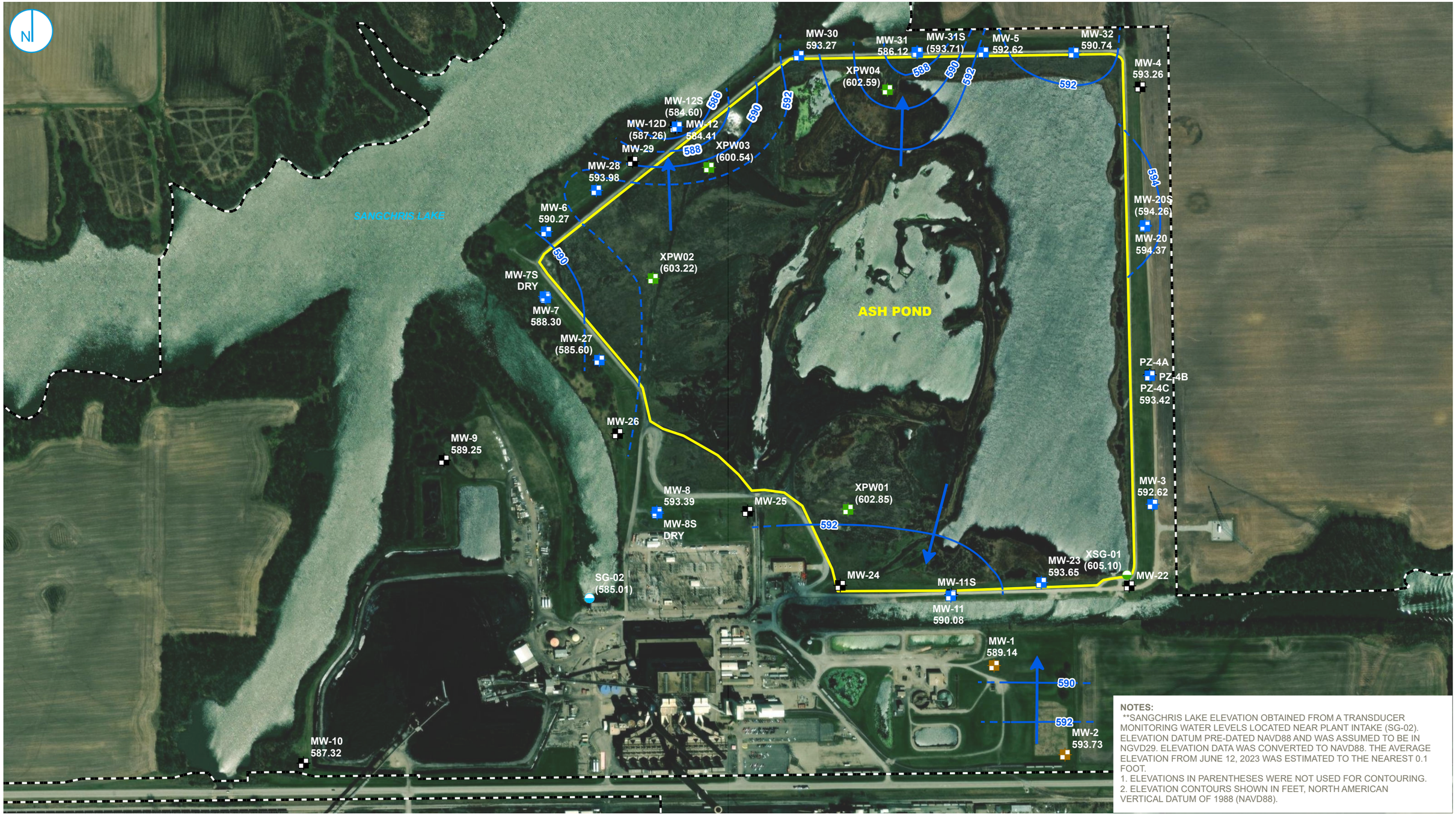
35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22851\MXD\GW_Contours\Round_2023\Kincaid\2023_04_Kincaid_Pot_Map.aprx



NOTES:
**SANGCHRIS LAKE ELEVATION OBTAINED FROM A TRANSDUCER MONITORING WATER LEVELS LOCATED NEAR PLANT INTAKE (SG-02). ELEVATION DATUM PRE-DATED NAVD88 AND WAS ASSUMED TO BE IN NGVD29. ELEVATION DATA WAS CONVERTED TO NAVD88. THE AVERAGE ELEVATION FROM JUNE 12, 2023 WAS ESTIMATED TO THE NEAREST 0.1 FOOT.
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- PORE WATER WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

0 250 500 Feet

UPPERMOST AQUIFER POTENTIOMETRIC SURFACE MAP JUNE 12, 2023

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-3

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COMPLIANCE MONITORING WELL
BACKGROUND MONITORING WELL
STAFF GAGE, CCR UNIT
REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 250 500 Feet

MONITORING WELL LOCATION MAP

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-4

RAMBOLL AMERICAS
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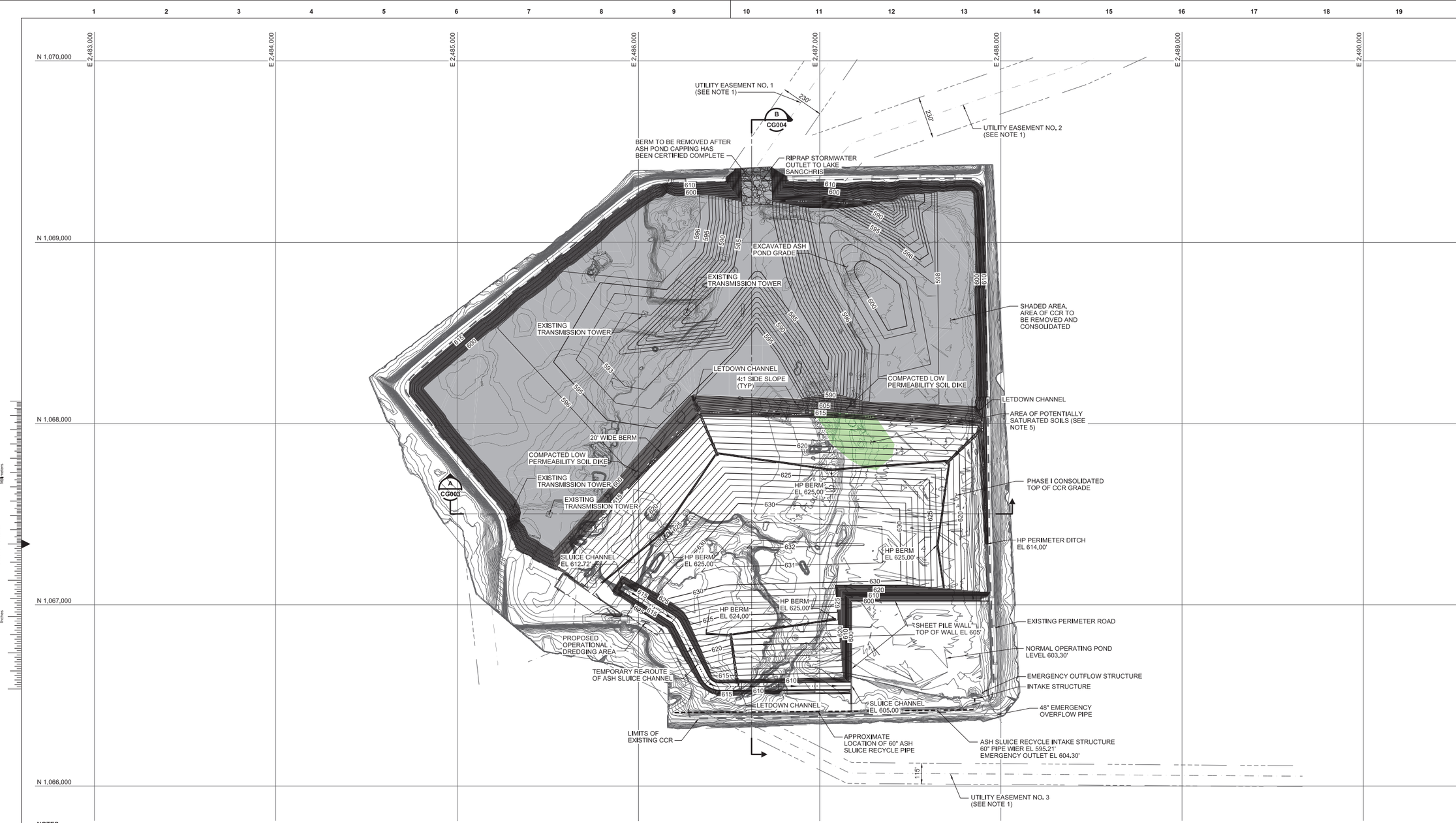
RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\GMP\Kincaid\Figure 2-1 Expanded Part 257 GW Monitoring Well Network.mxd

PROJECT: 169000XXXX | DATED: 1/19/2023 | DESIGNER: galammc

Attachments

Attachment A - Selected Construction Permit Application Plans



NOTES:

1. UTILITY EASEMENT DELINEATION DESCRIPTION CAN BE FOUND ON DOCUMENT NO. 1998R1245.
2. EXISTING CONTOURS SHOWN ARE FROM TOPOGRAPHY AND BATHYMETRY SURVEY PROVIDED BY INGENAE DATED 2/226/2021.
3. EXISTING TRANSMISSION LINES WILL BE RELOCATED, RAISED, OR MODIFIED TO ALLOW FOR CONSTRUCTION ACCESS.
4. THIS DRAWING REPRESENTS THE CONFIGURATION OF THE 84-ACRE CLOSE-IN-PLACE CONFIGURATION, BUT DOES NOT FULLY DEPICT THE INTERIM CONDITIONS NEEDED TO ACHIEVE THIS CONFIGURATION. THE PHASE 2 GRADING PLAN (SEE DWG CG002) REPRESENTS THE FINAL CLOSE-IN-PLACE CONFIGURATION, INCLUDING THE TOTAL QUANTITY OF CCR MATERIAL TO BE CONSOLIDATED WITHIN THE 84-ACRE CLOSE-IN-PLACE AREA.
5. AREA OF POTENTIALLY SATURATED CCR. SATURATED CCR UNDER LOW PERMEABILITY DIKE WILL BE REMOVED AND REPLACED WITH LOW PERMEABLE SOIL.

NORTH

0 200' 400'
SCALE IN FEET

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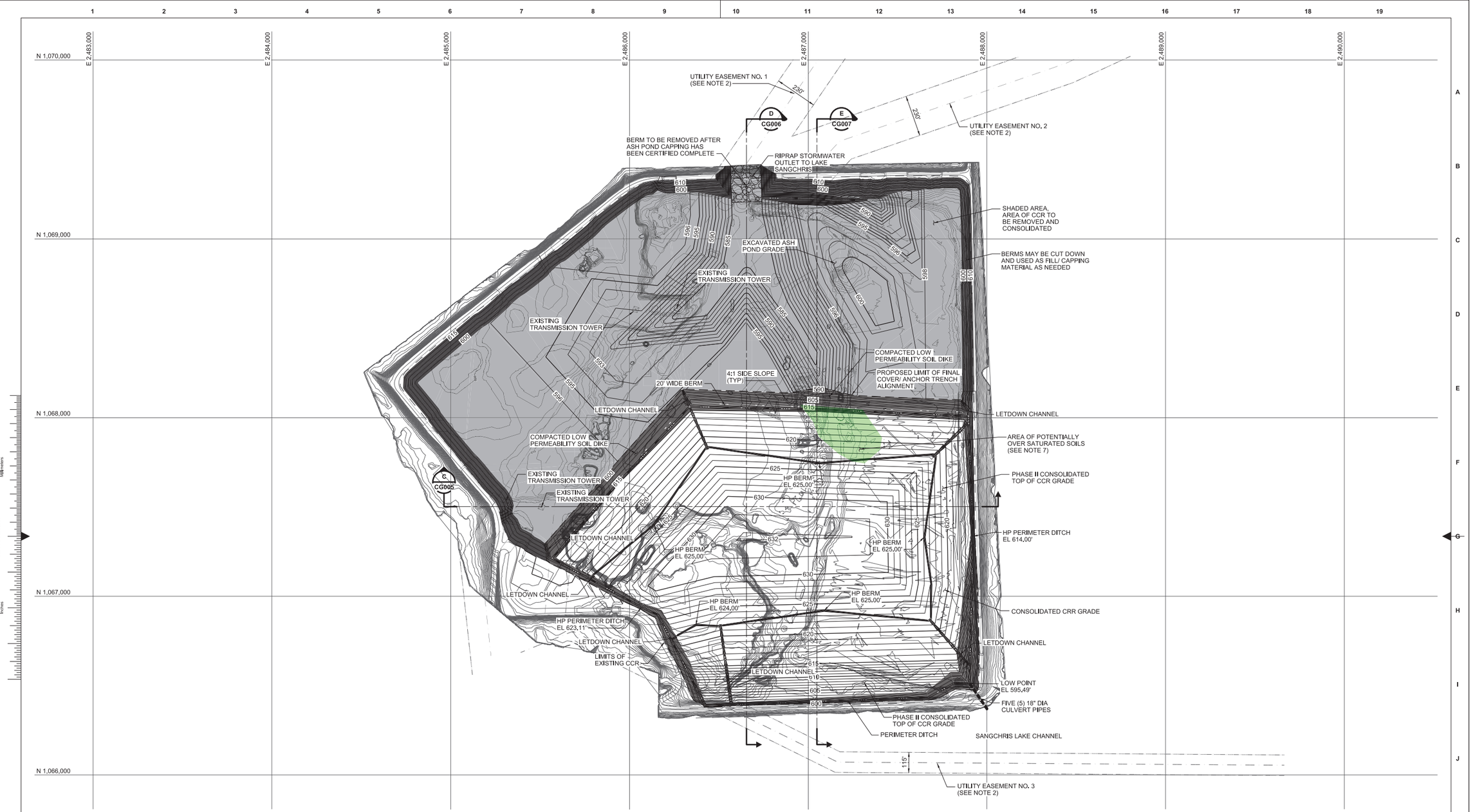
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KINCAID ASH POND
CONSOLIDATED GRADING PLAN
PHASE 1

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drawing **CG001 — E**
sheet 1 of 1 sheets
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4. EXISTING PIPES THROUGH DIKES TO BE ABANDONED IN PLACE AND FILLED WITH NON-SHRINK GROUT.
5. SHEET PILING INSTALLED IN INITIAL PHASE TO REMAIN IN PLACE.
6. EXISTING TRANSMISSION LINES WILL BE RELOCATED, RAISED, OR MODIFIED TO ALLOW FOR CONSTRUCTION ACCESS.
7. AREA OF POTENTIALLY SATURATED CCR. SATURATED CCR UNDER COMPACTED LOW PERMEABLE SOIL DIKE WILL BE REMOVED AND REPLACED WITH LOW PERMEABLE SOIL.

NORTH

0 200' 400'
SCALE IN FEET

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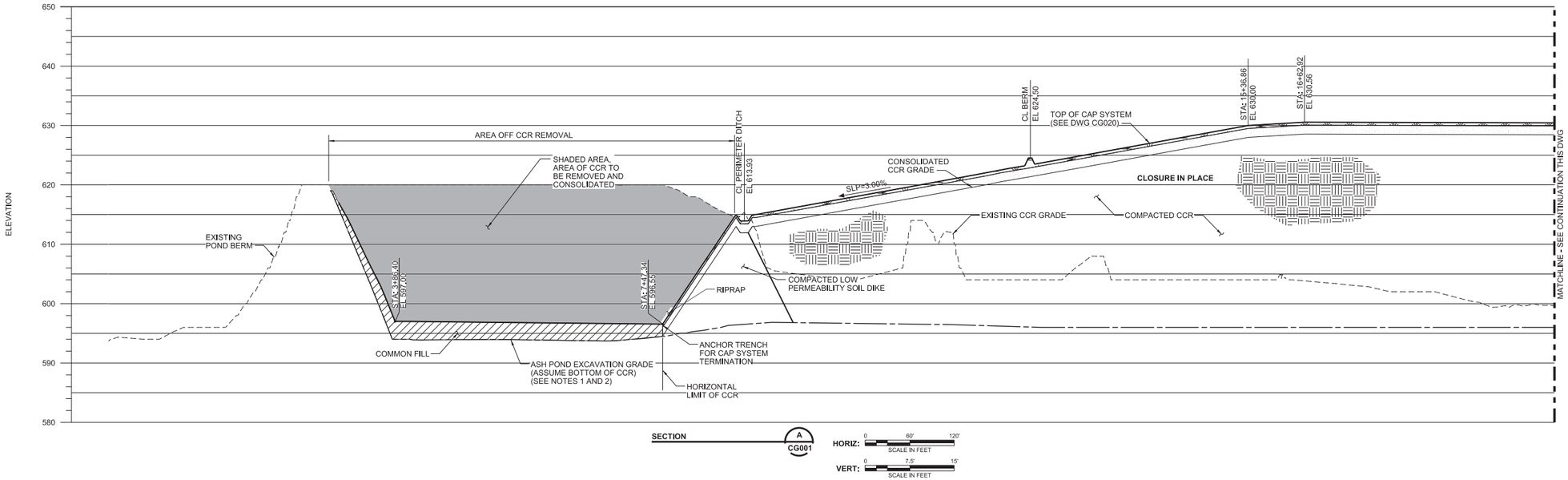
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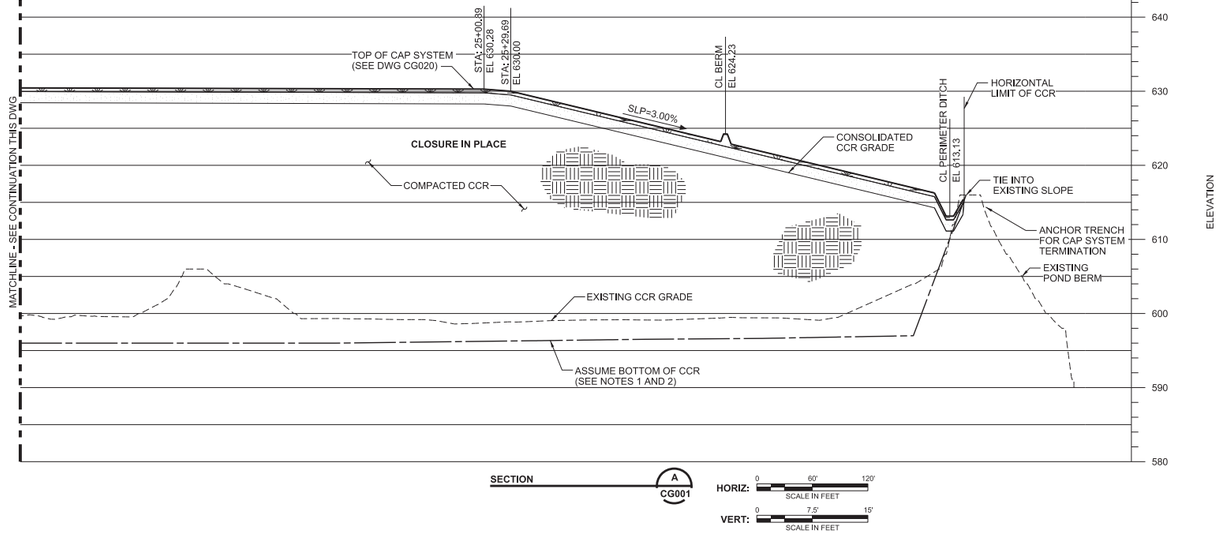
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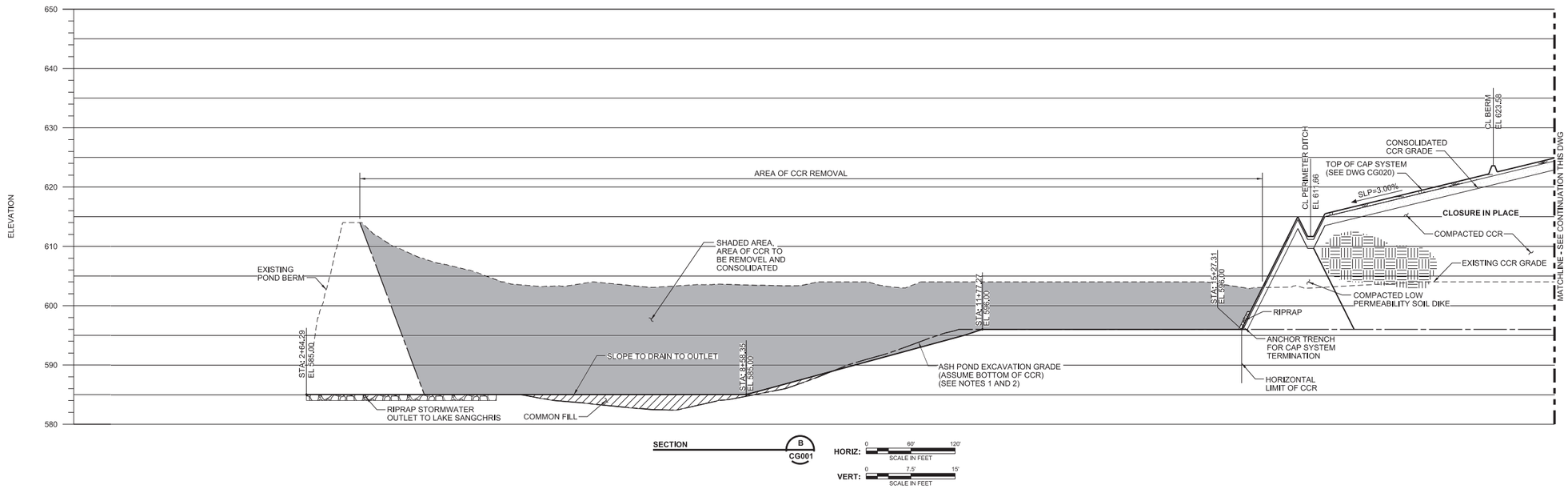
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PHASE 1
SHEET 1

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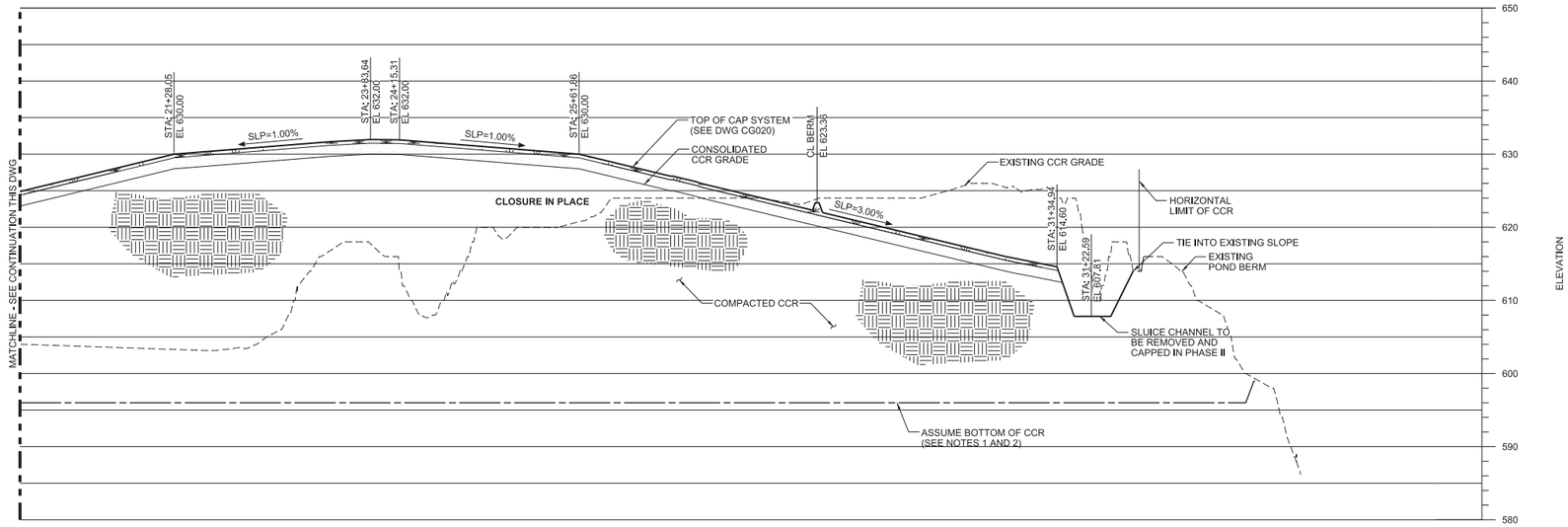
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SECTION B / CG001

HORIZ: 0 60' 120' SCALE IN FEET

VERT: 0 7.5' 15' SCALE IN FEET



SECTION B / CG001

HORIZ: 0 60' 120' SCALE IN FEET

VERT: 0 7.5' 15' SCALE IN FEET

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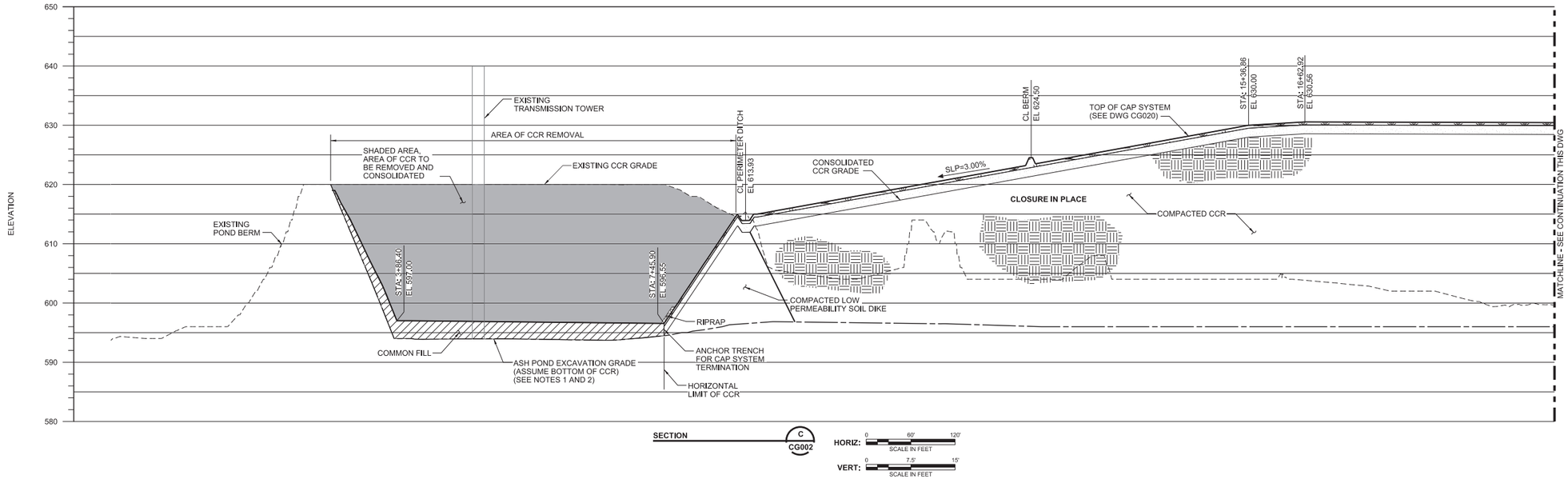
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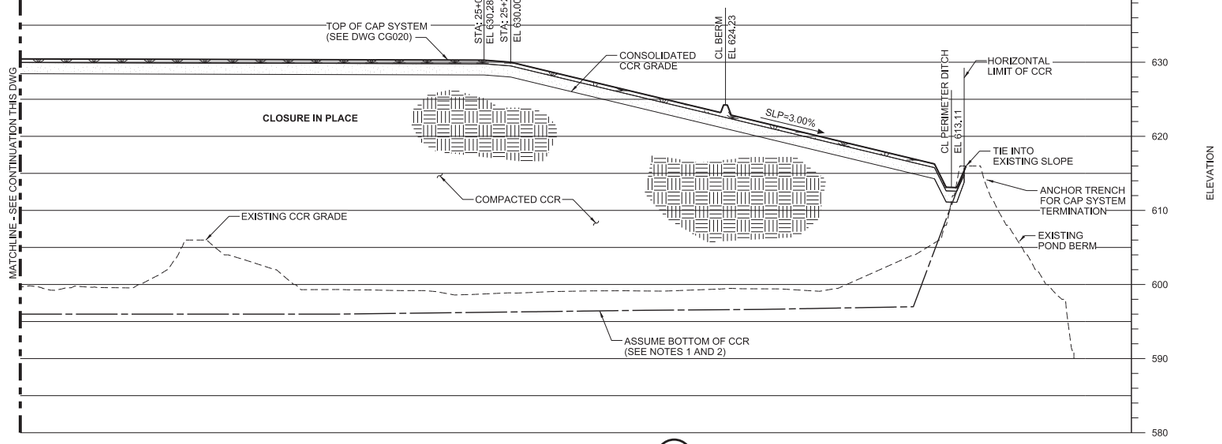
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SECTION C / CG002

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VERT: 0 7.5' 15' SCALE IN FEET



SECTION C / CG002

HORIZ: 0 60' 120' SCALE IN FEET

VERT: 0 7.5' 15' SCALE IN FEET

Scale For Microfilming: Inches

NOTES:

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PHASE 2
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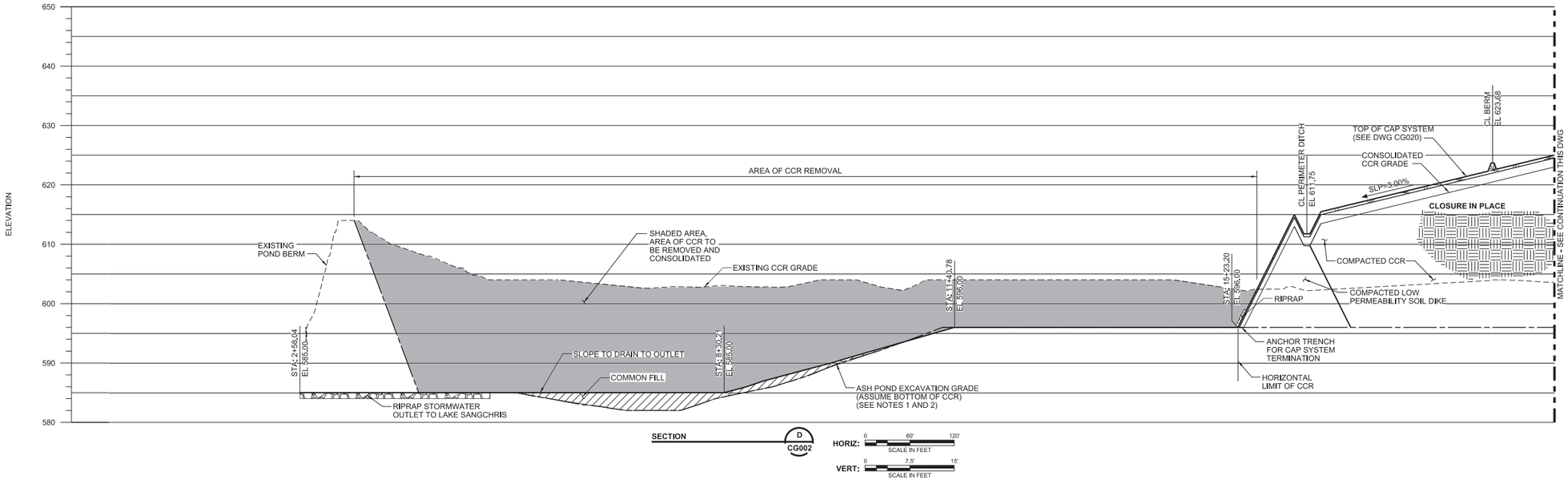
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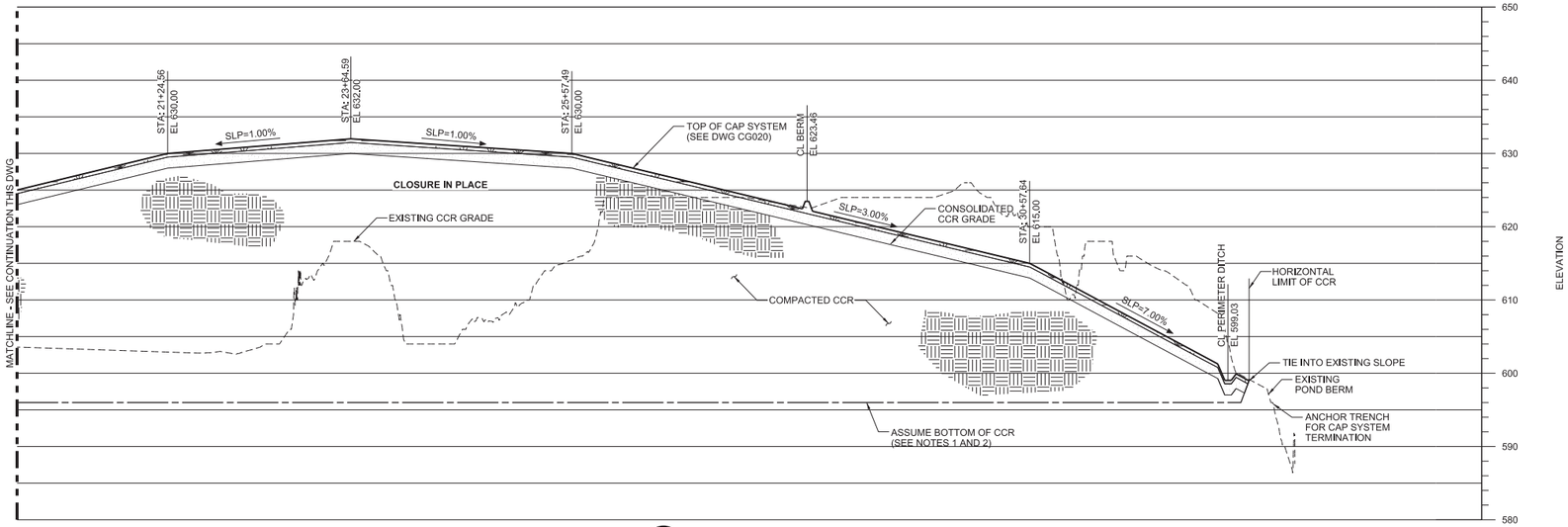
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SECTION D CG002

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VERT: 0 7.5' 15' SCALE IN FEET



SECTION D CG002

HORIZ: 0 60' 120' SCALE IN FEET

VERT: 0 7.5' 15' SCALE IN FEET

NOTES:

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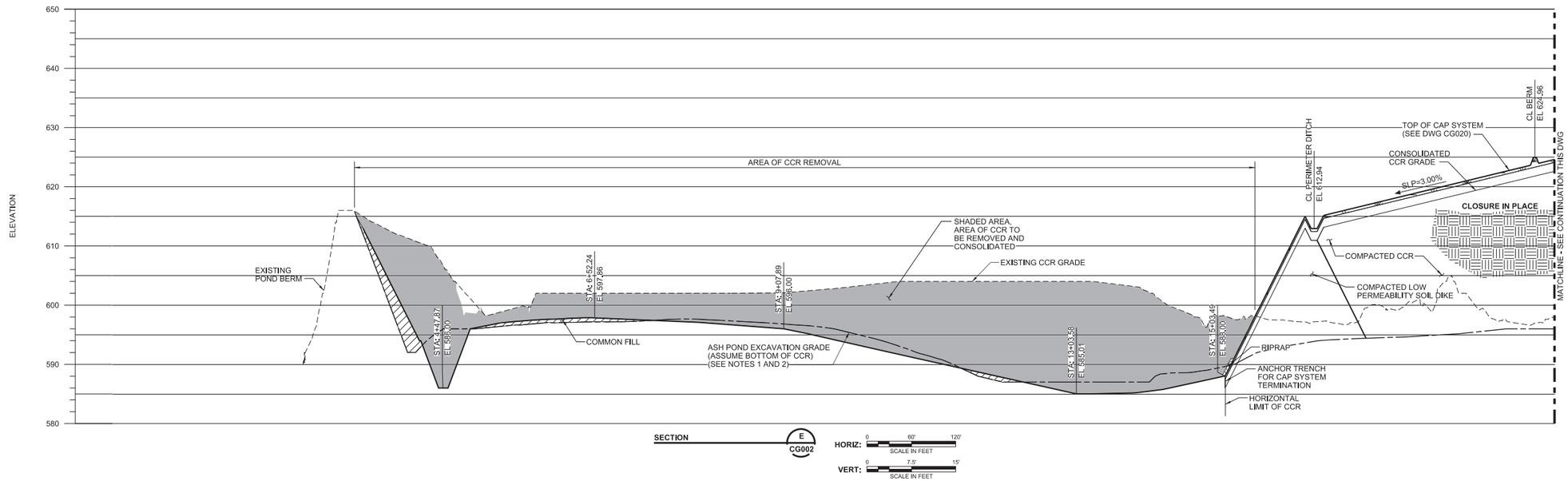
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SECTION E / CG002

HORIZ: 0 60' 120' SCALE IN FEET

VERT: 0 7.5' 15' SCALE IN FEET

SECTION E / CG002

HORIZ: 0 60' 120' SCALE IN FEET

VERT: 0 7.5' 15' SCALE IN FEET

NOTES:

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PHASE 2
SHEET 3

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Intended for
Kincaid Generation, LLC
199 IL 104
Kincaid, IL 62540

Date
May 12, 2024

Project No.
1940103584-007

NATURE AND EXTENT REPORT

KINCAID POWER PLANT, ASH POND, IEPA ID NO. W0218140002-01

RAMBOLL Bright ideas. Sustainable change.

NATURE AND EXTENT REPORT
KINCAID POWER PLANT, ASH POND, IEPA ID NO. W0218140002-01

Project name	**Kincaid Power Plant Ash Pond**
Project no.	**1940103584-007**
Recipient	**Kincaid Generation, LLC**
Document type	**Nature and Extent Report**
Revision	**FINAL**
Date	**May 12, 2024**
Prepared by	**Nathaniel Keller and Alison O'Connor**
Checked by	**Melanie Conklin**
Approved by	**Brian G. Hennings, PG**

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APPENDICES

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Appendix B Historic Plat of Survey Map (1966)
Appendix C Hydrographs Showing Vertical Gradients
Appendix D Vertical Hydraulic Gradients
Appendix E Technical Memorandum, Surface Water Sampling Summary, Kincaid Power Plant
Appendix F Geochemical Conceptual Site Model

ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
AP	Ash Pond
BCU	bedrock confining unit
bgs	below ground surface
CCR	coal combustion residuals
CMA	Corrective Measures Assessment
cm/s	centimeters per second
CSM	conceptual site model
E001	Event 1
E002	Event 2
E003	Event 3
GCSM	geochemical conceptual site model
GWPS	groundwater protection standard
ID	Identification
IEPA	Illinois Environmental Protection Agency
HCR	Hydrogeologic Site Characterization Report
KPP	Kincaid Power Plant
LCL	lower confidence limit
LCU	lower confining unit
mg/L	milligrams per liter
ORP	oxidation reduction potential
PMP	potential migration pathway
SEP	sequential extraction process
SI	surface impoundment
TDS	total dissolved solids
UA	uppermost aquifer
USCU	upper semi-confining unit
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

Groundwater samples collected at the Kincaid Power Plant (KPP) Ash Pond (AP) during June 2023 for the Quarter 2, 2023 compliance sampling event (Event 1 [E001]) were evaluated for exceedances of the groundwater protection standards (GWPS) described in Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.600. Exceedances were identified in the following hydrostratigraphic units and wells:

- Detected Uppermost Aquifer (UA) Exceedances:
  - Boron at MW-12 and MW-28
  - Sulfate at MW-28 and MW-32
  - Total dissolved solids (TDS) at MW-28
- Upper Semi-Confining Unit (USCU) (potential migration pathway [PMP]) Exceedances:
  - Sulfate at MW-20S

As a result of the identified E001 exceedances a Corrective Measures Assessment (CMA) was initiated on December 14, 2023 and submitted on May 12, 2024 in accordance with 35 I.A.C. § 845.660 [1]. The subsequent compliance sampling events for the Quarter 3 and Quarter 4, 2023 sampling events (Event 2 [E002] and Event 3 [E003]) were completed in September and November 2023 and groundwater samples were evaluated for exceedances of the GWPS as described in 35 I.A.C. § 845.600. Additional exceedances were identified in the following hydrostratigraphic units and wells during the E003 event:

- USCU (PMP) Exceedances:
  - Boron at MW-7S
  - Sulfate at MW-7S

The additional boron and sulfate exceedances at well MW-7S were evaluated with respect to the groundwater model, feasible alternatives, and remedy extents and were determined not to substantially affect the findings and conclusions of the previously initiated CMA evaluation and have been incorporated into the CMA and this report.

As required by 35 I.A.C. § 845.650(d)(1), this report characterizes the nature and extent of boron, sulfate, and TDS, and relevant site conditions to determine how they may affect the corrective measures ultimately selected for the AP and documents the additional measures taken in accordance with 35 I.A.C. § 845.650(d).

Sulfate and boron were detected above the GWPS within two hydrostratigraphic units: the shallow USCU and associated PMP, and in the UA. In addition, TDS was detected above the GWPS within the UA. The extent of boron and sulfate in both units and TDS in the UA above the GWPS is defined laterally by existing wells and Sangchris Lake, with the exception of the extent of sulfate exceedances at MW-20S to the north and east, which is currently being investigated. Vertically, exceedances are defined by the presence of low permeability tills and/or deeper wells that do not have GWPS exceedances. The boron, sulfate, and TDS concentrations are attenuated physically through dilution and dispersion. Besides physical attenuation by dilution and dispersion, SEP results indicate boron and sulfate have been attenuated via adsorption onto iron

and manganese hydroxides. Ion exchange is also a potential attenuation mechanism for sulfate as SEP results indicate a substantial proportion of sulfur was associated with the exchangeable fraction. Concentrations of exceedance parameters in Sangchris Lake were evaluated and they do not exceed their respective GPWS.

1. INTRODUCTION

35 I.A.C. § 845.650(d)(1) requires the owner or operator of a coal combustion residuals (CCR) surface impoundment (SI) to characterize the nature and extent of a release and relevant site conditions that may affect the remedy ultimately selected for a CCR SI if any constituent regulated under 35 I.A.C. § 845 is found to exceed the GWPS. This report documents the nature and extent of constituents detected above the GWPS that are attributable to the KPP AP.

The groundwater data and analysis in this report includes results from historical sampling (initiated in 2015) through the E003 sampling event, which was completed on November 29, 2023. Results for events E001 through E003 were submitted and placed in the facility's operating record within 60 days of receiving final laboratory analytical data as required by 35 I.A.C. § 845.800(d)(15) [2, 3, 4]. The statistical determination presented in these reports identified the following exceedances of the GWPS at compliance groundwater wells in the following hydrostratigraphic units:

- Detected UA Exceedances:
  - Boron at MW-12 and MW-28
  - Sulfate at MW-28 and MW-32
  - TDS at MW-28
- Detected USCU (PMP) Exceedances:
  - Boron at MW-7S
  - Sulfate at MW-7S and MW-20S

This Nature and Extent Report discusses in detail the extent of the boron, sulfate, and TDS exceedances as well as a geochemical conceptual site model (GCSM) describing the nature of these exceedances.

2. UNIT BACKGROUND

2.1 Site Location and Description

The KPP is located in the southwest quarter of Section 1, and the northeast quarter of Section 12, Township 13 North, Range 4 West, along West Route 104, Christian County, Illinois and approximately four miles west of the Village of Kincaid (**Figure 2-1**). The AP is located between two lobes of Sangchris Lake, which was formed in 1964 by damming Clear Creek, a tributary to the south fork of the Sangamon River. Sangchris Lake was created to provide a source of cooling water for the KPP. The western lobe of Sangchris Lake forms part of the western and northern border of the AP and is connected to an intake flume for the KPP on the western edge of the AP. A discharge flume from the KPP forms the southern border of the AP and is connected to the eastern lobe of Sangchris Lake. The KPP property is surrounded by the lobes of Sangchris Lake, Sangchris Lake State Park, and agricultural land to the north and east, and a combination of undeveloped land and surface support facilities associated with the former Peabody Coal Company #10 mine to the south and west.

2.2 Description of CCR Unit

The KPP operates as a coal-fired power plant and has a single CCR SI, the AP (Illinois Environmental Protection Agency [IEPA] Unit Identification [ID] W0218140002-01), a 172-acre, unlined surface impoundment used to manage CCR and non-CCR waste streams at the KPP with a total storage capacity of approximately 3,560 acre-feet (**Figure 2-2**). Construction of the AP began in 1964 and it was commissioned for use in 1967. The AP primarily contains bottom ash and boiler slag, and other minor materials, including water and wastewater treatment solids, excavation spoils, and dredge spoils present within the AP at a thickness of up to 30 feet as measured in XPW01.

Characterization of the CCR material was completed in 2021 and included in the Hydrogeologic Site Characterization Report (HCR) [5]. Summary geotechnical and solid analytical data tables from CCR samples are included in **Appendix A**. The AP overlies the Cahokia Formation, and the bottom of ash was observed at a depth of 22 feet below ground surface (bgs) at its lowest elevation of 582.57 feet[1] in the northern portion of the AP at XPW04. The base of CCR elevation is consistent with the historic topography, *i.e.,* the bottom of the AP is the historic ground surface at the time the containment berms were constructed and is lowest in elevation along a historic drainage feature that runs approximately through the north-central portion of the AP (**Figure 2-3**).

Water that may come into contact with CCR within the footprint of the AP becomes CCR source water. CCR source water samples, collected from the porewater monitoring wells (**Figure 2-4**) screened within the CCR materials at the AP are used to provide information for Alternative Source Demonstrations and groundwater transport modeling[2].

[1] All elevations in this report are referenced to North American Vertical Datum of 1988 unless otherwise noted.

[2] Per Federal Register 80 (21302), which promulgated the final C.F.R. 40 § 257 rule, porewater concentrations should be used to characterize potential leaching from impoundments. As discussed further in the United States Environmental Protection Agency's (USEPA) risk assessment of CCR surface impoundments [10], porewater is "collected from the interstitial water between waste particles in surface impoundments as it occurs in the field," and concentrations within the porewater are "the most representative data available for impoundments because these data are field-measured concentrations of leachate." Therefore, CCR source water collected from porewater wells screened near the base of ash within the unit represents the CCR source term.

2.3 Geology and Hydrogeology

Significant site investigation has been completed at the KPP to characterize the geology, hydrogeology, and groundwater quality. Based on extensive investigation and monitoring, the AP has been well characterized and detailed in the HCR [5].

2.3.1 Hydrostratigraphic Units

In addition to the CCR present at the AP, there are three principal layers of unlithified material present above the bedrock, which are categorized into the hydrostratigraphic units described below (from surface downward) based on stratigraphic relationships and common hydrogeologic characteristics:

- **Upper Semi-Confining Unit (USCU) / Potential Migration Pathway (PMP):** Low permeability clay with some silt and minor sand, silt layers, and occasional discontinuous sand lenses. Includes the lithologic layers identified as the Cahokia Formation. Sand lenses with higher permeability within the USCU are more likely to facilitate contaminant migration and these materials are referred to as the PMPs.
- **Uppermost Aquifer (UA)**: Thin (generally less than 4 feet), moderate permeability sand, silty sand, and clayey sand and gravel units, which includes the unconfined clays and silts of the Upper Cahokia Formation, where saturated, and the thin, moderate permeability sands and gravels of the Lower Cahokia Formation, which, at some locations also includes the interface with the Vandalia Till.
- **Lower Confining Unit (LCU):** Underlying the aquifer unit is dense grey clay till; this till is easily distinguished during investigation by difficult drilling and/or refusal and is apparent on boring logs. The till was encountered at elevations ranging from approximately 570 to 583.5 feet (**Figures 2-5** through **2-9**). The LCU is comprised of low permeability silt and clay with minor sand, silt layers, and occasional discontinuous sand lenses (more frequently near the top of the unit) identified as the Vandalia Till.
- **Bedrock Confining Unit (BCU)**: This unit is composed of interbedded shale and limestone of the Bond Formation that underlie the Vandalia Till, and is present beneath the entire AP. Using locations where bedrock was encountered, the elevation of the top of bedrock is highest at MW-20 (548.02 feet) beneath the eastern portion of the AP and declines in elevation to the west toward MW-12D (540.68 feet) and to the south toward KIN-B005 (520 feet) (**Figures 2-5** through **2-9**).

2.3.2 Uppermost Aquifer

Underlying the USCU is a sandy unit which is considered the UA in the area. The lithologic description of the UA ranges from well graded sand to sandy clay, but in most locations, it is described as silty or clayey sand. Based on interpreted groundwater elevations, the top of the UA appears to decline in elevation to the northwest toward Sangchris Lake (**Figure 2-10**). Below the AP the UA was encountered at an elevation ranging from 577.1 to 582.2 feet. This unit occurs directly above the Vandalia Till (LCU).

Although there may be other lenses of coarser grained material within the USCU, there is no evidence that they are laterally continuous across the site. The determination that the sand unit is the UA is supported by a well search performed in the vicinity of the site. Many of the nearby potable wells indicate the presence of this aquifer at a similar elevation to what was encountered

at the site. Potable well construction logs also identify this unit as the primary source of groundwater, when constructed as bored wells (between 30 and 36 inches in diameter) to account for it being a shallow and low-yielding unit [5].

2.3.3 Potential Migration Pathways

The USCU has been characterized with information collected from monitoring wells screened within both clay and silt and discontinuous sand lenses encountered during geologic investigations. The general discussion for the USCU, included below, includes all monitoring wells in this unit, but further subdivides the discussion to characterize PMPs based on information from wells screened within these materials. PMPs were interpreted using the lithologic composition and hydrogeologic properties (*e.g.,* hydraulic conductivity and hydraulic position with respect to the unit) of the materials. In addition to the physical properties, the analytical results from baseline groundwater monitoring performed in wells screened in the USCU were used to identify PMPs. Monitoring wells are classified as follows:

- USCU monitoring locations: MW-7S[3], MW-8S, MW-11S, MW-12S[3], MW-20S[3], MW-25[3], MW-27[3], and MW-31S.

2.3.4 Regional Bedrock Geology

Underlying the unlithified materials of the Vandalia Till is the Pennsylvanian-age Bond Formation consisting of a sequence of lithified marine sediments comprised mainly of limestone interbedded with lesser amounts of shale and sandstone. The top of bedrock surface in the vicinity of the site is approximately 550 feet [6].

2.3.5 Water Table Elevation and Groundwater Flow Direction

The elevations of water within the AP, as observed in XPW01 through XPW04 and XSG-01 in 2023, averaged 602.64 feet, ranging from 596.34 to 605.65 feet as measured at XSG-01 in the southeast corner of the AP near the outfall. Groundwater elevations supporting the discussion presented in this section are provided in **Table 2-1**.

The groundwater elevation in wells screened in the UA (MW-1 through MW-12, MW-20, MW-23, MW-28, MW-30, MW-31, MW-32, and PZ-4C) averaged 591.05 feet in 2023, with a range from 580.51 feet in background well MW-1 (south of the AP) to 596.76 feet in MW-32 (northeast of the AP). A groundwater elevation contour map (**Figure 2-11**) shows that there is a groundwater divide beneath the AP running from approximately the southwest corner to the northeast corner. Generally, these groundwater elevations result in horizontal groundwater flow in the UA to the northwest and southeast toward the lobes of Sangchris Lake. Localized flow toward historic drainage features that were present prior to construction of the ash pond (*i.e.,* near MW-7/7S and MW-27, MW-28, and MW-31; **Appendix B**) is also observed on the west and north side of the unit (**Figure 2-11**).

The groundwater elevation in wells within the USCU (MW-7S, MW-8S, MW-12S, MW-20S, MW-27, and MW-31S) in 2023 averaged 589.35 feet, with a range from 582.91 feet in MW-27 (west of the AP) to 598.92 feet in MW-31S (north central of the AP). USCU wells MW-7S and MW-8S were dry during compliance sampling events E001 and E002, respectively, completed in June and September 2023. Wells MW-12S, located on the northwest side of the AP, and MW-27, on the

[3] Well in the USCU that has been identified to monitor the PMP.

southwest side near a former drainage feature, consistently recorded the lowest groundwater elevation, and the highest elevations were measured at MW-31S, on the north side of the AP. There also appears to be a component of groundwater flow to the south and east toward the discharge flume that flows to the eastern lobe of Sangchris Lake as evidenced by groundwater elevations from monitoring wells on the southern side of the AP being consistently below the screen interval of MW-11S (591-595 feet); this monitoring well was consistently dry during 2021 groundwater monitoring. These observations also suggest a groundwater divide beneath the AP which appears in both USCU and UA monitoring wells (above).

The groundwater elevation in BCU well MW-12D averaged 587.20 feet in 2023, with a range from 586.40 to 588.14 feet.

2.3.5.1 Vertical Hydraulic Gradients

Vertical hydraulic gradients were calculated using available groundwater elevation data from February to August 2021 at nested well locations within the USCU/PMP, UA, and BCU [5]. Evaluation of recent data collected through 2023 is also consistent with these results (**Appendices C and D**). The results of the vertical gradient calculations for these hydrostratigraphic units are summarized below:

- USCU/PMP to UA:
  - Gradients calculated between MW-12 (UA) and MW-12S (PMP) were downward for all events.
  - Gradients calculated between MW-7 (UA) and MW-7S (PMP) were mostly upward as calculated from available data for January, September, and December 2023, with a slight downward gradient during October 2023.
  - Gradients calculated between MW-20 (UA) and MW-20S (PMP) were mostly upward, with slight downward gradients in October and November 2023.
- USCU to UA:
  - Gradients calculated between MW-31 (UA) and MW-31S (USCU) were consistently downward.
  - Gradients calculated between MW-8 (UA) and MW-8S (USCU) were variable, with a slight upward gradient January 2023 and a flat gradient in December 2023. MW-8S was reported as dry throughout the remaining months of 2023; however, these variable gradient calculations are consistent with previous observations.
- UA to BCU:
  - Gradients calculated between MW-12D (BCU) and MW-12 (UA) were consistently upward.

These results are consistent with previous vertical gradient calculations [7, 5] and are consistent with the hydrogeologic gradients expected with the site located between lobes of Sangchris Lake, as discussed further in the next section.

2.3.5.2 Impact of Surface Water Bodies on Groundwater Flow

The surface water elevation at Sangchris Lake measured in 2023 averaged 584.44 feet, ranging from 583.08 to 586.05 feet at location SG-02, which is near the inlet for the KPP. The surface water elevation within the AP measured in 2023 averaged 602.70 feet, ranging from 596.43 to

605.65 feet at XSG-01. Groundwater elevations are primarily controlled by the level in Sangchris Lake and the water level within the AP. There is an apparent groundwater divide beneath the AP, with groundwater flow in the UA to the northwest and southeast toward the western and eastern lobes of Sangchris Lake, respectively. Generally downward vertical gradients are present between the PMP and UA wells along the north side of the unit (*i.e.,* MW-12S/12 and MW-31S/31) and upward at MW-20S/20 and MW-7S/7 along the east and southwest side of the unit respectively.

2.3.6 Hydraulic Conductivities

2.3.6.1 Field Hydraulic Conductivities

Field hydraulic conductivity tests were conducted by Ramboll Americas Engineering Solutions, Inc. during the 2021 investigation [5]. The results are summarized in **Table 2-2** and discussed below:

- **CCR:** Results of field hydraulic conductivity tests conducted in wells screened in the CCR (XPW01 through XPW04) ranged from 2.09 x 10^{-2} to 2.64 x 10^{-1} centimeters per second (cm/s), with a geometric mean of 8.57 x 10^{-2} cm/s.
- **USCU / PMP:** Results of field hydraulic conductivity tests performed in 2021 in wells screened in the USCU (MW-12S, MW-25, MW-27, and MW-20S) ranged from 1.56 x 10^{-5} to 1.22 x 10^{-4} cm/s, with a geometric mean of 5.04 x 10^{-5} cm/s. Tests were not performed for all wells in the USCU. Of the wells evaluated, two wells were screened in sandier zones of the USCU and therefore the resulting geometric mean hydraulic conductivity for the unit is likely overestimated.
- **UA:** Field hydraulic conductivity tests performed in 2021 in wells screened in the UA (MW-20, MW-22, MW-23, MW-26, MW-28, MW-29, MW-30, MW-31, MW-32, and PZ-4C) ranged from 1.29 x 10^{-6} to 5.35 x 10^{-4} cm/s, with a geometric mean of 4.14 x 10^{-5} cm/s. The geometric mean likely underestimates the hydraulic conductivity of the unit because it includes locations where sandier material was not present (*i.e.,* MW-20, MW-32, and PZ-4C).
- **LCU**: No field hydraulic conductivity tests were performed as there are no wells screened within the LCU.
- **BCU:** Field hydraulic conductivity tests performed in 2021 in a well screened in the BCU (MW-12D) resulted in a hydraulic conductivity of 1.69 x 10^{-3} cm/s. MW-12D was screened within the top 5 feet of the bedrock and the resulting hydraulic conductivity likely represents the weathered bedrock surface.

2.3.6.2 Laboratory Hydraulic Conductivities

Falling head permeability tests (ASTM D5084 Method F) were performed in the laboratory on samples collected during the 2021 investigations [5]. The results are provided in **Appendix A** and discussed below.

- **CCR:** Eight samples were collected from CCR borings XPW01 through XPW04. Laboratory falling head permeability test results from samples collected within the CCR ranged from 3.5 x 10^{-4} to 9.2 x 10^{-3} cm/s, with a geometric mean of 1.4 x 10^{-3} cm/s.
- **USCU:** Three samples were collected from the Upper Cahokia Formation at borings MW-12D and MW-23 within the USCU. Laboratory falling head permeability test results in the USCU ranged from 7.2 x 10^{-8} to 3.2 x 10^{-7} cm/s, with a geometric mean of 1.2 x 10^{-7} cm/s.

Laboratory vertical hydraulic conductivity tests were not performed on samples from within the PMP.

- **UA:** Three samples were collected from the Lower Cahokia Formation at borings MW-12D, MW-20, and MW-23 within the UA. Laboratory falling head permeability test results in the UA ranged from 5.9×10^{-8} to 2.0×10^{-7} cm/s, with a geometric mean of 1.1×10^{-7} cm/s.
- **LCU:** Laboratory hydraulic conductivity tests were not performed in the LCU during the 2021 investigations; however, previously conducted falling head permeability tests performed on samples in the LCU report a laboratory hydraulic conductivity of 4.8×10^{-8} cm/s [7].
- **BCU:** Laboratory hydraulic conductivity tests were not performed in the BCU.

2.4 Groundwater Monitoring

The monitoring system for the AP is shown on **Figure 2-4** and consists of two background monitoring wells screened within the UA (MW-1 and MW-2), five compliance monitoring wells screened within the USCU (MW-7S[4], MW-8S, MW-20S[4], MW-27[4], and MW-31S), 14 compliance wells screened with in the UA (MW-3, MW-5, MW-6, MW-7, MW-8, MW-11, MW-12, MW-20, MW-23, MW-27, MW-30, MW-31, MW-32, and PZ-4C), and two water level only surface water staff gages (SG-02 and XSG01) to monitor potential impacts from the AP [8]. Twenty-one wells (two background and 19 compliance) located along the perimeter of the AP are used to monitor groundwater concentrations within the hydrostratigraphic units. CCR source water samples from porewater monitoring wells are collected from location XPW01 on the southern side of the AP, from location XPW02 and XPW03 on the northwestern side of the AP, and from location XPW04 on the northern side of the AP (**Figure 2-4**).

2.5 Hydrogeologic Conceptual Site Model

The HCR [5] and information provided above forms the foundation of the AP hydrogeological setting. The AP overlies a potential recharge area for the underlying transmissive geologic media, which are composed of moderate permeability sand, silty sand, and clayey sand and gravel units, which include the clays and silts of the Upper Cahokia Formation, and the thin, moderate permeability sands and gravels of the Lower Cahokia Formation, which, at some locations also includes the interface with the Vandalia Till deposits (*i.e.,* the UA).

The geologic conceptual model for the site used for the groundwater modeling [9] consists of the following layers:

- Fill, the constructed AP consists of fill (predominantly coal ash within the AP, but also including constructed berms around the AP).
- Clays and silts of the Cahokia Formation, interbedded with thin sand lenses, most of which are laterally discontinuous, but a thin bed of sand was observed at the bottom of the Cahokia Formation in the majority of soil borings advanced near the AP. This sand unit comprises the UA. The Cahokia materials extend to depths of less than 44 feet.
- Clay and silt with varying amounts of sand and gravel of the Vandalia Till, which extend to depths of up to 52 feet.

[4] Well in the USCU that has been identified to monitor the PMP.

Bedrock beneath the AP consists of the Pennsylvanian-age Bond Formation, comprised mainly of limestone with lesser amounts of shale and sandstone.

The overall groundwater flow system within the unlithified materials is consistent with previous reports [5]. Infiltration of precipitation into the AP recharges groundwater and flows northwest and southeast toward the two lobes of Sangchris Lake. Source water from the AP migrates downward into the silt and clay of the Upper Cahokia and mixes with groundwater. When it encounters sandier portions, the groundwater may migrate horizontally (*i.e.,* as monitored by PMP wells) otherwise it continues to migrate vertically in the low permeability materials until it encounters the sandy portions of the UA above the LCU. In the UA, groundwater migrates preferentially through the sandier zones with higher hydraulic conductivity.

Vertical gradients are generally downward between the USCU and UA in the norther portion of the Unit and upward along the eastern and southwest side, and upward between the BCU and UA. Along the west and south sides of the AP, the UA intersects the intake and discharge flumes based on constructed elevations (**Appendix B**).

3. OCCURRENCE AND DISTRIBUTION OF GROUNDWATER EXCEEDANCES (EXTENT)

In accordance with 35 I.A.C. § 845.610(b)(3)(C), comparison of statistically derived values with the GWPSs described in 35 I.A.C. § 845.600 to determine exceedances of the GWPS was completed for sampling events E001, E002, and E003 [2, 3, 4], as described in **Section 1**. Exceedances include the following parameters and wells by hydrostratigraphic unit:

- Detected UA Exceedances (**Figure 3-1**):
  - Boron at MW-12 and MW-28
  - Sulfate at MW-28 and MW-32
  - TDS at MW-28
- Detected USCU (PMP) Exceedances (**Figure 3-2**):
  - Boron at MW-7S
  - Sulfate at MW-7S and MW-20S

The extents of exceedances discussed below were defined using existing monitoring wells, including wells present on-site (**Table 3-1**) that may not be included in the 35 I.A.C. § 845 monitoring program for the AP.

3.1 Additional Investigation to Define Nature and Extent

Solid phase data were collected and evaluated to assess potential geological sources of exceedance parameters and to inform the GCSM (discussed further in **Section 4**). A total of eight borings were advanced at the AP in 2021 and solid samples were collected from the following: from the USCU adjacent to background monitoring well MW-2; from the UA adjacent to compliance monitoring wells MW-3, MW-28, and MW-32; from the USCU and UA adjacent to paired compliance monitoring wells MW-7/MW-7S and MW-8/MW-8S; from the USCU and UA adjacent to compliance monitoring well MW-12; and from the CCR material adjacent to porewater well XPW03. Solids samples were collected and analyzed for the following:

- 6010B for 7-step sequential extraction process (SEP) (iron, aluminum, arsenic, manganese, lead, lithium, molybdenum, cobalt, calcium, beryllium, selenium, and chromium);
- EPA 6010B for Total Metals (iron, aluminum, arsenic, manganese, lead, lithium, molybdenum, cobalt, calcium, beryllium, selenium, and chromium);
- Bulk Mineralogy by Reitveld x-ray diffraction analysis;
- Cation Exchange Capacity Analysis;
- Total Organic Carbon Analysis; and,
- Batch testing using groundwater from MW-02, MW-07/07S, MW-12/12D and MW-28 with background soils to evaluate attenuation mechanisms and sorption capacity.

In addition, 32 surface water samples were collected to characterize the water quality in Sangchris Lake (**Appendix E**). Surface water samples were analyzed for 35 I.A.C. § 845.600 parameters (total and dissolved), ferrous and ferric iron, major ions, and groundwater polishing

parameters. Data from this investigation relevant to the extent of exceedances at the AP (*i.e.,* boron, sulfate, and TDS) is presented in **Table 3-2**. Furthermore, sampling was initiated during compliance event E003 at monitoring well location PZ-4A to help define the extent of the sulfate GWPS exceedance at MW-20S.

3.2 Extents in the Uppermost Aquifer

Exceedances are identified quarterly following comparison of lower confidence limits (LCLs) to the GWPSs described in 35 I.A.C. § 845.600. The LCLs vary as the dataset is updated to include additional quarterly events (**Table 3-3**). The discussion below includes ranges of concentrations measured in wells with exceedances, because there is no single value for LCLs. The statistical results from the three compliance monitoring events are presented in **Table 3-3** and all data evaluated has been summarized in **Table 3-4**.

3.2.1 Boron

Boron concentrations in UA monitoring wells MW-12 and MW-28 resulted in exceedances of the GWPS (2 milligrams per liter [mg/L]) during at least one compliance monitoring event between E001 through E003 (**Table 3-3**; **Figure 3-1**). Concentrations and the extent of boron at these locations are summarized as follows:

MW-12 and MW-28 – Concentrations of boron between 2015 and 2023 at MW-12 range from 1.95 to 4.42 mg/L, and concentrations of boron at MW-28 between 2021 and 2023 range from 7.96 to 10.9 mg/L (**Table 3-4**). Both monitoring wells, MW-12 and MW-28, are located northwest of the unit, between the AP and the west lobe of Sangchris Lake. The extents of exceedances above the GWPS are defined laterally in the UA to the northeast by monitoring well MW-30 (**Figure 3-1**), with boron concentrations ranging from 1.06 to 1.60 mg/L, and to the southwest by monitoring well MW-6, with boron concentrations ranging from 0.63 to 1.91 mg/L (**Table 3-4**). Well MW-29, which is located between these two locations, had reported concentrations between 1.57 and 2.01 mg/L in 2021. The west fork of Sangchris Lake is located approximately 30 feet downgradient of MW-12 and 220 feet downgradient of MW-28, and comparison of water elevations indicate that groundwater in the northwest of the AP migrates toward the west lobe of Sangchris Lake. The extent of boron is defined downgradient by surface water samples collected near MW-12 and MW-28, which have total concentrations of boron of 0.051 mg/L and 0.065 mg/L, respectively (**Table 3-2**; **Figure 3-3**). Boron concentrations measured in 32 surface water samples throughout Sangchris Lake in the vicinity of the AP range from 0.025 to 0.065 mg/L, with the most distal samples relative to the AP (northernmost and southwestern most) ranging from 0.045 to 0.051 mg/L (**Appendix E**).

Downward migration of boron in the UA is inhibited by the underlying the LCU, which includes the lithologic layers of the Vandalia Till and has a thickness of approximately 7.5 feet at MW-12D, which is a paired BCU monitoring well adjacent to MW-12. Downward migration of boron is also limited by the upward gradients observed between BCU monitoring well MW-12D and UA monitoring well MW-12. The thickness of the Vandalia Till observed in the soil borings throughout the site was between 7.5 and 37.5 feet. Vertical permeability tests completed on samples of the LCU beneath the UA indicate an average vertical hydraulic conductivity of 4.8×10^{-8} cm/s [7]. This is far lower than the geometric mean horizontal hydraulic conductivity calculated in UA monitoring wells (4.14×10^{-5} cm/s) [5]. The significant contrast in permeability (nearly three orders of magnitude) indicates that groundwater will preferentially migrate horizontally, and the elevated boron concentrations will not extend into the underlying bedrock. In addition, lack of

vertical migration is also supported by the absence of concentrations above the GWPS in historical boron samples at MW-12D, ranging from 0.71 to 1.08 mg/L (**Table 3-4**).

3.2.2 Sulfate

Concentrations of sulfate at UA monitoring wells MW-28 and MW-32 resulted in exceedances of the GWPS (400 mg/L) during at least one compliance monitoring event between E001 through E003 (**Table 3-3**; **Figure 3-1**). Concentrations and the extent of sulfate at these locations are summarized as follows:

- MW-28 - Concentrations of sulfate between 2021 and 2023 at MW-28 range from 774 to 951 mg/L (**Table 3-4**). Monitoring well MW-28 is located northwest of the unit, between the AP and the west lobe of Sangchris Lake. The extent of sulfate is defined laterally in the UA to the northeast by monitoring well MW-12, which did not have any identified sulfate exceedances, and sulfate concentrations range from 295 to 426 mg/L between 2021 and 2023. Extents are defined to the southwest by monitoring well MW-6, with sulfate concentrations ranging from 97.0 to 335 mg/L between 2015 and 2023 (**Table 3-4**). The west fork of Sangchris Lake is located approximately 220 feet downgradient of MW-28 and comparison of water elevations indicates that groundwater in this location migrates toward the west fork of Sangchris Lake. The extent of sulfate is defined downgradient by surface water samples collected near MW-28, which indicate concentrations of sulfate are 32 mg/L (**Table 3-2**; **Figure 3-3**). Sulfate concentrations measured in 32 surface water samples throughout Sangchris Lake in the vicinity of the AP range from 30 to 32 mg/L, with the most distal samples relative to the AP (northernmost and southwestern most) ranging from 30 to 31 mg/L (**Appendix E**).

  Downward migration of sulfate in the UA at MW-28 is inhibited by the underlying the LCU, as discussed above. In addition, lack of vertical migration is also supported by historical sulfate concentrations at nearby MW-12D, which have been below the laboratory reporting limit of 10 mg/L (method detection limit of 6 mg/L; **Table 3-4**), and consistent upward gradients observed between BCU monitoring well MW-12D and UA monitoring well MW-12D.

- MW-32 - Concentrations of sulfate at MW-32 between 2021 and 2023 range from 340 to 477 mg/L (**Table 3-4**). Monitoring well MW-32 is located northeast of the unit. The extents of exceedances above the GWPS are defined laterally in the UA to the west by monitoring well MW-5, with sulfate concentrations ranging from non-detect (at a laboratory reporting limit of 10 mg/L and method detection limit of 5 mg/L) to 14.0 mg/L, and to the southeast by monitoring well MW-4, with sulfate concentrations ranging from 11.0 to 74.0 mg/L (**Table 3-4**). The extent of sulfate is ultimately defined by surface water samples collected downgradient of MW-32 at K-D-1, which indicate concentrations of sulfate are 32 mg/L (**Table 3-2**; **Figure 3-3**). In addition, it should be noted that the groundwater sampling data from Quarter 4, 2023 indicate that the LCL of sulfate at MW-32 dropped below the GWPS (**Table 3-3**) and was no longer a detected exceedance.

  Downward migration of sulfate in the UA at MW-32 is inhibited by the underlying the LCU, which includes the lithologic layers of the Vandalia Till. The thickness of the Vandalia Till observed in the soil borings throughout the site was between 7.5 and 37.5 feet. Vertical permeability tests completed on samples of the LCU beneath the UA indicate an average vertical hydraulic conductivity of 4.3×10^{-8} cm/s. This is far lower than the geometric mean horizontal hydraulic conductivity calculated in UA monitoring wells (4.14×10^{-5} cm/s) [5]. The significant contrast in permeability (nearly three orders of magnitude) indicates that

groundwater will preferentially migrate horizontally and the elevated sulfate concentrations will not extend into the underlying bedrock.

3.2.3 Total Dissolved Solids

TDS results indicate the mass of dissolved material in the groundwater and is a representation of multiple constituents present in the groundwater. Typically, major ions (such as sulfate) represent the primary contributors to TDS. TDS concentrations in UA monitoring well MW-28 resulted in exceedances of the GWPS (1,200 mg/L; **Table 3-3**). Between 2021 and 2023, TDS concentrations at monitoring well MW-28 ranged from 1,570 to 1,860 mg/L (**Table 3-4**). Monitoring well MW-28 is located northwest of the unit, between the AP and the west fork of Sangchris Lake. The extents of concentrations above the GWPS are defined laterally in the UA to the northeast by monitoring well MW-12 which had no reported exceedances, with concentrations ranging from 908 to 1,230 mg/L, and to the southwest by MW-6, with TDS concentrations ranging from 358 to 780 mg/L (**Table 3-4**). The west fork of Sangchris Lake is located approximately 220 feet downgradient of MW-28, and comparison of water elevations indicates that groundwater in this location migrates toward the west fork of Sangchris Lake. The extent of TDS is defined downgradient by surface water samples collected from K-B-1 near MW-28, which indicate concentrations of TDS are 198 mg/L (**Table 3-2**; **Figure 3-3**).

Downward migration of sulfate in the UA at MW-28 is inhibited by the underlying LCU, as discussed above. In addition, lack of vertical migration is also supported by historical sulfate concentrations at nearby MW-12D which range between 602 and 634 mg/L (**Table 3-4**).

3.3 Extent in the Upper Semi-Confining Unit/Potential Migration Pathway

Exceedances are identified quarterly following comparison of LCLs to the GWPSs described in 35 I.A.C. § 845.600. The LCLs vary as the dataset is updated to include additional quarterly events (**Table 3-3**). The discussion below includes ranges of concentrations measured in wells with exceedances, because there is no single value for LCLs.

3.3.1 Boron

Boron concentrations in USCU/PMP monitoring well MW-7S resulted in exceedance of the GWPS (2 mg/L; **Table 3-3**; **Figure 3-2**) during the E003 (Quarter 4, 2023) monitoring event. The previous two monitoring events this well did not have enough water to collect samples. Concentrations of boron at MW-7S between 2021 and 2023 range from 3.56 to 5.51 mg/L (**Table 3-4**). Monitoring well MW-7S is located west of the unit, between the AP and the west fork of Sangchris Lake. The west fork of Sangchris Lake is located approximately 200 feet downgradient of MW-7S and comparison of water elevations indicates that groundwater in this location migrates toward the west fork of Sangchris Lake. The extents of boron exceedances are defined laterally in the USCU to the southeast by monitoring well MW-27 with boron concentrations ranging from 0.77 to 1.50 mg/L and to the northeast by monitoring well MW-12S which had no reported exceedances of boron with concentrations ranging from 0.86 to 2.64 mg/L (**Table 3-4**; **Figure 3-2**). The extent of boron is defined downgradient by surface water samples collected from K-F-1 near MW-7S, which indicate concentrations of boron are less than 0.05 mg/L (**Table 3-2**; **Figure 3-3**).

Vertically, the extent of boron is defined by monitoring well MW-7, which is nested with MW-7S and screened in the underlying UA, with boron concentrations ranging from 0.10 to 0.65 mg/L between 2015 and 2023 (**Table 3-4**). Additionally, as described in **Section 2.3.5.1**, calculated

vertical hydraulic gradients between the USCU and UA at paired monitoring wells MW-7 and MW-7S are predominantly upward.

3.3.2 Sulfate

Concentrations of sulfate at USCU/PMP wells MW-7S and MW-20S resulted in exceedances of the GWPS (400 mg/L; **Table 3-3**; **Figure 3-2**). Concentrations and the extent of sulfate at these locations are summarized as follows:

- MW-7S - Concentrations of sulfate at MW-7S range from 343 to 577 mg/L (**Table 3-4**). Monitoring well MW-7S is located west of the unit, between the AP and the west fork of Sangchris Lake. The west fork of Sangchris Lake is located approximately 200 feet downgradient of MW-7S and comparison of water elevations indicates that groundwater in this location migrates toward the west fork of Sangchris Lake. The extent of sulfate exceedances is defined laterally in the USCU by wells without reported exceedances to the southeast by monitoring well MW-27, with sulfate concentrations ranging from 232 to 346 mg/L, and to the northeast by monitoring well MW-12S, with sulfate concentrations ranging from 118 to 243 mg/L (**Table 3-4**; **Figure 3-2**). The extent of sulfate is defined downgradient by surface water samples collected from K-F-1 near MW-7S, which indicate concentrations of sulfate are 31 mg/L (**Table 3-2**; **Figure 3-3**).

  Vertically, the extent of sulfate is defined by monitoring well MW-7, which is nested with MW-7S, screened in the underlying UA, and did not have any identified exceedances. Sulfate concentrations in MW-7, between 2015 and 2023, range from 132 to 439 mg/L (**Table 3-4**). Additionally, as described in **Section 2.3.5.1**, calculated vertical hydraulic gradients between the USCU and UA at paired monitoring wells MW-7 and MW-7S are predominantly upward.

- MW-20S - Concentrations of sulfate at MW-20S range from 243 to 519 mg/L (**Table 3-4**). Monitoring well MW-20S is located east of the unit. The extent of sulfate exceedances is defined laterally in the USCU to the south by monitoring well PZ-4A, which had a sulfate concentration of 102 mg/L reported from the Quarter 4, 2023 compliance monitoring event (**Table 3-4**). The lateral and downgradient extent of sulfate concentrations near MW-20S to the north and west is currently being investigated through installation of monitoring wells along the east property line but is expected to ultimately be defined by the east lobe of Sangchris Lake.

  Vertically, the extent of sulfate is defined by monitoring well MW-20, which is nested with MW-20S, screened in the underlying UA, and did not have any identified exceedances. Sulfate concentrations between 2021 and 2023 range from 127 to 180 mg/L (**Table 3-4**). Additionally, as described in **Section 2.3.5.1**, calculated vertical hydraulic gradients between the USCU and UA at paired monitoring wells MW-20 and MW-20S are mostly upward.

4. GEOCHEMICAL CONCEPTUAL SITE MODEL (NATURE)

A GCSM was developed to describe the conditions of the groundwater in the vicinity of the KPP AP and is summarized here (full analysis presented in **Appendix F**). The GCSM describes the geochemical processes that contribute to the mobilization, distribution, and attenuation of chemicals in the environment. Only parameters that have exceeded the GWPS in AP groundwater and will be addressed in the corrective action plan are included in the GCSM. As discussed in previous sections, the exceedances observed at the AP include boron, sulfate, and TDS.

CCR porewater is water "collected from the interstitial water between waste particles in surface impoundments as it occurs in the field" [10] and represents the material potentially leached from impoundments. The CCR materials are the primary source of constituent loading to the CCR porewater (*i.e.*, CCR source water). Over an extended period (*e.g.*, months to years), the CCR porewater (*i.e.*, water contained within the interstitial pore spaces of the CCR that can be sampled by low-flow groundwater sampling methods) reaches equilibrium with the CCR materials. The porewater is therefore representative of the mobile phase constituents capable of migrating into the underlying materials and potentially downgradient in groundwater. The AP CCR source water is therefore the primary indicator of constituents *available* to the groundwater and is considered as the primary source term for environmental investigation and fate and transport modeling.

Boron and sulfate are assessed as indicators of influence from the CCR materials. Sulfate is the major contributor to TDS and is therefore used as a proxy for TDS. Where observed in shallow groundwater at concentrations above the groundwater protection standard, concentrations of boron and sulfate are similar to the concentration measured in CCR porewater. The uneven distribution of sulfate in the shallow UA/PMP groundwater is attributed to the observed chemical heterogeneity in the AP porewater and physical or chemical heterogeneity along the groundwater flow path.

Geochemical attenuation of constituents in groundwater is a function of groundwater pH, redox potential, availability of adsorbent, and presence of competing ions, among other factors. Groundwater pH exerts a major control on constituent mobility and reflects a neutral and generally stable condition in the range of 6 to 7.5 standard units, independent of location, lithology, or exceedance status. The stability of pH in groundwater is an indication that groundwater is well buffered, likely due to the widespread presence of carbonate minerals in the aquifer solids which buffer pH within this range. Neutral groundwater pH is generally favorable to attenuation of constituents in groundwater, such that it promotes the precipitation of the mineral phases that adsorb constituents from the aqueous phase. Groundwater pH additionally controls the tendency of various constituents to adsorb to the mineral surface. CCR porewater pH is generally similar to groundwater pH.

The oxidation and reduction potential (redox potential) of groundwater exerts another major control on constituent mobility in groundwater. Specifically, in the context of CCR, the iron hydroxide minerals that facilitate attenuation of many constituents, including boron and sulfate, tend towards dissolution under anoxic conditions (also known as reducing, or low oxygen). These same iron hydroxide minerals tend towards precipitation under oxic conditions. Porewater oxidation reduction potential (ORP) is generally reducing, while background groundwater ORP is more oxidized. Exceedance wells oscillate between reducing and oxidizing conditions. It appears

that the groundwater measured at the exceedance wells is under some influence of the reducing condition from the CCR porewater, which may in turn have implications for the stability of attenuating mineral phases under the pre-closure condition.

Characterization data from the aquifer solids is considered to understand the reactive mineral fractions present in the aquifer solids and the binding mechanisms that control the partitioning of constituents between the solid and aqueous phases. The key finding from the aquifer solids assessment is that adsorptive minerals are present in the aquifer solids and have currently bound both boron and sulfate within the reactive fraction of the solid matrix. The inference follows that some degree of attenuation of the exceedance constituents by the aquifer solids has occurred in the past, most notably through adsorption to both iron and aluminum hydroxide minerals.

5. COMBINED GEOCHEMICAL AND HYDROGEOLOGIC CONCEPTUAL SITE MODELS

5.1 Boron Conceptual Site Model

The conceptual site model (CSM) describing current conditions at the AP combining the hydrogeologic and geochemical CSMs for boron is as follows. Water that may come into contact with CCR in the AP becomes porewater within the unlined CCR unit. Sluicing of CCR elevates heads in the unit and results in radial flow, likely causing porewater impacted with boron to migrate downward and outward into the USCU, PMP, and UA. In the PMP and UA, porewater mixes with groundwater and migrates toward the lobes of Sangchris Lake, primarily in soils where the sandy materials are present and have higher hydraulic conductivity. In addition to physical attenuation mechanisms of dilution and dispersion, SEP results indicate boron has been attenuated via adsorption onto iron and manganese hydroxides.

5.2 Sulfate and TDS Conceptual Site Model

Consistent with the boron CSM, water that may come into contact with CCR in the AP becomes porewater within the unlined CCR unit. Sluicing of CCR elevates heads in the unit and results in radial flow, likely causing porewater impacted with sulfate (and TDS) to migrate downward and outward into the USCU, PMP, and UA. In the PMP and UA, porewater mixes with groundwater and migrates toward lobes of Sangchris Lake, with concentrations attenuating due to physical mechanisms (dilution and dispersion) and adsorption onto iron and manganese oxides as observed in SEP results. Ion exchange is also a potential attenuation mechanism as SEP results indicate a substantial proportion of sulfur was associated with the exchangeable fraction.

6. CONCLUSIONS AND FUTURE ACTIVITIES

In accordance with 35 I.A.C. § 845.650(d)(1), the nature and extent of GWPS exceedances of boron, sulfate, and TDS have been described in sufficient detail to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the AP.

As discussed in **Section 3.3.2**, the horizontal delineation of sulfate at MW-20S is ongoing. Monitoring wells will be installed along the eastern property boundary downgradient of MW-20. Findings from the installation and sampling of these additional wells will be incorporated into the final Corrective Action Plan Permit application, which will be submitted in 2025.

Boron was selected for modeling source control presented in the Final Closure Plan and was identified as a surrogate for the exceedances of sulfate and TDS, as described in the Groundwater Modeling Report [9]. For modeling purposes, it was assumed that boron would not significantly sorb or chemically react with aquifer solids (soil adsorption coefficient was set to 0 milliliters per gram) which is a conservative estimate for predicting contaminant transport times in the model. Additional geochemical modeling will be completed to evaluate how sorption to solid phases may affect boron, sulfate, and TDS mobility and therefore the time to reach the GWPS for these parameters.

7. REFERENCES

[1] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845 Corrective Measures Assesment, Kincaid Power Plant, Ash Pond, IEPA ID: W021814002-01," May 12, 2024.

[2] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 2, Ash Pond, Kincaid Power Plant, Kincaid, Illinois.," September 15, 2023.

[3] Ramboll Americas Engineering Solutions, Inc., 35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 3, Ash Pond, Kincaid Power Plant, Kincaid, Illinois., December 12, 2023.

[4] Ramboll Americas Engineering Solutions, Inc., 35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 4, Ash Pond, Kincaid Power Plant, Kincaid, Illinois., March 3, 2024.

[5] Ramboll Americas Engineering Solutions, Inc., "Hydrogeologic Site Characterization Report. Kincaid Power Plant, Ash Pond, Kincaid, Illinois. Kincaid Generation, LLC.," October 25, 2021.

[6] Civil & Environmental Consultants, Inc., Hydrogeologic Assessment Report, Kincaid Power Station, Ash Impoundment, June 22, 2010.

[7] Natural Resource Technology, an OBG Company, "Hydrogeologic Monitoring Plan, Kincaid Ash Pond - CCR Unit 141, Kincaid Power Station, Kincaid, Illinois.," October 17, 2017.

[8] Ramboll Americas Engineering Solutions, Inc., "Groundwater Monitoring Plan, Kincaid Power Plant, Ash Pond, Kincaid, Illinois, Kincaid Generation, LLC.," October 25, 2021.

[9] Ramboll Americas Engineering Solutions, Inc., "Groundwater Modeling Report, Ash Pond, Kincaid Power Plant, Kincaid, Illinois," July 28, 2022.

[10] United States Environmental Protection Agency, "Human and Ecological Risk Assessment of Coal Combustion Residuals (2050-AE81)," December 2014.

TABLES

Table 2-1. Summary of Groundwater Elevation Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
MW-1	Background	UA	01/30/2023	24.20	580.51
MW-1	Background	UA	11/27/2023	17.14	587.57
MW-1	Background	UA	12/14/2023	16.89	587.82
MW-1	Background	UA	10/23/2023	16.56	588.15
MW-1	Background	UA	09/05/2023	16.39	588.32
MW-1	Background	UA	08/05/2023	16.17	588.54
MW-1	Background	UA	06/12/2023	15.57	589.14
MW-1	Background	UA	07/05/2023	15.52	589.19
MW-1	Background	UA	04/12/2023	15.06	589.65
MW-1	Background	UA	05/12/2023	14.65	590.06
MW-10	Water Level	UA	10/23/2023	14.25	585.86
MW-10	Water Level	UA	11/27/2023	13.24	586.87
MW-10	Water Level	UA	06/12/2023	12.79	587.32
MW-10	Water Level	UA	01/30/2023	11.00	589.11
MW-10	Water Level	UA	09/05/2023	Dry	Dry
MW-10	Water Level	UA	09/06/2023	Dry	Dry
MW-11	Compliance	UA	01/30/2023	16.28	585.53
MW-11	Compliance	UA	04/12/2023	12.04	589.77
MW-11	Compliance	UA	05/12/2023	11.99	589.81
MW-11	Compliance	UA	07/05/2023	11.87	589.93
MW-11	Compliance	UA	09/05/2023	11.79	590.02
MW-11	Compliance	UA	10/23/2023	11.79	590.02
MW-11	Compliance	UA	12/14/2023	11.79	590.02
MW-11	Compliance	UA	11/27/2023	11.74	590.07
MW-11	Compliance	UA	06/12/2023	11.73	590.08
MW-11	Compliance	UA	08/05/2023	11.69	590.11
MW-12	Compliance	UA	12/14/2023	8.18	583.22
MW-12	Compliance	UA	10/23/2023	7.96	583.44
MW-12	Compliance	UA	09/05/2023	7.46	583.94
MW-12	Compliance	UA	11/27/2023	7.22	584.18
MW-12	Compliance	UA	08/05/2023	7.13	584.26
MW-12	Compliance	UA	06/12/2023	6.99	584.41
MW-12	Compliance	UA	01/30/2023	6.12	585.28
MW-12D	Water Level	BCU	01/30/2023	2.90	588.06
MW-12D	Water Level	BCU	04/12/2023	2.96	588
MW-12D	Water Level	BCU	05/12/2023	2.82	588.14
MW-12D	Water Level	BCU	06/12/2023	3.70	587.26
MW-12D	Water Level	BCU	08/05/2023	3.73	587.23

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Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
MW-12D	Water Level	BCU	09/05/2023	4.16	586.8
MW-12D	Water Level	BCU	10/23/2023	4.54	586.42
MW-12D	Water Level	BCU	11/27/2023	4.56	586.4
MW-12D	Water Level	BCU	12/14/2023	4.48	586.48
MW-12S	Water Level	USCU	01/30/2023	5.75	585.35
MW-12S	Water Level	USCU	04/12/2023	6.05	585.05
MW-12S	Water Level	USCU	05/12/2023	5.29	585.81
MW-12S	Water Level	USCU	06/12/2023	6.50	584.6
MW-12S	Water Level	USCU	07/05/2023	6.25	584.84
MW-12S	Water Level	USCU	08/05/2023	6.83	584.27
MW-12S	Water Level	USCU	09/05/2023	7.17	583.93
MW-12S	Water Level	USCU	10/23/2023	7.84	583.26
MW-12S	Water Level	USCU	11/27/2023	7.89	583.21
MW-12S	Water Level	USCU	12/14/2023	7.82	583.28
MW-2	Background	UA	11/27/2023	8.90	592.2
MW-2	Background	UA	10/23/2023	8.71	592.39
MW-2	Background	UA	08/05/2023	8.69	592.41
MW-2	Background	UA	09/05/2023	8.60	592.5
MW-2	Background	UA	01/30/2023	7.98	593.12
MW-2	Background	UA	12/14/2023	7.69	593.41
MW-2	Background	UA	06/12/2023	7.37	593.73
MW-20	Compliance	UA	09/05/2023	9.72	591.05
MW-20	Compliance	UA	10/23/2023	8.96	591.81
MW-20	Compliance	UA	08/05/2023	8.50	592.26
MW-20	Compliance	UA	11/27/2023	8.20	592.57
MW-20	Compliance	UA	12/14/2023	7.06	593.71
MW-20	Compliance	UA	07/05/2023	6.90	593.86
MW-20	Compliance	UA	06/12/2023	6.40	594.37
MW-20	Compliance	UA	04/12/2023	5.85	594.92
MW-20	Compliance	UA	05/12/2023	5.66	595.1
MW-20	Compliance	UA	01/30/2023	5.63	595.14
MW-20S	Compliance	USCU	01/30/2023	5.72	594.92
MW-20S	Compliance	USCU	04/12/2023	8.68	591.95
MW-20S	Compliance	USCU	05/12/2023	8.33	592.3
MW-20S	Compliance	USCU	06/12/2023	6.38	594.26
MW-20S	Compliance	USCU	07/05/2023	9.13	591.51
MW-20S	Compliance	USCU	08/05/2023	10.67	589.97
MW-20S	Compliance	USCU	09/05/2023	11.64	589

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Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
MW-20S	Compliance	USCU	10/23/2023	8.80	591.84
MW-20S	Compliance	USCU	11/27/2023	7.92	592.72
MW-20S	Compliance	USCU	12/14/2023	6.97	593.67
MW-23	Compliance	UA	06/12/2023	16.67	593.65
MW-23	Compliance	UA	09/05/2023	16.67	593.65
MW-23	Compliance	UA	11/27/2023	16.61	593.71
MW-23	Compliance	UA	12/14/2023	16.52	593.8
MW-23	Compliance	UA	10/23/2023	16.48	593.84
MW-23	Compliance	UA	07/05/2023	16.37	593.95
MW-23	Compliance	UA	08/05/2023	16.37	593.95
MW-23	Compliance	UA	05/12/2023	16.28	594.04
MW-23	Compliance	UA	01/30/2023	16.27	594.05
MW-23	Compliance	UA	04/12/2023	16.18	594.14
MW-27	Compliance	USCU	01/30/2023	13.31	586.74
MW-27	Compliance	USCU	04/12/2023	10.66	589.39
MW-27	Compliance	USCU	05/12/2023	10.72	589.32
MW-27	Compliance	USCU	06/12/2023	14.45	585.6
MW-27	Compliance	USCU	07/05/2023	15.25	584.8
MW-27	Compliance	USCU	08/05/2023	16.44	583.6
MW-27	Compliance	USCU	09/05/2023	Dry	Dry
MW-27	Compliance	USCU	10/23/2023	17.14	582.91
MW-27	Compliance	USCU	11/27/2023	Dry	Dry
MW-27	Compliance	USCU	12/14/2023	16.54	583.51
MW-28	Compliance	UA	10/23/2023	8.19	593.21
MW-28	Compliance	UA	09/05/2023	8.17	593.23
MW-28	Compliance	UA	11/27/2023	8.15	593.25
MW-28	Compliance	UA	08/05/2023	8.05	593.34
MW-28	Compliance	UA	07/05/2023	7.83	593.57
MW-28	Compliance	UA	12/14/2023	7.82	593.58
MW-28	Compliance	UA	06/12/2023	7.42	593.98
MW-28	Compliance	UA	04/12/2023	6.35	595.05
MW-28	Compliance	UA	05/12/2023	6.14	595.25
MW-28	Compliance	UA	01/30/2023	6.00	595.4
MW-3	Compliance	UA	08/05/2023	9.31	592.15
MW-3	Compliance	UA	09/05/2023	9.05	592.41
MW-3	Compliance	UA	01/30/2023	8.85	592.61
MW-3	Compliance	UA	06/12/2023	8.84	592.62
MW-3	Compliance	UA	07/05/2023	8.78	592.68

Table 2-1. Summary of Groundwater Elevation Data
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Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
MW-3	Compliance	UA	12/14/2023	8.65	592.81
MW-3	Compliance	UA	10/23/2023	8.64	592.82
MW-3	Compliance	UA	11/27/2023	8.62	592.84
MW-3	Compliance	UA	04/12/2023	8.60	592.86
MW-3	Compliance	UA	05/12/2023	8.55	592.91
MW-30	Compliance	UA	10/23/2023	25.54	592.93
MW-30	Compliance	UA	11/27/2023	25.50	592.97
MW-30	Compliance	UA	09/05/2023	25.45	593.02
MW-30	Compliance	UA	12/14/2023	25.43	593.04
MW-30	Compliance	UA	06/12/2023	25.20	593.27
MW-30	Compliance	UA	08/05/2023	24.86	593.61
MW-30	Compliance	UA	07/05/2023	24.77	593.7
MW-30	Compliance	UA	04/12/2023	24.13	594.34
MW-30	Compliance	UA	01/30/2023	24.04	594.43
MW-30	Compliance	UA	05/12/2023	23.87	594.6
MW-31	Compliance	UA	11/27/2023	33.20	584.14
MW-31	Compliance	UA	10/23/2023	33.10	584.24
MW-31	Compliance	UA	09/05/2023	32.72	584.62
MW-31	Compliance	UA	12/14/2023	32.60	584.74
MW-31	Compliance	UA	06/12/2023	31.22	586.12
MW-31	Compliance	UA	07/05/2023	30.71	586.63
MW-31	Compliance	UA	04/12/2023	29.65	587.69
MW-31	Compliance	UA	01/30/2023	29.55	587.79
MW-31	Compliance	UA	05/12/2023	29.33	588.01
MW-31S	Compliance	USCU	01/30/2023	18.62	598.92
MW-31S	Compliance	USCU	04/12/2023	29.30	588.23
MW-31S	Compliance	USCU	05/12/2023	25.87	591.67
MW-31S	Compliance	USCU	06/12/2023	23.83	593.71
MW-31S	Compliance	USCU	07/05/2023	26.05	591.48
MW-31S	Compliance	USCU	08/05/2023	23.01	594.53
MW-31S	Compliance	USCU	09/05/2023	21.54	596
MW-31S	Compliance	USCU	10/23/2023	22.19	595.35
MW-31S	Compliance	USCU	11/27/2023	20.31	597.23
MW-31S	Compliance	USCU	12/14/2023	23.88	593.66
MW-32	Compliance	UA	06/12/2023	28.75	590.74
MW-32	Compliance	UA	11/27/2023	25.50	593.99
MW-32	Compliance	UA	09/05/2023	25.44	594.05
MW-32	Compliance	UA	10/23/2023	25.31	594.18

Table 2-1. Summary of Groundwater Elevation Data
Nature and Extent Report
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Ash Pond
Kincaid, Illinois

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
MW-32	Compliance	UA	08/05/2023	25.05	594.44
MW-32	Compliance	UA	12/14/2023	24.72	594.77
MW-32	Compliance	UA	01/30/2023	22.73	596.76
MW-4	Water Level	UA	09/05/2023	10.18	590.7
MW-4	Water Level	UA	10/23/2023	9.51	591.37
MW-4	Water Level	UA	11/27/2023	8.91	591.97
MW-4	Water Level	UA	06/12/2023	7.62	593.26
MW-4	Water Level	UA	01/30/2023	7.50	593.38
MW-5	Compliance	UA	10/23/2023	28.98	590.46
MW-5	Compliance	UA	09/05/2023	28.70	590.74
MW-5	Compliance	UA	11/27/2023	28.57	590.87
MW-5	Compliance	UA	12/14/2023	28.19	591.25
MW-5	Compliance	UA	08/05/2023	28.15	591.29
MW-5	Compliance	UA	06/12/2023	26.82	592.62
MW-5	Compliance	UA	01/30/2023	25.50	593.94
MW-6	Compliance	UA	11/27/2023	12.27	588.19
MW-6	Compliance	UA	12/14/2023	12.16	588.3
MW-6	Compliance	UA	10/23/2023	12.15	588.31
MW-6	Compliance	UA	09/05/2023	11.96	588.5
MW-6	Compliance	UA	08/05/2023	11.49	588.97
MW-6	Compliance	UA	06/12/2023	10.19	590.27
MW-6	Compliance	UA	01/30/2023	8.13	592.33
MW-7	Compliance	UA	09/05/2023	10.31	587.44
MW-7	Compliance	UA	08/05/2023	10.02	587.73
MW-7	Compliance	UA	07/05/2023	9.76	587.98
MW-7	Compliance	UA	10/23/2023	9.64	588.11
MW-7	Compliance	UA	12/14/2023	9.56	588.19
MW-7	Compliance	UA	11/27/2023	9.53	588.22
MW-7	Compliance	UA	06/12/2023	9.45	588.3
MW-7	Compliance	UA	04/12/2023	8.76	588.98
MW-7	Compliance	UA	05/12/2023	8.53	589.21
MW-7	Compliance	UA	01/30/2023	8.31	589.44
MW-7S	Compliance	USCU	01/30/2023	10.22	587.42
MW-7S	Compliance	USCU	06/12/2023	Dry	Dry
MW-7S	Compliance	USCU	09/05/2023	10.36	587.28
MW-7S	Compliance	USCU	10/23/2023	9.20	588.44
MW-7S	Compliance	USCU	12/14/2023	10.45	587.19
MW-8	Compliance	UA	09/05/2023	9.78	593.36

Table 2-1. Summary of Groundwater Elevation Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
MW-8	Compliance	UA	08/05/2023	9.75	593.38
MW-8	Compliance	UA	06/12/2023	9.75	593.39
MW-8	Compliance	UA	10/23/2023	9.70	593.44
MW-8	Compliance	UA	11/27/2023	9.67	593.47
MW-8	Compliance	UA	12/14/2023	9.30	593.84
MW-8	Compliance	UA	07/05/2023	9.11	594.03
MW-8	Compliance	UA	04/12/2023	8.92	594.21
MW-8	Compliance	UA	05/12/2023	8.39	594.74
MW-8	Compliance	UA	01/30/2023	8.00	595.14
MW-8S	Compliance	USCU	01/30/2023	8.50	594.8
MW-8S	Compliance	USCU	06/12/2023	Dry	Dry
MW-8S	Compliance	USCU	09/05/2023	Dry	Dry
MW-8S	Compliance	USCU	11/27/2023	Dry	Dry
MW-8S	Compliance	USCU	12/14/2023	9.46	593.84
MW-9	Water Level	UA	10/23/2023	16.61	582.78
MW-9	Water Level	UA	09/05/2023	15.58	583.81
MW-9	Water Level	UA	01/30/2023	10.95	588.44
MW-9	Water Level	UA	06/12/2023	10.14	589.25
PZ-4C	Compliance	UA	09/05/2023	8.79	591.78
PZ-4C	Compliance	UA	08/05/2023	8.24	592.33
PZ-4C	Compliance	UA	10/23/2023	8.03	592.54
PZ-4C	Compliance	UA	11/27/2023	7.56	593.01
PZ-4C	Compliance	UA	12/14/2023	7.40	593.17
PZ-4C	Compliance	UA	07/05/2023	7.21	593.36
PZ-4C	Compliance	UA	06/12/2023	7.15	593.42
PZ-4C	Compliance	UA	04/12/2023	7.02	593.55
PZ-4C	Compliance	UA	05/12/2023	6.86	593.71
PZ-4C	Compliance	UA	01/30/2023	6.60	593.97
SG-02	Water Level	SW	11/27/2023	-18.28	583.08
SG-02	Water Level	SW	12/14/2023	-18.33	583.13
SG-02	Water Level	SW	10/23/2023	-18.48	583.28
SG-02	Water Level	SW	09/05/2023	-19.25	584.05
SG-02	Water Level	SW	08/05/2023	-19.57	584.37
SG-02	Water Level	SW	06/12/2023	-20.21	585.01
SG-02	Water Level	SW	07/05/2023	-20.25	585.05
SG-02	Water Level	SW	01/30/2023	-20.38	585.18
SG-02	Water Level	SW	04/12/2023	-20.39	585.19
SG-02	Water Level	SW	05/12/2023	-21.25	586.05

Table 2-1. Summary of Groundwater Elevation Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
XPW01	Water Level	CCR	01/30/2023	24.20	603.64
XPW01	Water Level	CCR	04/12/2023	24.82	603.02
XPW01	Water Level	CCR	05/12/2023	24.68	603.16
XPW01	Water Level	CCR	06/12/2023	24.99	602.85
XPW01	Water Level	CCR	07/05/2023	24.45	603.39
XPW01	Water Level	CCR	08/05/2023	24.11	603.73
XPW01	Water Level	CCR	09/05/2023	24.43	603.41
XPW01	Water Level	CCR	10/23/2023	24.61	603.23
XPW01	Water Level	CCR	11/27/2023	24.79	603.05
XPW01	Water Level	CCR	12/14/2023	24.61	603.23
XPW02	Water Level	CCR	01/30/2023	16.21	603.98
XPW02	Water Level	CCR	04/12/2023	16.70	603.49
XPW02	Water Level	CCR	05/12/2023	16.66	603.53
XPW02	Water Level	CCR	06/12/2023	16.97	603.22
XPW02	Water Level	CCR	07/05/2023	16.59	603.60
XPW02	Water Level	CCR	08/05/2023	16.01	604.18
XPW02	Water Level	CCR	09/05/2023	16.51	603.68
XPW02	Water Level	CCR	10/23/2023	16.73	603.46
XPW02	Water Level	CCR	11/27/2023	17.12	603.07
XPW02	Water Level	CCR	12/14/2023	16.82	603.37
XPW03	Water Level	CCR	01/30/2023	14.90	601.18
XPW03	Water Level	CCR	04/12/2023	15.35	600.73
XPW03	Water Level	CCR	05/12/2023	15.42	600.66
XPW03	Water Level	CCR	06/12/2023	15.54	600.54
XPW03	Water Level	CCR	07/05/2023	15.45	600.63
XPW03	Water Level	CCR	08/05/2023	14.85	601.23
XPW03	Water Level	CCR	09/05/2023	15.18	600.90
XPW03	Water Level	CCR	10/23/2023	15.42	600.66
XPW03	Water Level	CCR	11/27/2023	15.65	600.43
XPW03	Water Level	CCR	12/14/2023	15.54	600.54
XPW04	Water Level	CCR	01/30/2023	3.15	603.38
XPW04	Water Level	CCR	06/12/2023	3.94	602.59
XPW04	Water Level	CCR	08/05/2023	3.12	603.41
XPW04	Water Level	CCR	09/05/2023	3.33	603.20
XPW04	Water Level	CCR	10/23/2023	3.54	602.99
XPW04	Water Level	CCR	11/27/2023	3.63	602.90

Table 2-1. Summary of Groundwater Elevation Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
XPW04	Water Level	CCR	12/14/2023	3.46	603.07
XSG-01	Water Level	CCR	01/30/2023	12.00	596.43
XSG-01	Water Level	CCR	10/23/2023	5.56	602.87
XSG-01	Water Level	CCR	11/27/2023	5.52	602.91
XSG-01	Water Level	CCR	12/14/2023	5.22	603.21
XSG-01	Water Level	CCR	06/12/2023	3.33	605.1
XSG-01	Water Level	CCR	09/05/2023	2.78	605.65

Notes:
BMP = below measuring point
CCR = coal combustion residuals
NAVD 88 = North American Vertical Datum of 1988
SW = surface water (Sangchris Lake)
UA = uppermost aquifer
USCU = Upper Semi-Confining Unit

Table 2-2. Field Horizontal Hydraulic Conductivities
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Well ID	Gradient Position	Bottom of Screen Elevation (ft NAVD88)	Screen Length [1] (ft)	Field Identified Screened Material (USCS)	Slug Type	Analysis Method	Number of Field Tests	Test Analyzed [2]	Hydraulic Conductivity (cm/s)	Minimum Hydraulic Conductivity (cm/s)	Maximum Hydraulic Conductivity (cm/s)	Hydraulic Conductivity Geometric Mean (cm/s)
USCU												
MW-12S*	D	579.62	5	CL	Solid	Kansas Geological Survey	4	FH-1	3.30E-05	1.56E-05	1.22E-04	5.04E-05
MW-25*	D	590.60	5	SW-SM/CL	Solid	Kansas Geological Survey	4	FH-1	1.03E-04			
MW-27*	D	582.35	5	CL/SC/ML	Solid	Bouwer-Rice	1	FH-1	1.56E-05			
MW-20S*	U	588.43	6	ML/CL	Solid	Bouwer-Rice	4	FH-1	1.22E-04			
UA												
MW-20	U	574.52	10	ML/CL	Solid	Bouwer-Rice	1	FH-1	6.77E-06	1.29E-06	5.35E-04	4.14E-05
MW-22	D	580.51	4	SC/SP-SC	Solid	Bouwer-Rice	2	RH-1	3.80E-05			
MW-23	D	580.05	5	CL	Solid	Kansas Geological Survey	4	FH-1	5.35E-04			
MW-26	D	581.33	5	SC/ML	Solid	Bouwer-Rice	1	FH-1	1.29E-06			
MW-28	D	576.33	10	ML/SM	Solid	Bouwer-Rice	4	FH-1	1.34E-04			
MW-29	D	577.86	5	SW-SM	Solid	Cooper-Bredehoeft-Papadopulos	4	FH-1	1.18E-04			
MW-30	D	576.00	5	CL/ML/SM	Solid	Kansas Geological Survey	1	FH-1	7.07E-06			
MW-31	D	575.02	5	CL/ML/SC	Solid	Cooper-Bredehoeft-Papadopulos	2	FH-1	3.30E-05			
MW-32	D	580.20	5	CL/ML	Solid	Kansas Geological Survey	4	RH-1	4.61E-04			
PZ-4C	D	577.39	5	CL	Solid	Bouwer-Rice	2	FH-1	4.95E-05			
BCU												
MW-12D	D	534.08	5	BR	Solid	Kansas Geological Survey	4	FH-1	1.69E-03	1.69E-03	1.69E-03	1.69E-03
CCR												
XPW-01	NA	593.48	10	SW-SM	Solid	Springer-Gelhar	6	FH-1	2.64E-01	2.09E-02	2.64E-01	8.57E-02
XPW-02	NA	594.91	10	SW/SP	Solid	Springer-Gelhar	4	RH-1	2.09E-02			
XPW-03	NA	596.08	10	SW	Solid	Springer-Gelhar	4	RH-2	9.48E-02			
XPW-04	NA	581.57	10	SW	Solid	Springer-Gelhar	6	FH-1	1.03E-01			

[O: SSW 06/09/21; U:CJC 08/17/21; C: LDC 08/17/21; U: LDC 09/13/21; C: EJT 09/19/21]

Notes:
[1] All wells are constructed from 2 inch polyvinyl chloride (PVC) with 0.01 inch slotted screens.
[2] Test response data (elapsed time and corresponding changes in water levels) were plotted as normalized displacement to evaluate similarity among repeat test data within each well. A single test was selected for analysis at each well based on the quality of the test data (*i.e.*, smooth recovery curve) and coincidence of repeat test data.
* Well in the upper semi-confining unit that has been identified to monitor the potential migration pathway.
BCU = bedrock confining unit
CCR = coal combustion residuals
cm/s = centimeters per second
D = Downgradient
FH-1 = Falling Head 1 Test
ft = foot/feet
NAVD88 = North American Vertical Datum of 1988
RH-1 = Rising Head 1 Test
RH-2 = Rising Head 2 Test
U = Upgradient
UA = uppermost aquifer
USCU = upper semi-confining unit

USCS = Unified Soil Classification System
BR = Bedrock
CL = Lean Clay
ML = Silt
SC = Clayey Sand
SM = Silty Sand
SP = Poorly Graded Sand
SP-SC = Poorly Graded Sand with Clay
SW = Well Graded Sand with Gravel
SW-SM = Well Graded Sand with Silt

Table 3-1. Monitoring Well Construction Details
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Location	HSU	Date Constructed	Top of PVC Elevation (ft)	Measuring Point Elevation (ft)	Measuring Point Description	Ground Elevation (ft)	Screen Top Depth (ft bgs)	Screen Bottom Depth (ft bgs)	Screen Top Elevation (ft)	Screen Bottom Elevation (ft)	Well Depth (ft bgs)	Bottom of Boring Elevation (ft)	Screen Length (ft)	Screen Diameter (inches)	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
MW-1	UA	04/20/2010	604.7	604.9	Top of PVC	602.6	15	25	587.6	577.6	25	568.1	10	2	39.592051	-89.490283
MW-2	UA	04/21/2010	601.1	601.3	Top of PVC	598.9	10	20	588.9	578.9	20	541.4	10	2	39.590698	-89.488916
MW-3	UA	04/15/2010	601.5	601.6	Top of PVC	599.2	14	24	585.2	575.2	24	552.7	10	2	39.594458	-89.487173
MW-4	UA	04/14/2010	600.9	600.9	Top of PVC	598.5	12	22	586.5	576.5	22	560.5	10	2	39.600751	-89.487354
MW-5	UA	04/22/2010	619.4	619.6	Top of PVC	617.8	30	40	587.8	577.8	40	541.8	10	2	39.601296	-89.490402
MW-6	UA	04/16/2010	600.5	600.6	Top of PVC	598.4	10	20	588.4	578.4	20	572.9	10	2	39.598638	-89.498944
MW-7	UA	04/16/2010	597.8	597.9	Top of PVC	596.0	10	20	586.0	576.0	20	569.5	10	2	39.597637	-89.498959
MW-7S	USCU	02/02/2021	597.6	597.8	Top of PVC	595.6	6	11	589.6	584.6	11	580.6	5	2	39.59766	-89.498978
MW-8	UA	04/13/2010	603.1	603.3	Top of PVC	601.1	12	22	589.1	579.1	22	563.1	10	2	39.594399	-89.496829
MW-8S	USCU	02/02/2021	603.3	603.5	Top of PVC	600.6	4	7	596.6	593.6	7	580.6	3	2	39.594381	-89.496822
MW-9	UA	04/19/2010	599.4	599.4	Top of PVC	597.6	10	20	587.6	577.6	20	573.1	10	2	39.595204	-89.500968
MW-10	UA	04/19/2010	600.1	600.1	Top of PVC	598.2	10	20	588.2	578.2	20	575.2	10	2	39.590652	-89.503745
MW-11	UA	06/17/2015	601.8	602.0	Top of PVC	599.3	11	21	588.3	578.3	21	578.3	10	2	39.593104	-89.491115
MW-12	UA	07/23/2015	591.4	591.6	Top of PVC	589.0	15	25	573.9	563.9	25	563.9	10	2	39.600208	-89.496381
MW-12S	USCU	01/27/2021	591.1	591.0	Top of PVC	588.6	5	9	583.6	579.6	9	579.1	4	2	39.600208	-89.496412
MW-12D	BCU	01/26/2021	591.0	591.1	Top of PVC	589.1	50	55	539.1	534.1	55	489.1	5	2	39.600194	-89.496418
MW-20	UA	01/26/2021	600.8	600.9	Top of PVC	598.5	14	24	584.5	574.5	24	547.5	10	2	39.598653	-89.48728
MW-20S	USCU	01/26/2021	600.6	600.8	Top of PVC	598.4	4	10	594.4	588.4	10	588.4	6	2	39.598665	-89.487279
MW-22	UA	02/03/2021	601.8	601.8	Top of PVC	599.5	15	19	584.5	580.5	19	579.5	4	2	39.593235	-89.487638
MW-23	UA	02/02/2021	610.3	610.5	Top of PVC	608.0	23	28	585.0	580.0	28	558.0	5	2	39.593293	-89.489352
MW-24	UA	02/02/2021	615.5	615.5	Top of PVC	613.0	27	32	586.0	581.0	32	581.0	5	2	39.593271	-89.493267
MW-25	USCU	02/02/2021	607.2	607.2	Top of PVC	604.6	9	14	595.6	590.6	14	579.6	5	2	39.594397	-89.495062
MW-26	UA	02/02/2021	596.2	596.2	Top of PVC	593.3	7	12	586.3	581.3	12	573.3	5	2	39.595584	-89.497582
MW-27	USCU	02/02/2021	600.0	600.2	Top of PVC	597.4	10	15	587.4	582.4	15	577.4	5	2	39.596694	-89.497927
MW-28	UA	02/02/2021	601.4	601.6	Top of PVC	598.3	12	22	586.3	576.3	22	573.3	10	2	39.599258	-89.497962
MW-29	UA	02/01/2021	599.9	599.9	Top of PVC	596.9	14	19	582.9	577.9	19	576.9	5	2	39.599691	-89.497249
MW-30	UA	02/03/2021	618.5	618.6	Top of PVC	616.0	35	40	581.0	576.0	40	571.0	5	2	39.601262	-89.493996
MW-31	UA	02/03/2021	617.3	617.5	Top of PVC	615.0	35	40	580.0	575.0	40	565.0	5	2	39.601301	-89.491702
MW-31S	USCU	02/03/2021	617.5	617.7	Top of PVC	615.1	25	30	590.1	585.1	30	585.1	5	2	39.601303	-89.491681
MW-32	UA	02/03/2021	619.5	619.7	Top of PVC	617.2	32	37	585.2	580.2	37	577.2	5	2	39.601279	-89.488643
PZ-4C	UA	03/30/2016	600.6	600.7	Top of PVC	597.9	15.5	20.5	582.4	577.4	20.5	577.4	5	2	39.596398	-89.487207
PZ-4A	USCU	03/30/2016	600.8	600.8	Top of PVC	597.9	5	10	592.9	587.9	10	587.9	5	2	39.596415	-89.487208

Notes:
All elevation data are presented relative to the North American Vertical Datum 1988 (NAVD88), GEOID 12A
bgs = below ground surface
ft = foot or feet
HSU = Hydrostratigraphic Unit
UA = Uppermost Aquifer
BCU = Bedrock Confining Unit
USCU = Upper Semi-Confining Unit
PVC = polyvinyl chloride

Table 3-2. Surface Water Sampling Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Sample Location	Sample Date	Fraction	Analyte	Unit	Result
K-B-1	10/06/2021	T	Boron	mg/L	0.0649
K-C-1	10/06/2021	T	Boron	mg/L	0.0505
K-D-1	10/06/2021	T	Boron	mg/L	0.0481
K-F-1	10/06/2021	T	Boron	mg/L	0.0463
K-B-1	10/06/2021	D	Boron	mg/L	0.0558
K-C-1	10/06/2021	D	Boron	mg/L	0.0429
K-D-1	10/06/2021	D	Boron	mg/L	0.0459
K-F-1	10/06/2021	D	Boron	mg/L	0.0421
K-B-1	10/06/2021	T	Sulfate	mg/L	32
K-C-1	10/06/2021	T	Sulfate	mg/L	32
K-D-1	10/06/2021	T	Sulfate	mg/L	32
K-F-1	10/06/2021	T	Sulfate	mg/L	31
K-B-1	10/06/2021	T	TDS	mg/L	198
K-C-1	10/06/2021	T	TDS	mg/L	216
K-D-1	10/06/2021	T	TDS	mg/L	210
K-F-1	10/06/2021	T	TDS	mg/L	188

Notes:
D = dissolved
T = total
mg/L = milligrams per liter
TDS = total dissolved solids

Table 3-3. Exceedance Parameter Statistical Results
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Location	Parameter	Unit	Groundwater Protection Standard	2023 Q2 LCL	2023 Q3 LCL	2023 Q4 LCL
MW-12	Boron, total	mg/L	2	2.64	2.68	2.68
MW-28	Boron, total	mg/L	2	8.58	8.71	8.62
MW-20S	Sulfate, total	mg/L	400	404	330	313
MW-28	Sulfate, total	mg/L	400	808	817	824
MW-32	Sulfate, total	mg/L	400	429	407	397
MW-28	Total Dissolved Solids	mg/L	1,200	1,610	1,620	1,640
MW-7S	Boron, total	mg/L	2	--	--	3.73
MW-7S	Sulfate, total	mg/L	400	--	--	408

Notes:
-- = data not available (well reported as dry during compliance sampling event)
LCL = Lower Confidence Level
mg/L = milligrams per liter

Table 3-4. Summary of Groundwater Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

HSU	Location	Parameter	Unit	Sample Count	Non-Detect Results	Percent Non-Detect Results	First Sample	Last Sample	Minimum	Median	Mean	Maximum
BCU	MW-12D	Boron, total	mg/L	8	0	0	02/25/2021	08/11/2021	0.709	0.836	0.857	1.08
BCU	MW-12D	Sulfate, total	mg/L	8	8	100	02/25/2021	08/11/2021	<6	<6	<6	<6
BCU	MW-12D	Total Dissolved Solids	mg/L	7	0	0	02/25/2021	08/11/2021	602	614	617	634
CCR	XPW01	Boron, total	mg/L	11	0	0	03/01/2021	06/13/2023	0.527	1.30	1.22	1.58
CCR	XPW01	Sulfate, total	mg/L	11	0	0	03/01/2021	06/13/2023	125	237	247	353
CCR	XPW01	Total Dissolved Solids	mg/L	10	0	0	03/01/2021	06/13/2023	340	529	546	696
CCR	XPW02	Boron, total	mg/L	11	0	0	03/01/2021	06/13/2023	2.39	3.52	3.53	4.23
CCR	XPW02	Sulfate, total	mg/L	11	0	0	03/01/2021	06/13/2023	201	353	345	465
CCR	XPW02	Total Dissolved Solids	mg/L	10	0	0	03/01/2021	06/13/2023	262	819	758	1,010
CCR	XPW03	Boron, total	mg/L	11	0	0	03/02/2021	06/13/2023	2.54	2.92	3.02	4.21
CCR	XPW03	Sulfate, total	mg/L	11	0	0	03/02/2021	06/13/2023	537	715	769	1,110
CCR	XPW03	Total Dissolved Solids	mg/L	10	0	0	03/02/2021	06/13/2023	290	1,335	1,317	1,880
CCR	XPW04	Boron, total	mg/L	11	0	0	03/02/2021	06/13/2023	0.902	1.54	1.57	2.28
CCR	XPW04	Sulfate, total	mg/L	11	0	0	03/02/2021	06/13/2023	29.0	75.0	66.0	104
CCR	XPW04	Total Dissolved Solids	mg/L	10	0	0	03/02/2021	06/13/2023	325	385	383	450
USCU	PZ-4A	Boron, total	mg/L	1	0	0	11/29/2023	11/29/2023	0.963	0.963	0.963	0.963
USCU	PZ-4A	Sulfate, total	mg/L	1	0	0	11/29/2023	11/29/2023	102	102	102	102
USCU	PZ-4A	Total Dissolved Solids	mg/L	1	0	0	11/29/2023	11/29/2023	655	655	655	655
UA	MW-1	Boron, total	mg/L	38	0	0	06/16/2015	11/27/2023	0.192	0.247	0.248	0.352
UA	MW-1	Sulfate, total	mg/L	38	0	0	06/16/2015	11/27/2023	80.0	92.5	94.8	117
UA	MW-1	Total Dissolved Solids	mg/L	38	0	0	06/16/2015	11/27/2023	292	327	330	400
UA	MW-2	Boron, total	mg/L	38	0	0	06/16/2015	11/27/2023	0.0474	0.0713	0.0768	0.152
UA	MW-2	Sulfate, total	mg/L	38	0	0	06/16/2015	11/27/2023	119	146	147	178
UA	MW-2	Total Dissolved Solids	mg/L	38	0	0	06/16/2015	11/27/2023	416	492	500	596
UA	MW-3	Boron, total	mg/L	27	0	0	06/16/2015	11/28/2023	1.02	1.67	1.68	2.40
UA	MW-3	Sulfate, total	mg/L	27	0	0	06/16/2015	11/28/2023	117	143	151	209
UA	MW-3	Total Dissolved Solids	mg/L	27	0	0	06/16/2015	11/28/2023	558	596	613	708
UA	MW-5	Boron, total	mg/L	31	0	0	06/16/2015	11/27/2023	0.464	0.544	0.548	0.657
UA	MW-5	Sulfate, total	mg/L	31	11	35	06/16/2015	11/27/2023	<5	<5	11	14.0
UA	MW-5	Total Dissolved Solids	mg/L	31	0	0	06/16/2015	11/27/2023	564	666	674	760
UA	MW-6	Boron, total	mg/L	31	0	0	06/16/2015	11/28/2023	0.632	1.07	1.12	1.91
UA	MW-6	Sulfate, total	mg/L	31	0	0	06/16/2015	11/28/2023	97.0	157	169	335
UA	MW-6	Total Dissolved Solids	mg/L	31	0	0	06/16/2015	11/28/2023	358	532	540	780
UA	MW-7	Boron, total	mg/L	31	0	0	06/17/2015	11/27/2023	0.0987	0.263	0.290	0.648
UA	MW-7	Sulfate, total	mg/L	31	0	0	06/17/2015	11/27/2023	132	185	211	439
UA	MW-7	Total Dissolved Solids	mg/L	31	0	0	06/17/2015	11/27/2023	430	604	630	1,000
UA	MW-8	Boron, total	mg/L	31	0	0	06/17/2015	11/28/2023	0.858	0.997	1.01	1.51
UA	MW-8	Sulfate, total	mg/L	31	0	0	06/17/2015	11/28/2023	214	281	288	348
UA	MW-8	Total Dissolved Solids	mg/L	31	0	0	06/17/2015	11/28/2023	794	872	878	1,000

Table 3-4. Summary of Groundwater Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

HSU	Location	Parameter	Unit	Sample Count	Non-Detect Results	Percent Non-Detect Results	First Sample	Last Sample	Minimum	Median	Mean	Maximum
UA	MW-11	Boron, total	mg/L	30	0	0	12/15/2015	11/28/2023	1.34	1.67	1.66	2.28
UA	MW-11	Sulfate, total	mg/L	30	0	0	12/15/2015	11/28/2023	88.0	113	113	135
UA	MW-11	Total Dissolved Solids	mg/L	30	0	0	12/15/2015	11/28/2023	554	646	639	678
UA	MW-12	Boron, total	mg/L	30	0	0	12/15/2015	11/28/2023	1.95	3.0	2.98	4.42
UA	MW-12	Sulfate, total	mg/L	30	0	0	12/15/2015	11/28/2023	295	382	377	426
UA	MW-12	Total Dissolved Solids	mg/L	30	0	0	12/15/2015	11/28/2023	908	1,110	1,111	1,230
UA	MW-20	Boron, total	mg/L	12	0	0	02/26/2021	11/28/2023	0.340	0.501	0.502	0.642
UA	MW-20	Sulfate, total	mg/L	12	0	0	02/26/2021	11/28/2023	127	140	145	180
UA	MW-20	Total Dissolved Solids	mg/L	11	0	0	02/26/2021	11/28/2023	572	628	626	666
UA	MW-23	Boron, total	mg/L	12	0	0	02/26/2021	11/28/2023	0.932	2.05	2.03	2.67
UA	MW-23	Sulfate, total	mg/L	12	0	0	02/26/2021	11/28/2023	33.0	45.0	44.8	55.0
UA	MW-23	Total Dissolved Solids	mg/L	11	0	0	02/26/2021	11/28/2023	566	594	598	634
UA	MW-28	Boron, total	mg/L	12	0	0	02/24/2021	11/28/2023	7.96	9.36	9.35	10.9
UA	MW-28	Sulfate, total	mg/L	12	0	0	02/24/2021	11/28/2023	774	886	870	951
UA	MW-28	Total Dissolved Solids	mg/L	11	0	0	02/24/2021	11/28/2023	1,570	1,720	1,717	1,860
UA	MW-30	Boron, total	mg/L	12	0	0	02/25/2021	11/28/2023	1.06	1.16	1.19	1.60
UA	MW-30	Sulfate, total	mg/L	12	2	17	02/25/2021	11/28/2023	<6	16.0	24.3	85.0
UA	MW-30	Total Dissolved Solids	mg/L	11	0	0	02/25/2021	11/28/2023	565	678	657	690
UA	MW-31	Boron, total	mg/L	12	0	0	02/24/2021	11/27/2023	0.210	0.272	0.275	0.369
UA	MW-31	Sulfate, total	mg/L	12	12	100	02/24/2021	11/27/2023	<6	<6	<6	<6
UA	MW-31	Total Dissolved Solids	mg/L	11	0	0	02/24/2021	11/27/2023	530	614	603	658
UA	MW-32	Boron, total	mg/L	12	0	0	02/25/2021	11/27/2023	1.38	1.64	1.65	1.88
UA	MW-32	Sulfate, total	mg/L	12	0	0	02/25/2021	11/27/2023	340	448	433	477
UA	MW-32	Total Dissolved Solids	mg/L	11	0	0	02/25/2021	11/27/2023	1,050	1,180	1,139	1,190
UA	PZ-4C	Boron, total	mg/L	11	0	0	02/25/2021	11/28/2023	1.15	1.57	1.53	1.93
UA	PZ-4C	Sulfate, total	mg/L	11	0	0	02/25/2021	11/28/2023	38.0	71.0	70.5	82.0
UA	PZ-4C	Total Dissolved Solids	mg/L	10	0	0	02/25/2021	11/28/2023	500	566	557	582
UA	MW-4	Boron, total	mg/L	22	0	0	06/16/2015	09/05/2023	0.339	0.564	0.561	0.843
UA	MW-4	Sulfate, total	mg/L	22	0	0	06/16/2015	09/05/2023	11.0	36.5	41.0	74.0
UA	MW-4	Total Dissolved Solids	mg/L	22	0	0	06/16/2015	09/05/2023	432	482	491	552
UA	MW-9	Boron, total	mg/L	18	0	0	06/17/2015	09/07/2023	0.0605	0.101	0.108	0.182
UA	MW-9	Sulfate, total	mg/L	18	0	0	06/17/2015	09/07/2023	33.0	85.0	88.2	152
UA	MW-9	Total Dissolved Solids	mg/L	18	0	0	06/17/2015	09/07/2023	230	358	358	494
UA	MW-10	Boron, total	mg/L	17	0	0	06/17/2015	02/01/2023	0.685	1.43	1.33	1.69
UA	MW-10	Sulfate, total	mg/L	17	0	0	06/17/2015	02/01/2023	310	428	424	535
UA	MW-10	Total Dissolved Solids	mg/L	17	0	0	06/17/2015	02/01/2023	728	1,100	1,044	1,490
UA	MW-22	Boron, total	mg/L	4	0	0	02/26/2021	05/18/2021	1.44	1.46	1.48	1.55
UA	MW-22	Sulfate, total	mg/L	4	0	0	02/26/2021	05/18/2021	104	118	116	123
UA	MW-22	Total Dissolved Solids	mg/L	4	0	0	02/26/2021	05/18/2021	494	503	502	510

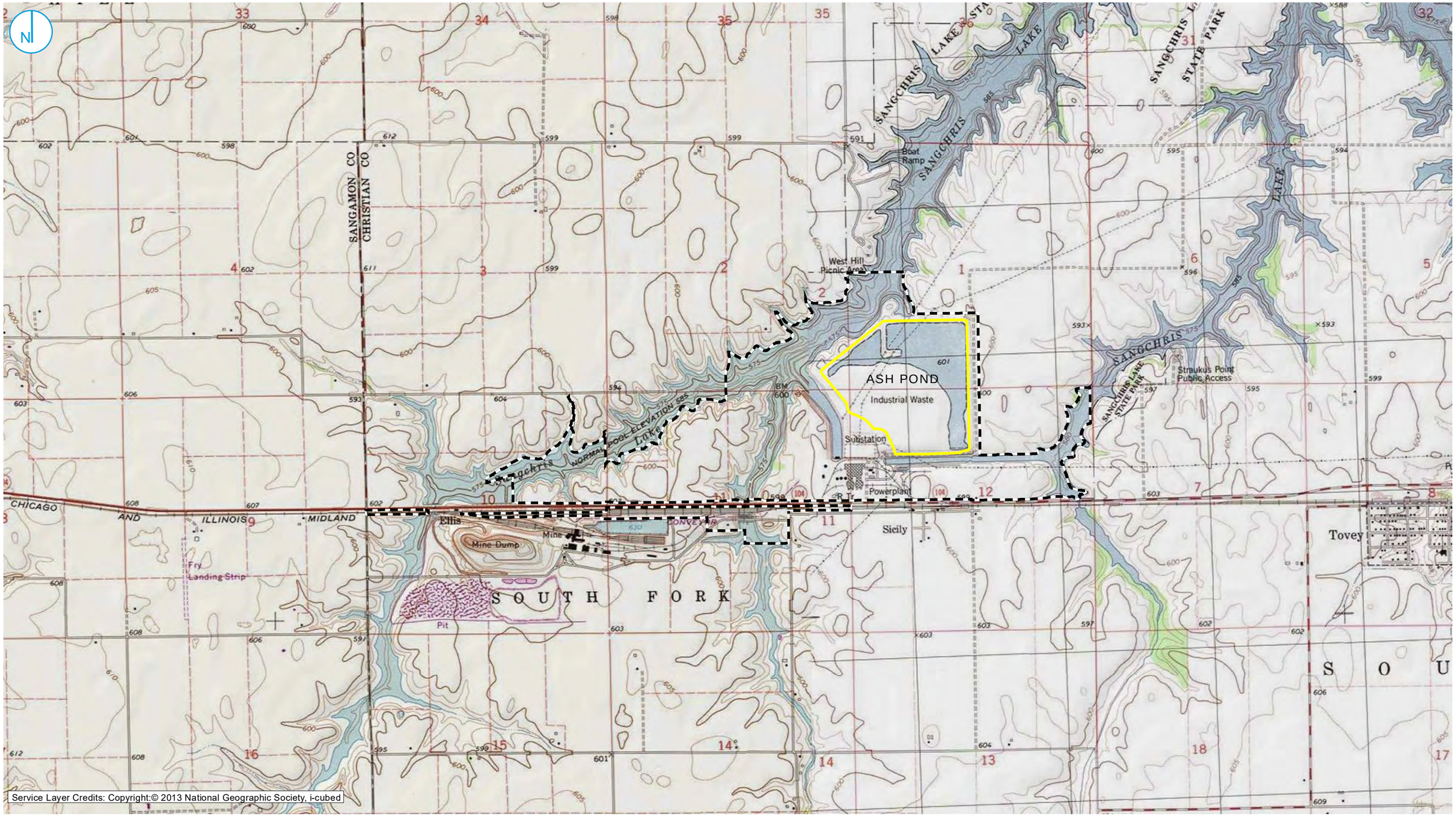
Table 3-4. Summary of Groundwater Data
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

HSU	Location	Parameter	Unit	Sample Count	Non-Detect Results	Percent Non-Detect Results	First Sample	Last Sample	Minimum	Median	Mean	Maximum
UA	MW-24	Boron, total	mg/L	4	0	0	03/01/2021	05/19/2021	0.124	0.209	0.196	0.242
UA	MW-24	Sulfate, total	mg/L	4	0	0	03/01/2021	05/19/2021	59.0	69.0	68.2	76.0
UA	MW-24	Total Dissolved Solids	mg/L	4	0	0	03/01/2021	05/19/2021	608	664	652	670
UA	MW-26	Boron, total	mg/L	4	0	0	02/25/2021	05/21/2021	1.07	1.10	1.14	1.32
UA	MW-26	Sulfate, total	mg/L	4	0	0	02/25/2021	05/21/2021	175	180	183	196
UA	MW-26	Total Dissolved Solids	mg/L	4	0	0	02/25/2021	05/21/2021	660	710	701	724
UA	MW-29	Boron, total	mg/L	8	0	0	02/25/2021	08/11/2021	1.57	1.66	1.72	2.01
UA	MW-29	Sulfate, total	mg/L	8	0	0	02/25/2021	08/11/2021	148	152	153	163
UA	MW-29	Total Dissolved Solids	mg/L	7	0	0	02/25/2021	08/11/2021	756	774	774	790
USCU	MW-7S	Boron, total	mg/L	10	0	0	02/24/2021	11/27/2023	3.56	4.25	4.37	5.51
USCU	MW-7S	Sulfate, total	mg/L	10	0	0	02/24/2021	11/27/2023	343	476	480	577
USCU	MW-7S	Total Dissolved Solids	mg/L	9	0	0	02/24/2021	11/27/2023	414	1,130	1,070	1,300
USCU	MW-8S	Boron, total	mg/L	4	0	0	02/24/2021	05/21/2021	0.742	1.04	0.979	1.10
USCU	MW-8S	Sulfate, total	mg/L	4	0	0	02/24/2021	05/21/2021	427	576	547	609
USCU	MW-8S	Total Dissolved Solids	mg/L	4	0	0	02/24/2021	05/21/2021	1,150	1,200	1,218	1,320
USCU	MW-20S	Boron, total	mg/L	12	0	0	02/26/2021	11/28/2023	0.0611	1.51	1.48	2.19
USCU	MW-20S	Sulfate, total	mg/L	12	0	0	02/26/2021	11/28/2023	243	349	346	519
USCU	MW-20S	Total Dissolved Solids	mg/L	11	0	0	02/26/2021	11/28/2023	842	936	982	1,250
USCU	MW-27	Boron, total	mg/L	9	0	0	02/24/2021	02/01/2023	0.774	1.27	1.20	1.50
USCU	MW-27	Sulfate, total	mg/L	9	0	0	02/24/2021	02/01/2023	232	308	295	346
USCU	MW-27	Total Dissolved Solids	mg/L	8	0	0	02/24/2021	02/01/2023	344	976	928	1,100
USCU	MW-31S	Boron, total	mg/L	11	0	0	02/24/2021	11/27/2023	0.0340	0.0539	0.0507	0.0606
USCU	MW-31S	Sulfate, total	mg/L	10	1	10	02/24/2021	11/27/2023	<6	90.0	102	216
USCU	MW-31S	Total Dissolved Solids	mg/L	9	0	0	02/24/2021	11/27/2023	635	820	803	900
USCU	MW-12S	Boron, total	mg/L	8	0	0	02/25/2021	08/11/2021	0.856	1.50	1.60	2.63
USCU	MW-12S	Sulfate, total	mg/L	8	0	0	02/25/2021	08/11/2021	118	194	185	243
USCU	MW-12S	Total Dissolved Solids	mg/L	7	0	0	02/25/2021	08/11/2021	598	730	735	884
USCU	MW-25	Boron, total	mg/L	5	0	0	02/25/2021	08/11/2021	1.04	1.08	1.09	1.14
USCU	MW-25	Sulfate, total	mg/L	5	0	0	02/25/2021	08/11/2021	174	177	182	205
USCU	MW-25	Total Dissolved Solids	mg/L	5	0	0	02/25/2021	08/11/2021	436	448	446	454

Notes:
< = less than the method detection limit
HSU = Hydrostratigraphic Unit
BCU = Bedrock Confining Unit
CCR = Coal Combustion Residuals
UA = Uppermost Aquifer
USCU = Upper Semi-Confining Unit
mg/L = milligrams per liter

FIGURES

Y:\Mapping\Projects\22\2285\MXD\845_Operating_PermitKincaidFigure 1-1_Site Location Map.mxd



PROJECT: 169000XXXX | DATED: 8/5/2021 | DESIGNER: galarnme

REGULATED UNIT (SUBJECT UNIT)

PROPERTY BOUNDARY

0 1,000 2,000 Feet

SITE LOCATION MAP

NATURE AND EXTENT REPORT
ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\222285\MXD\845_Operating_Permit\Kincaid\Figure 1-2_Site_Map.mxd



PROJECT: 169000XXXX | DATED: 8/5/2021 | DESIGNER: galarnmc

REGULATED UNIT (SUBJECT UNIT)

PROPERTY BOUNDARY

0 250 500 Feet

SITE MAP

NATURE AND EXTENT REPORT
ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22285\MXD\845_Operating_Permit\Kincaid\Figure 2-6_Bottom of Ash.mxd



PROJECT: 169000XXXX | DATED: 9/30/2021 | DESIGNER: STOLZSD

5 FOOT HISTORIC ELEVATION CONTOUR
4 FOOT HISTORIC ELEVATION CONTOUR
REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 250 500 Feet

BASE OF CCR

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\Nature_and_Extent\KINature_and_Extent_Report\Figure 2-4_Monitoring Well Location.mxd
PROJECT: 169000XXXX | DATED: 4/30/2024 | DESIGNER: galammc



- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- STAFF GAGE, LAKE
- STAFF GAGE, CCR UNIT
- 35 I.A.C. § 845 REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY

MONITORING WELL LOCATION MAP

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

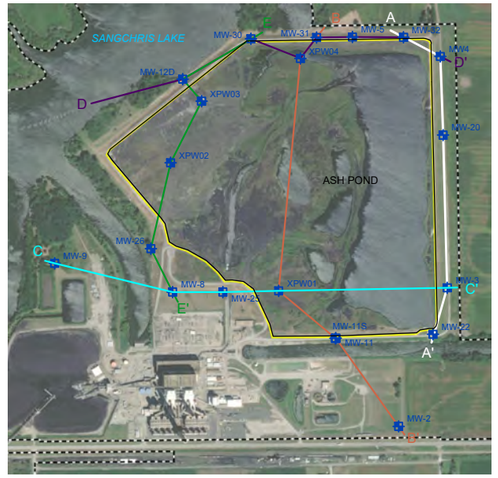
FIGURE 2-4

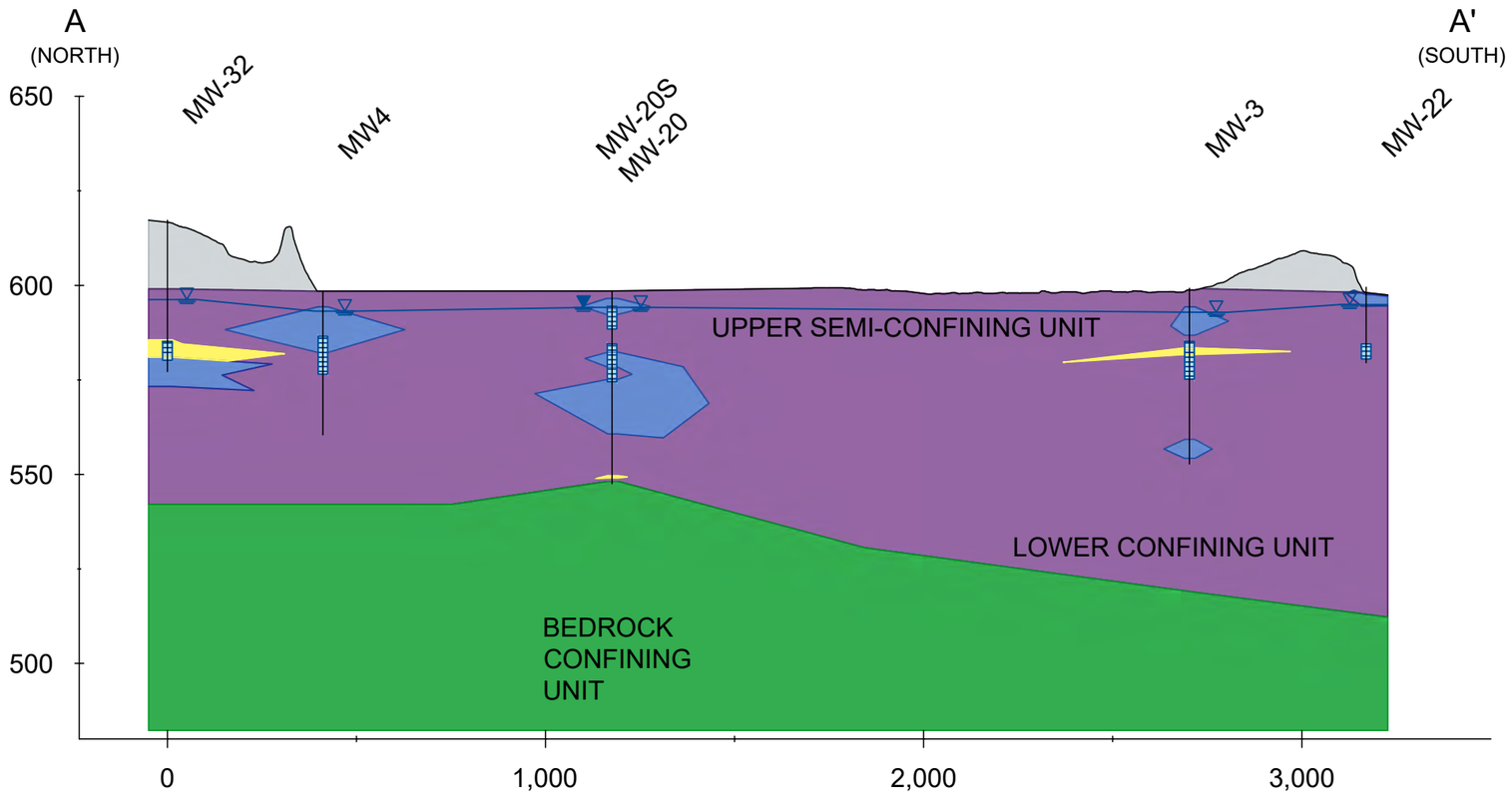
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

NOTES

1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Vertical Datum: NAVD88
5. Groundwater elevations measured on July 22-23, 2021.





LEGEND

- COAL COMBUSTION RESIDUALS, CCRs
- FILL
- CLAY (CL/CH)
- SILT (ML)
- SAND (SP/SM/SW)
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE, SANDSTONE, V. LITTLE SS)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPER AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- BEDROCK GROUNDWATER / OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)

40' 0 400'

GEOLOGIC CROSS SECTION A-A'

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-5

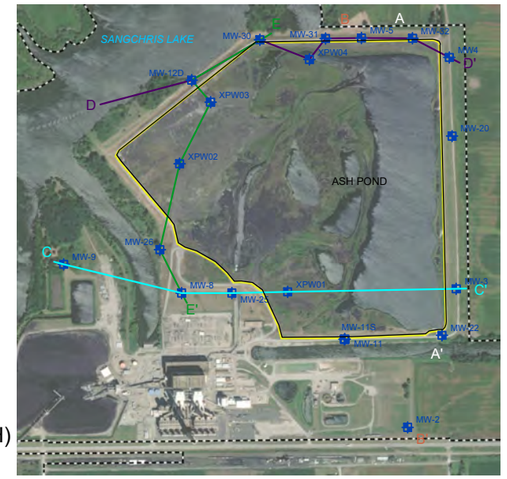
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

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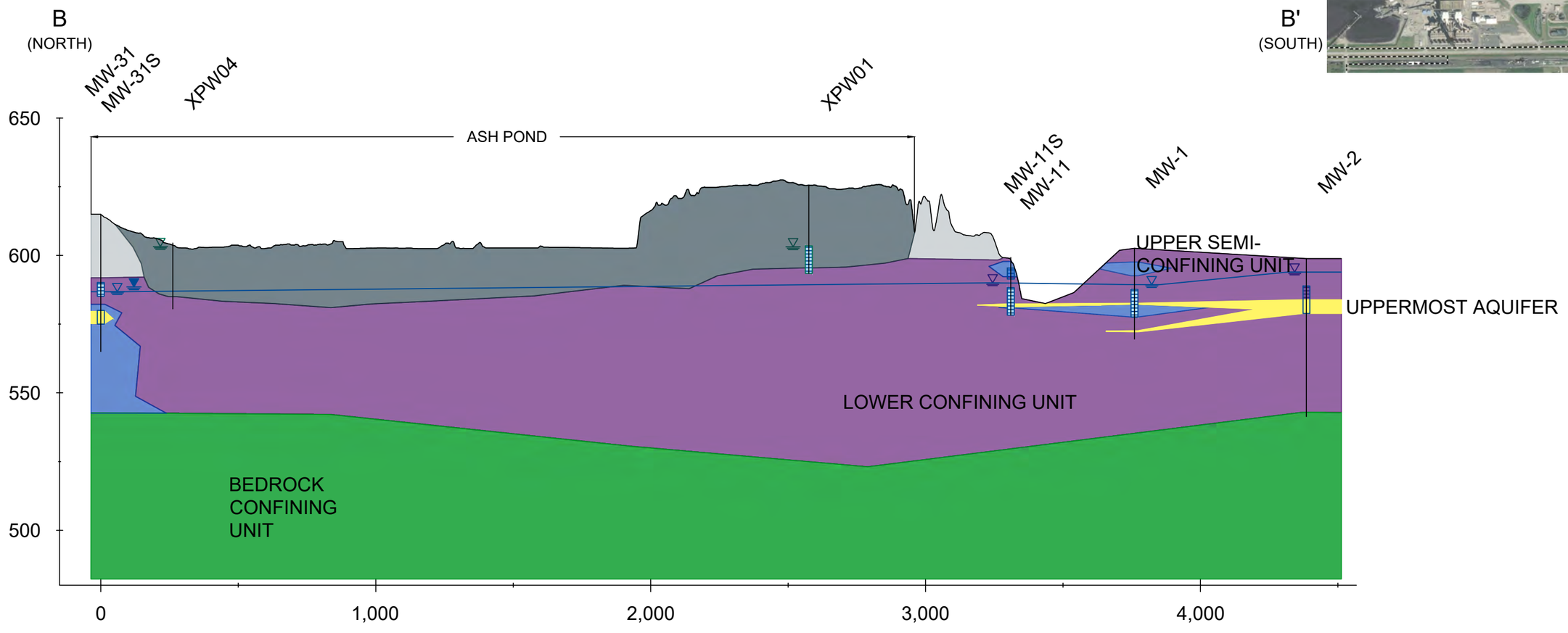
NOTES

1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Vertical Datum: NAVD88
5. Groundwater elevations measured on July 22-23, 2021.



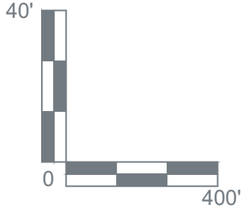
B
(NORTH)

B'
(SOUTH)



LEGEND

- COAL COMBUSTION RESIDUALS, CCRs
- FILL
- CLAY (CL/CH)
- SILT (ML)
- SAND (SP/SM/SW)
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE, SANDSTONE, V. LITTLE SS)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPER AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- BEDROCK GROUNDWATER / OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)



GEOLOGIC CROSS SECTION B-B'

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-6

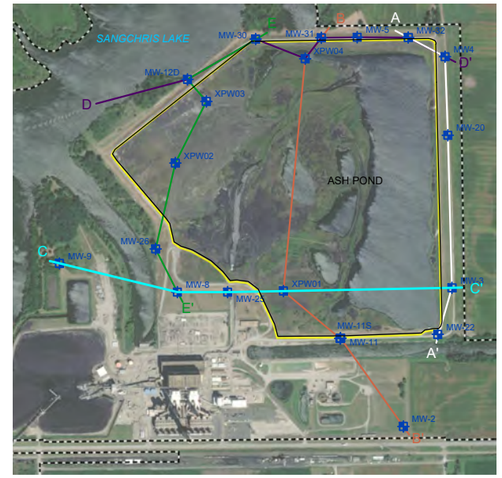
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

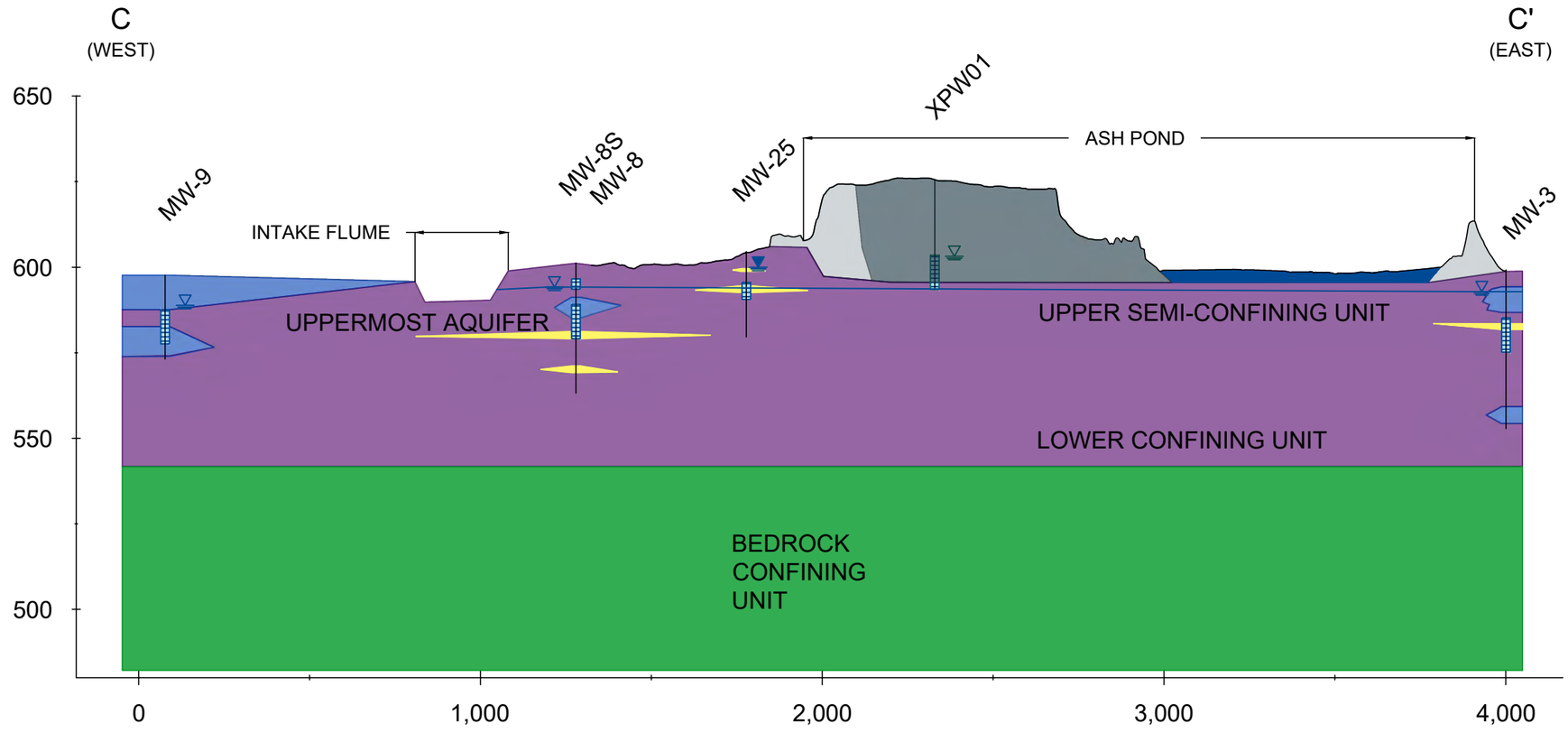
RAMBOLL

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NOTES

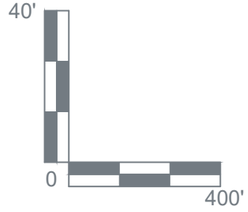
1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Vertical Datum: NAVD88
5. Groundwater elevations measured on July 22-23, 2021.





LEGEND

- SURFACE WATER
- COAL COMBUSTION RESIDUALS, CCRs
- FILL
- CLAY (CL/CH)
- SILT (ML)
- SAND (SP/SM/SW)
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE, SANDSTONE, V. LITTLE SS)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPER AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- BEDROCK GROUNDWATER / OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)



GEOLOGIC CROSS SECTION C-C'

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-7

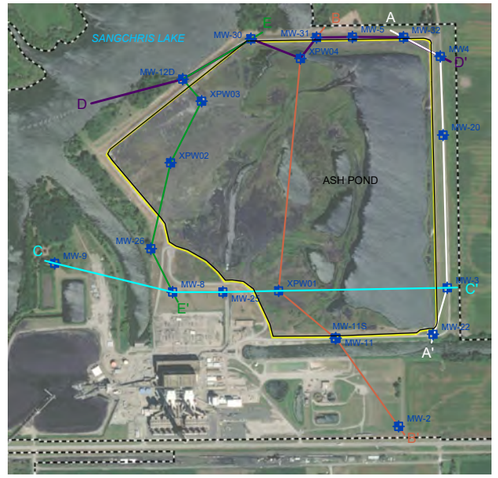
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: \\amrobbs\shared\projects\1690000\1690161\Documents\-CCR GW\Deliverables\Part 845 Operating Permits\Sites\Kincaid\Hydrogeo\Figures\EVS\working files\CAD\Cross Sections\Kincaid Cross Sections.dwg

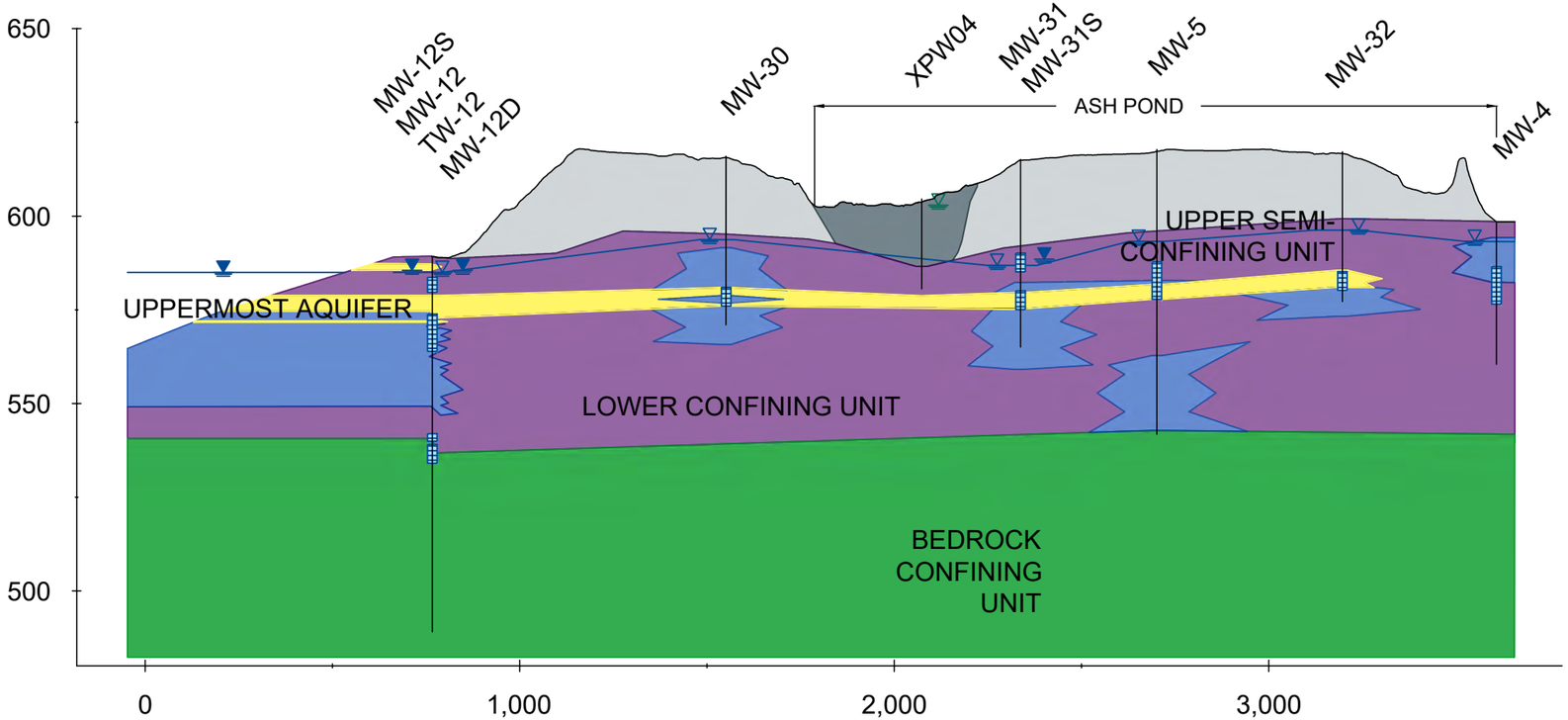
NOTES

1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Vertical Datum: NAVD88
5. Groundwater elevations measured on July 22-23, 2021.



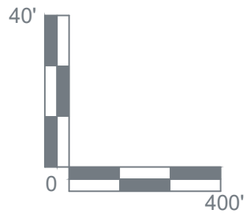
D
(WEST)

D'
(EAST)



LEGEND

- COAL COMBUSTION RESIDUALS, CCRs
- FILL
- CLAY (CL/CH)
- SILT (ML)
- SAND (SP/SM/SW)
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE, SANDSTONE, V. LITTLE SS)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPER AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- BEDROCK GROUNDWATER / OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)
- SURFACE WATER



GEOLOGIC CROSS SECTION D-D'

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-8

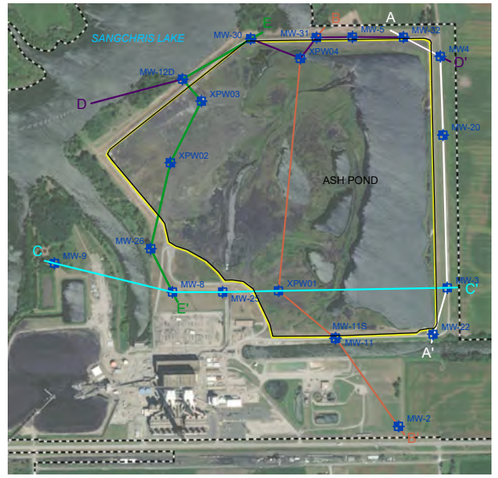
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

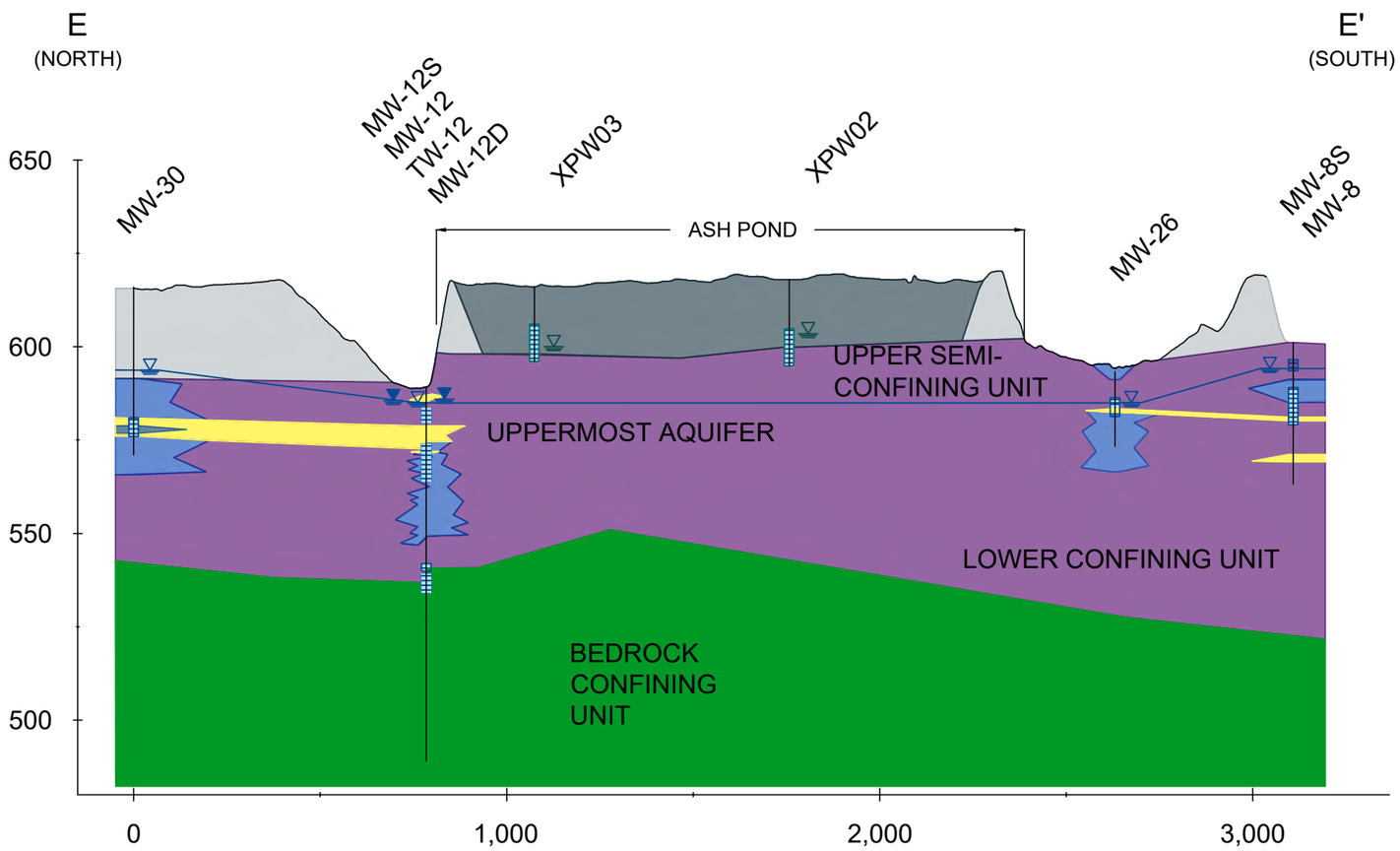
RAMBOLL

PROJECT: \\ramboldata.com\projects\USA\Kincaid\Hydrogeo\Figures\EVS\working files\CAD\Cross Sections\Kincaid Cross Sections.dwg
DATE: 10/28/2021 10:49:44 AM
XREF: C:\Users\kevin.stevens\Documents\CCR GW\Deliverables\Part 845 Operating Permits\Sites\Kincaid\Hydrogeo\Figures\EVS\working files\CAD\Cross Sections\Kincaid Cross Sections.dwg

NOTES

1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Vertical Datum: NAVD88
5. Groundwater elevations measured on July 22-23, 2021.





LEGEND

- COAL COMBUSTION RESIDUALS, CCRs
- FILL
- CLAY (CL/CH)
- SILT (ML)
- SAND (SP/SM/SW)
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE, SANDSTONE, V. LITTLE SS)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPER AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- BEDROCK GROUNDWATER / OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)

40' 0 400'

GEOLOGIC CROSS SECTION E-E'

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

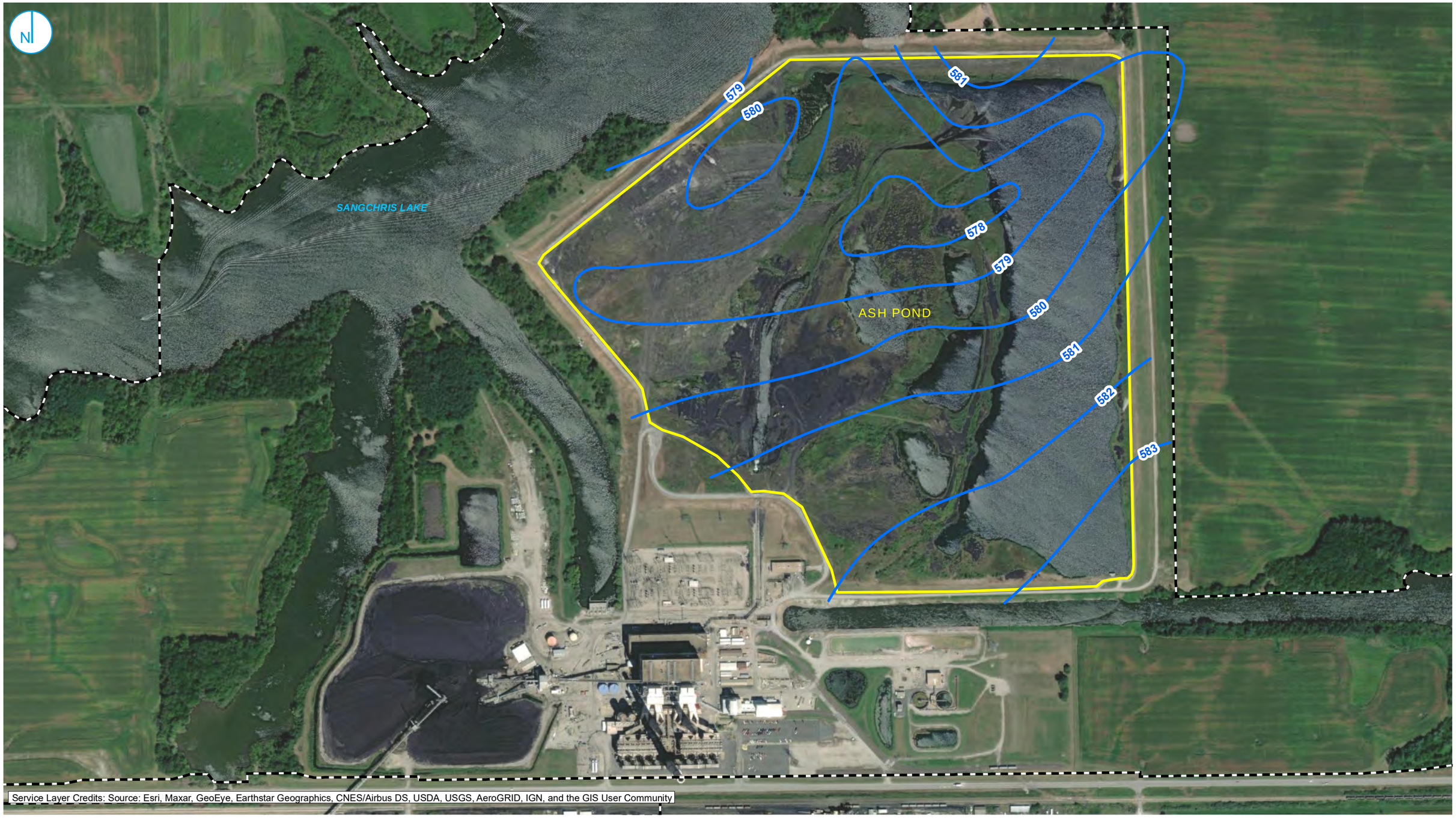
FIGURE 2-9

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 1690008.0000 DRAWN BY: MW DESIGNED BY: MW CHECKED BY: TM DATE: 10/28/2021 FILE: \\amrdata.ramboll.com\projects\US\Kincaid\Hydrogeo\Documents\CCR GW\Deliverables\Part 845 Operating Permits\Sites\Kincaid\Hydrogeo\Figures\EVS\working files\CAD\Cross Sections\Kincaid Cross Sections.dwg

Y:\Mapping\Projects\22\2285\MXD\845_Operating_PermitKincaid\Figure 3-2_Top of Uppermost Aquifer.mxd
PROJECT: 169000XXXX | DATED: 8/18/2021 | DESIGNER: STOLZSD



INTERPRETED TOP OF UPPERMOST AQUIFER (95TH PERCENTILE GROUNDWATER ELEVATION CONTOURS)

REGULATED UNIT (SUBJECT UNIT)

PROPERTY BOUNDARY

0 250 500 Feet

NOTE
TOP OF AQUIFER CONTOURS GENERATED IN 2018 (HALEY & ALDRICH, INC., 2018) FOR 40 C.F.R. § 257; CONTOURS HAVE NOT BEEN MODIFIED USING BORING DATA COLLECTED IN 2021, ALTHOUGH THE SEPARATION DISTANCE BETWEEN TOP OF UPPERMOST AQUIFER AND BASE OF ASH IS CONSISTENT.

TOP OF UPPERMOST AQUIFER

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-10

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22851\MXD\GW_Contours\Round_2023\Kincaid\2023_04_Kincaid_Pot_Map.aprx
PROJECT: 169000XXXX | DATED: 10/27/2023 | DESIGNER: egreaves

N

SANGCHRIS LAKE

ASH POND

MW-30 593.27
MW-31 586.12
MW-31S (593.71)
MW-5 592.62
MW-32 590.74
MW-4 593.26
XPW04 (602.59)
MW-12S (584.60)
MW-12D (587.26)
MW-12 584.41
MW-29
XPW03 (600.54)
MW-28 593.98
MW-6 590.27
XPW02 (603.22)
MW-7S DRY
MW-7 588.30
MW-27 (585.60)
MW-20S (594.26)
MW-20 594.37
PZ-4A
PZ-4B
PZ-4C 593.42
MW-26
MW-9 589.25
MW-8 593.39
MW-8S DRY
MW-25
XPW01 (602.85)
MW-3 592.62
SG-02 (585.01)
MW-24
MW-11S
MW-23 593.65
XSG-01 (605.10)
MW-22
MW-11 590.08
MW-1 589.14
MW-2 593.73
MW-10 587.32

586 588 590 592 594

NOTES:
**SANGCHRIS LAKE ELEVATION OBTAINED FROM A TRANSDUCER MONITORING WATER LEVELS LOCATED NEAR PLANT INTAKE (SG-02). ELEVATION DATUM PRE-DATED NAVD88 AND WAS ASSUMED TO BE IN NGVD29. ELEVATION DATA WAS CONVERTED TO NAVD88. THE AVERAGE ELEVATION FROM JUNE 12, 2023 WAS ESTIMATED TO THE NEAREST 0.1 FOOT.
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- PORE WATER WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

0 250 500 Feet

UPPERMOST AQUIFER POTENTIOMETRIC SURFACE MAP JUNE 12, 2023 (E001)

NATURE AND EXTENT REPORT ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2-11

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\2212285\MXD\Nature_and_Extent\KIN\Nature_and_Extent_Report\Figure 3-1. KIN_GWPS UA.mxd



PROJECT: 1690000XXXX | DATED: 4/22/2024 | DESIGNER: galarnmc

- TOTAL BORON EXCEEDANCE
- TOTAL SULFATE EXCEEDANCE
- TOTAL DISSOLVED SOLIDS EXCEEDANCE
- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY

0 250 500 Feet

GWPS EXCEEDANCE MAP UPPERMOST AQUIFER

NATURE AND EXTENT REPORT ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 3-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22885\MXD\Nature_and_Extent\KIN\Nature_and_Extent_Report\Figure 3-2. KIN GWPS USCU.mxd



- TOTAL BORON EXCEEDANCE
- TOTAL SULFATE EXCEEDANCE
- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY

0 250 500 Feet

GWPS EXCEEDANCE MAP
UPPER SEMI-CONFINING UNIT AND POTENTIAL MIGRATION PATHWAY

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 3-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 1690000XXXX | DATED: 4/23/2024 | DESIGNER: galammc



PROJECT: 169000XXXXX | DATED: 4/26/2024 | DESIGNER: galarmmc
Y:\Mapping\Projects\222285\MXD\Nature_and_Extent\KIN\Nature_and_Extent_Report\Figure 3-X_Surface Water Sampling Locations.mxd

- SURFACE WATER SAMPLE
- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER
- REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY

0 250 500 Feet

SURFACE WATER SAMPLING LOCATIONS

NATURE AND EXTENT REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 3-3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

APPENDICES

APPENDIX A
CCR Geotechnical and Analytical Results

TABLE 2-1. GEOTECHNICAL RESULTS
HYDROGEOLOGIC SITE CHARACTERIZATION REPORT
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample ID	Field Location ID	Top of Sample (ft bgs)	Bottom of Sample (ft bgs)	Moisture Content (%)	Dry Density (pcf)	Specific Gravity	Calculated Porosity [1] (%)	Vertical Hydraulic Conductivity (cm/s)	LL	PL	PI	Laboratory USCS	Gravel (%)	Sand (%)	Fines (%)
CCR															
XPW01 (8.5-9)	XPW01	8.5	9	19.4	74.8	2.790	57%	7.2E-04	12	14	NP	SP	0	97.4	2.6
XPW01 (20.5-21)	XPW01	20.5	21	26.8	79.2	2.838	55%	3.5E-04	17	15	2	SP	0	96.3	3.7
XPW02 (8.5-9)	XPW02	8.5	9	11.8	62.7	2.787	64%	4.0E-03	4	9	NP	SP-SM	0	94.1	5.9
XPW02 (21-21.5)	XPW02	21	21.5	13.9	93.9	2.799	46%	1.9E-03	8	11	NP	SP-SM	0	94.5	5.5
XPW03 (8-8.5)	XPW03	8	8.5	27.4	86.9	2.805	50%	4.3E-03	14	13	1	SW-SM	0.2	91.4	8.4
XPW03 (18-18.5)	XPW03	18	18.5	36.4	89.3	2.770	48%	3.5E-03	5	10	NP	SP	1.6	97.1	1.3
XPW04 (10.5-11)	XPW04	10.5	11	18.3	77.4	2.786	55%	9.2E-04	3	6	NP	SP	0.2	98.4	1.4
XPW04 (21-21.5)	XPW04	21	21.5	32.3	81.3	2.795	53%	5.5E-04	15	16	NP	SP	0	97.3	2.7
Upper Cahokia Formation															
MW-12D (5-7)	MW-12D	5	7	18.6	97.8	2.682	42%	3.2E-07	22	13	9	SC	4.9	49.8	45.3
MW-12D (11.5-12)	MW-12D	11.5	12	18.2	94.5	2.704	44%	7.2E-08	22	12	10	CL	1.1	34.7	64.2
MW-23 (15-17)	MW-23	15	17	28.4	92.7	2.705	45%	7.4E-08	43	17	26	CL	0	2.5	97.5
Lower Cahokia Formation															
MW-12D (20.5-22.5)	MW-12D	20.5	22.5	14.0	106.9	2.672	36%	2.0E-07	22	13	9	SC	6	46.4	47.6
MW-20 (15-17)	MW-20	15	17	18.9	107.7	2.701	36%	1.2E-07	32	14	18	CL	0.6	29.9	69.5
MW-23 (25-27)	MW-23	25	27	15.6	112.3	2.731	34%	5.9E-08	32	14	18	CL	0	41.6	58.4

[O: SSW 04/30/21; U: CJC 08/11/21; C: LDC 08/17/21; U: LDC 09/13/21; C: EJT 09/19/21]

Notes:
[1] Porosity calculated as relationship of bulk density (p_b) to particle density (p_d) (n = 100[1- (p_b/p_d)])
bgs = below ground surface
CCR = coal combustion residuals
cm/s = centimeters per second
ft = foot/feet
LL = Liquid limit
NP = Non-Plastic
pcf = pounds per cubic foot
PI = Plasticity Index
PL = Plastic Limit
% = percent

USCS = Unified Soil Classification System
CL = Lean Clay
SC = Clayey Sand
SP = Poorly Graded Sand
SP-SM = Poorly Graded Sand with Silt
SW-SM = Well Graded Sand with Silt

TABLE 2-2. ASH ANALYTICAL RESULTS
HYDROGEOLOGIC SITE CHARACTERIZATION REPORT
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	Sample Depth (ft BGS)	Sample Date	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Lead (mg/kg)	Lithium (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)
XPW01	6-8	02/01/2021	1.12	1.84	83.8	2.31	107	<0.19	37.7	5.18	3.99	10.7	<0.011	3.35	<0.96	0.19
XPW01	16-18	02/01/2021	<0.73	0.63	34.4	0.74	30.1	<0.19	11.5	2.16	0.68	4.43	<0.012	1.55	<0.93	0.28
XPW01	26-28	02/01/2021	<0.77	1.4	22.7	0.53	21.7	<0.19	7.79	1.4	1.09	2.57	<0.012	1.52	<0.96	<0.19
XPW02	6-8	01/26/2021	0.84	1.36	60.6	1.49	77	0.19	23.4	3.9	5.84	6.75	<0.01	2.08	<0.93	<0.19
XPW02	16-18	01/26/2021	<0.8	2.26	57.7	1.39	69.1	0.26	21.3	4.54	5.68	6.02	<0.012	3.03	<0.96	0.31
XPW03	6-8	01/26/2021	<0.77	1.48	1580	1.23	82.4	0.25	20.6	6.39	4.32	11.1	<0.01	2.09	<0.93	<0.19
XPW03	16-18	01/26/2021	<0.75	1.31	470	2.59	106	<0.19	56.7	7.33	4.32	13.4	<0.01	3.07	<0.94	<0.19
XPW04	5-7	01/26/2021	<1.92	0.45	164	2.09	84.9	<0.2	48.8	5.44	1.93	10.3	<0.011	2.2	<0.98	<0.2
XPW04	20-20.5	01/26/2021	1.05	0.5	112	1.48	60.2	<0.19	23.9	3.81	1.54	7.28	<0.011	1.46	<0.93	<0.19

Notes:
< = concentration is less than the concentration shown, which corresponds to the reporting limit for the method.
BGS = below ground surface
ft = feet
mg/kg = milligrams per kilogram
generated 10/05/2021, 4:11:38 PM CDT

APPENDIX B
Historic Plat of Survey Map (1966)

SECTION THRU DISCHARGE FLUME
SCALE: 1" = 50'-0"

SECTION THRU INTAKE FLUME
SCALE: 1" = 50'-0"

SOUTH LINE SECTION 2 T-13N R4W
NORTH LINE SECTION 11 T-13N R4W
EAST LINE SECTION 2 T-13N R4W
WEST LINE SECTION 1, T-13N R4W
SOUTH LINE SECTION 1 T-13N R4W
NORTH LINE SECTION 12 T-13N R4W
INTAKE FLUME EL 555.0
MINE #8
MINE #10
FUTURE
COAL STORAGE
1¾ MILLION TONS
50'-0" HIGH
SWITCHYARD
CIRCULATING WATER SUPPLY
TURBINE ROOM
BOILER ROOM
PRECIPITATOR
CRUSHER HOUSE
CONSTRUCTION TRACKS
EL. 565'-0" DISCHARGE FLUME
WEIR & SPILLWAY
FUTURE TRACK TO TRACK HOPPER
MINE CONVEYOR
BM 599.0
HIGHWAY ROUTE Nº 104
C & I M RAILROAD
SEC. 11
SEC. 12
EAST LINE SECTION 11 T13N R4W
WEST LINE SECTION 12 T13N R4W
NORTH

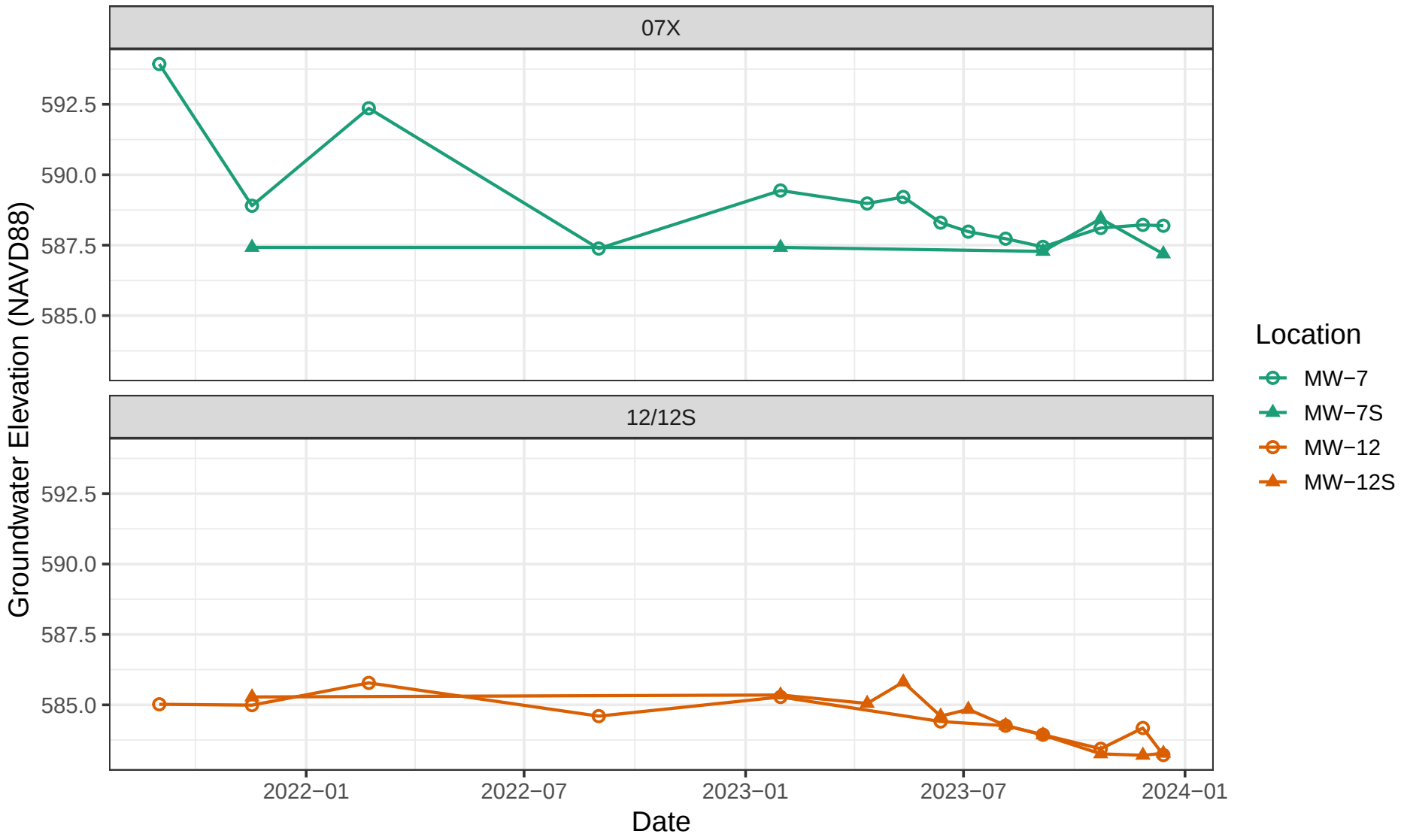
PROPERTY PLAT
UNITS NO. 1 & NO. 2
KINCAID STATION
COMMONWEALTH EDISON CO.
CHICAGO, ILLINOIS

SCALE 1" = 200'-0"
DRAWN F. TROYKE 12-9-66
CHECKED
ENGINEER
APPROVED
JOB NO. 3087

SARGENT & LUNDY
ENGINEERS
CHICAGO 3, ILLINOIS
DRAWING NO.
SCHEME 1

APPENDIX C
Hydrographs Showing Vertical Gradients

Path: dara/Vistra – 845/Corrective Action Assessment/Nature and Extent/Hydrographs



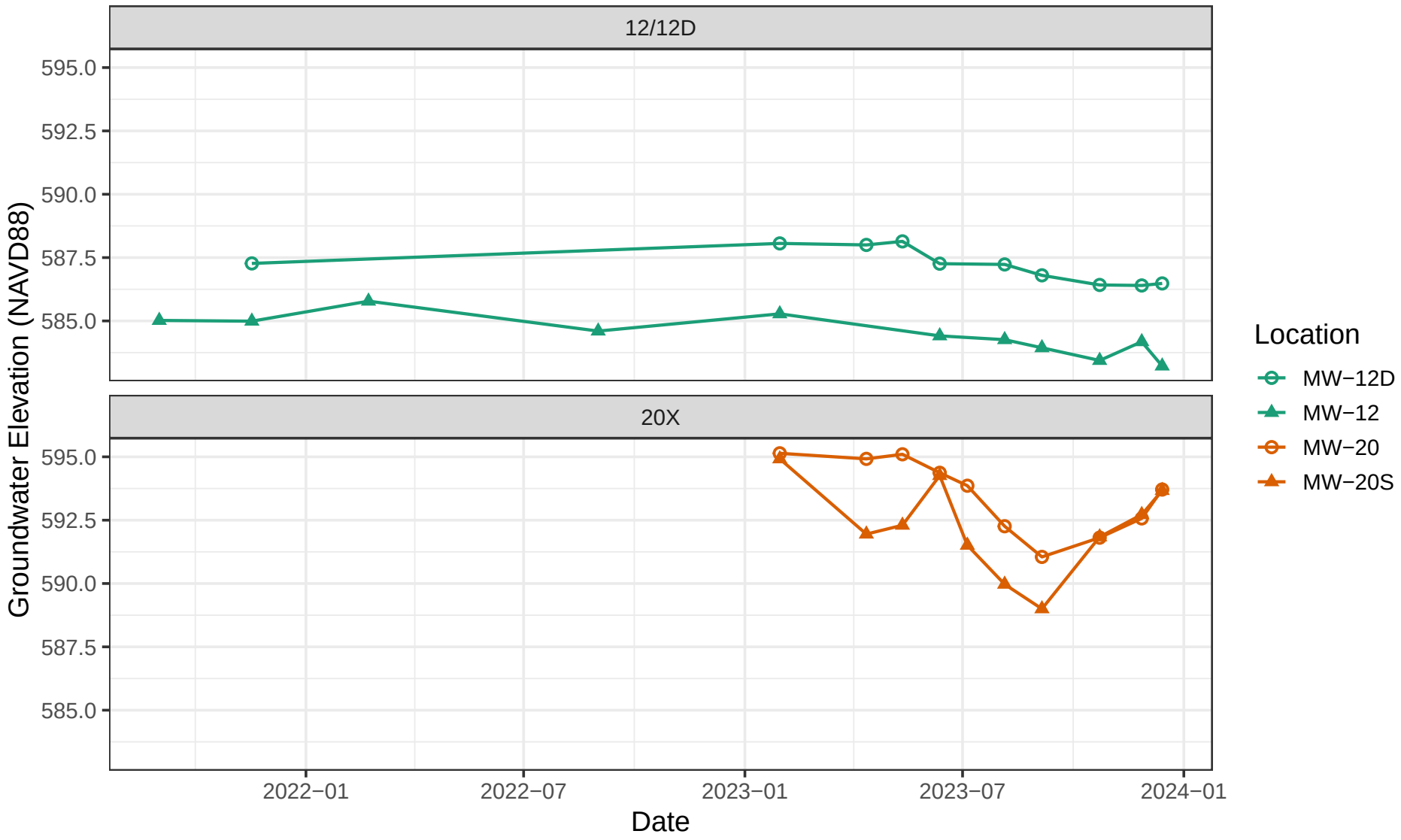
RAMBOLL

Hydrographs
Nature and Extent Report
Kincaid Ash Pond
Kincaid, IL

Figure
1

Drafter: AOC Date: 2024–04–29 Contract Number: 1940103584

Path: dara/Vistra – 845/Corrective Action Assessment/Nature and Extent/Hydrographs



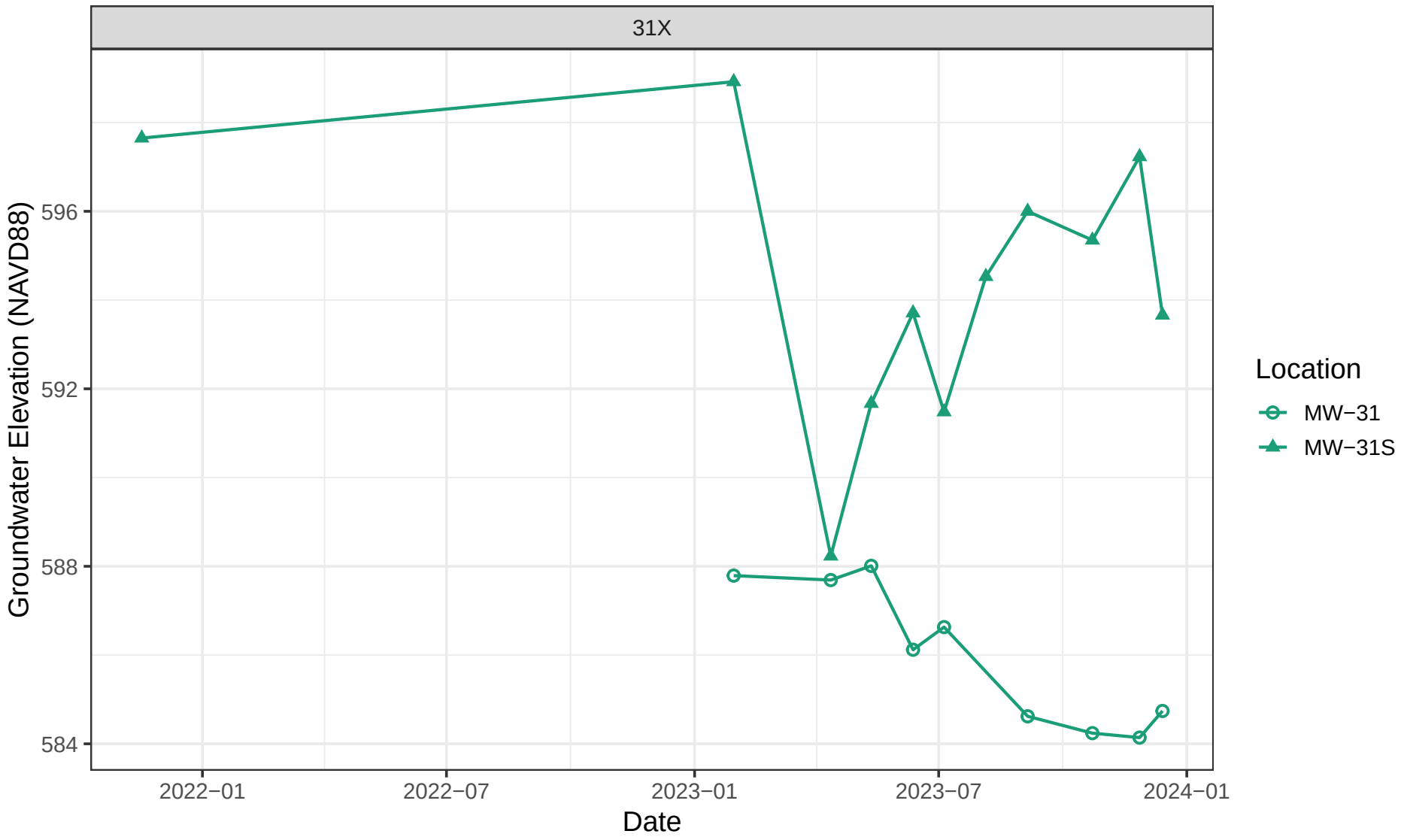
RAMBOLL

Hydrographs
Nature and Extent Report
Kincaid Ash Pond
Kincaid, IL

Figure
2

Drafter: AOC Date: 2024–04–29 Contract Number: 1940103584

Path: dara/Vistra – 845/Corrective Action Assessment/Nature and Extent/Hydrographs



RAMBOLL

Hydrographs
Nature and Extent Report
Kincaid Ash Pond
Kincaid, IL

Figure
3

Drafter: AOC Date: 2024–04–29 Contract Number: 1940103584

APPENDIX D
Vertical Hydraulic Gradients

Appendix D. Vertical Hydraulic Gradients
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Date	MW-12 Groundwater Elevation (ft NAVD88)	MW-12D Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UA	BCU				
02/23/2021	584.12	584.55	-0.43	32.46	-0.013	up
03/15/2021	584.70	585.36	-0.66	32.46	-0.020	up
04/05/2021	585.10	586.23	-1.13	32.46	-0.035	up
05/20/2021	586.59	587.18	-0.59	32.46	-0.018	up
06/10/2021	585.02	586.55	-1.53	32.46	-0.047	up
7/01/2021-7/02/2021	585.41	586.71	-1.30	32.46	-0.040	up
7/22/2021-7/23/2021	584.98	586.58	-1.60	32.46	-0.049	up
8/10/2021-8/11/2021	585.05	586.71	-1.66	32.46	-0.051	up
01/30/2023	585.28	588.06	-2.78	32.46	-0.086	up
04/12/2023	--	588.00	--	--	--	--
05/12/2023	--	588.14	--	--	--	--
06/12/2023	584.41	587.26	-2.85	32.46	-0.088	up
07/05/2023	584.41	587.26	-2.85	32.46	-0.088	up
08/05/2023	584.26	587.23	-2.97	32.46	-0.091	up
09/05/2023	583.94	586.80	-2.86	32.46	-0.088	up
10/23/2023	583.44	586.42	-2.98	32.46	-0.092	up
11/27/2023	584.18	586.40	-2.22	32.46	-0.068	up
12/13/2023	583.22	586.48	-3.26	32.46	-0.100	up
			Middle of screen elevation MW-12			569.0
			Middle of screen elevation MW-12D			536.6

Appendix D. Vertical Hydraulic Gradients
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Date	MW-12S Groundwater Elevation (ft NAVD88)	MW-12 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	PMP	UA				
02/23/2021	584.81	584.12	0.69	12.58	0.055	down
03/15/2021	585.43	584.70	0.73	12.58	0.058	down
04/05/2021	585.53	585.10	0.43	12.58	0.034	down
05/20/2021	587.19	586.59	0.60	12.58	0.048	down
06/10/2021	585.27	585.02	0.25	12.58	0.020	down
7/01/2021-7/02/2021	585.60	585.41	0.19	12.58	0.015	down
7/22/2021-7/23/2021	585.12	584.98	0.14	12.58	0.011	down
8/10/2021-8/11/2021	585.31	585.05	0.26	12.58	0.021	down
01/30/2023	588.06	585.35	2.71	12.58	0.216	down
04/12/2023	585.05	--	--	--	--	--
05/12/2023	585.81	--	--	--	--	--
06/12/2023	587.26	584.60	2.66	12.58	0.212	down
08/05/2023	587.23	584.27	2.96	12.58	0.235	down
09/05/2023	586.80	583.93	2.87	12.58	0.228	down
10/23/2023	586.42	583.26	3.16	12.58	0.251	down
11/27/2023	586.40	583.21	3.19	12.58	0.254	down
12/13/2023	586.48	583.28	3.20	12.58	0.254	down
			Middle of screen elevation MW-12S			581.6
			Middle of screen elevation MW-12			569.0

Appendix D. Vertical Hydraulic Gradients
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Date	MW-31S Groundwater Elevation (ft NAVD88)	MW-31 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	USCU	UA				
02/23/2021	591.18	587.68	3.50	10.11	0.346	down
03/15/2021	591.83	587.96	3.87	10.11	0.383	down
04/05/2021	590.92	587.86	3.06	10.11	0.303	down
05/20/2021	592.83	588.63	4.20	10.11	0.415	down
6/09/2021-6/10/2021	588.77	586.66	2.11	11.25	0.188	down
07/01/2021	588.55	594.19	-5.64	11.03	-0.511	up
7/22/2021-7/23/2021	588.55	586.69	1.86	11.03	0.169	down
01/30/2023	598.92	587.79	11.13	10.11	1.101	down
04/12/2023	588.23	587.69	0.54	10.71	0.050	down
05/12/2023	591.67	588.01	3.66	10.11	0.362	down
06/12/2023	593.71	586.12	7.59	10.11	0.751	down
07/05/2023	591.48	586.63	4.85	10.11	0.480	down
08/05/2023	594.53	--	--	--	--	--
09/05/2023	596.00	584.62	11.38	10.11	1.125	down
10/23/2023	595.35	584.24	11.11	10.11	1.099	down
11/27/2023	597.23	584.14	13.09	10.11	1.295	down
12/14/2023	593.66	584.74	8.92	10.11	0.882	down
			Middle of screen elevation MW-31S			587.6
			Middle of screen elevation MW-31			577.5

Appendix D. Vertical Hydraulic Gradients
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Date	MW-8S Groundwater Elevation (ft NAVD88)	MW-8 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	USCU	UA				
02/23/2021	594.97	595.54	-0.57	10.83	-0.053	up
03/15/2021	594.85	595.97	-1.12	10.71	-0.105	up
04/05/2021	594.45	594.70	-0.25	10.31	-0.024	up
05/21/2021	597.46	597.33	0.13	10.93	0.012	down
06/10/2021	593.90	593.85	0.05	9.76	0.005	down
07/01/2021	--	598.50	--	--	--	--
07/22/2021	--	594.15	--	--	--	--
08/10/2021	--	596.10	--	--	--	--
01/30/2023	594.80	595.14	-0.34	10.66	-0.032	up
04/12/2023	--	594.21	--	--	--	--
05/12/2023	--	594.74	--	--	--	--
06/12/2023	--	593.39	--	--	--	--
07/05/2023	--	594.03	--	--	--	--
08/05/2023	--	593.38	--	--	--	--
09/05/2023	--	593.36	--	--	--	--
10/23/2023	--	593.44	--	--	--	--
11/27/2023	--	593.47	--	--	--	--
12/14/2023	593.84	593.84	0.00	9.70	0.000	flat
			Middle of screen elevation MW-8S			595.1
			Middle of screen elevation MW-8			584.1

Appendix D. Vertical Hydraulic Gradients
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Date	MW-7S Groundwater Elevation (ft NAVD88)	MW-7 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	USCU	UA				
02/23/2021	587.18	589.45	-2.27	6.18	-0.367	up
03/15/2021	587.26	594.86	-7.60	6.26	-1.214	up
04/05/2021	587.12	588.64	-1.52	6.12	-0.248	up
05/21/2021	587.86	591.55	-3.69	6.86	-0.538	up
06/10/2021	587.44	586.86	0.58	6.44	0.090	down
7/01/2021-7/02/2021	587.34	592.54	-5.20	6.34	-0.820	up
7/22/2021-7/23/2021	587.33	587.73	-0.40	6.33	-0.063	up
8/10/2021-8/11/2021	587.73	595.40	-7.67	6.73	-1.140	up
01/30/2023	587.42	589.44	-2.02	6.42	-0.315	up
04/12/2023	--	588.98	--	--	--	--
05/12/2023	--	589.21	--	--	--	--
06/12/2023	--	588.30	--	--	--	--
07/05/2023	--	587.98	--	--	--	--
08/05/2023	--	587.73	--	--	--	--
09/05/2023	587.28	587.44	-0.16	6.28	-0.025	up
10/23/2023	588.44	588.11	0.33	7.44	0.044	down
11/27/2023	--		--	--	--	--
12/14/2023	587.19	588.19	-1.00	6.19	-0.162	up
			Middle of screen elevation MW-7S			587.1
			Middle of screen elevation MW-7			581.0

Appendix D. Vertical Hydraulic Gradients
Nature and Extent Report
Kincaid Power Plant
Ash Pond
Kincaid, Illinois

Date	MW-20S Groundwater Elevation (ft NAVD88) USCU	MW-20 Groundwater Elevation (ft NAVD88) LCU	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
02/23/2021	594.83	594.82	0.01	11.91	0.001	flat
03/15/2021	595.19	595.12	0.07	11.91	0.006	down
04/05/2021	595.05	595.05	0.00	11.91	0.000	flat
05/18/2021-05/19/2021	599.06	598.93	0.13	11.91	0.011	down
06/09/2021	594.64	594.68	-0.04	11.91	-0.003	up
07/01/2021	595.04	595.07	-0.03	11.91	-0.003	up
08/10/2021	594.95	594.91	0.04	11.91	0.003	down
01/30/2023	594.92	595.14	-0.22	11.91	-0.018	up
04/12/2023	591.95	594.92	-2.97	12.43	-0.239	up
05/12/2023	592.30	595.10	-2.80	12.78	-0.219	up
06/12/2023	594.26	594.37	-0.11	14.74	-0.007	up
07/05/2023	591.51	593.86	-2.35	11.99	-0.196	up
08/05/2023	589.97	592.26	-2.29	10.45	-0.219	up
09/05/2023	589.00	591.05	-2.05	9.48	-0.216	up
10/23/2023	591.84	591.81	0.03	12.32	0.002	down
11/27/2023	592.72	592.57	0.15	13.20	0.011	down
12/14/2023	593.67	593.71	-0.04	14.15	-0.003	up
			Middle of screen elevation MW-20S			591.4
			Middle of screen elevation MW-20			579.5

[O:SSW 06/09/21; U:CJC 04/26/24; C: SSW 04/26/24]

Notes:
[1] Distance change was calculated using the midpoint of the piezometer screen and water table surface. If the water table surface was above the top of the monitoring well screen, then distance change was calculated using the midpoint of both screens.
[2] Vertical gradients between ±0.0015 are considered flat, and typically have less than 0.02 foot difference in groundwater elevation between wells.
-- = data not available
BCU = bedrock confining unit
dh = head change
dl = distance change
ft = foot/feet
LCU = lower confining unit
NAVD88 = North American Vertical Datum of 1988
PMP = potential migration pathway
UA = uppermost aquifer
USCU = upper semi-confining unit

APPENDIX E
Technical Memorandum, Surface Water Sampling Summary, Kincaid Power Plant

TECHNICAL MEMORANDUM

DATE December 16, 2021 **Project No.** 21454831

TO David Mitchell, Stu Cravens, Vic Modeer
Kincaid Generation, LLC

CC Brian Hennings - Ramboll

FROM Pat Behling, Jeffrey Ingram - Golder **EMAIL JIngram@golder.com**

SURFACE WATER SAMPLING SUMMARY, KINCAID POWER PLANT, CHRISTIAN COUNTY, ILLINOIS

1.0 INTRODUCTION AND BACKGROUND

Golder Associates USA Inc. (Golder) is pleased to submit this Technical Memorandum summarizing recent surface water sampling activities at the Kincaid Power Plant (KPP or Site) operated by Kincaid Generation, LLC (KG) in Christian County, Illinois. During the field investigation, 32 samples were collected and sent for laboratory analysis from Sangchris Lake, which is adjacent to the Site, in the vicinity of the Primary Ash Pond (PAP, CCR Unit ID 141). A sample location map is provided in **Figure 1**.

2.0 PROJECT SCOPE OF WORK

The scope of work for this project consisted of the following:

- Preparation of a Site-specific Health, Safety, and Environment Plan (HASEP).
- Review of baseline data to determine sample locations and constituents for analysis.
- Collection of 32 surface water samples from Sangchris Lake.
- Preparation of a Technical Memorandum to summarize the sampling and the results.

3.0 FIELD INVESTIGATION

3.1 Health, Safety, and Environment Plan

This work was performed under a Site-Specific HASEP that was approved by KG. The HASEP was prepared in accordance with KG sub-contractor requirements and includes identification of occupation and health and safety hazards (risks) related to the field team, site conditions, specific risk controls, training requirements, personal protective equipment (PPE) requirements, and information on potential emergencies.

3.2 Surface Water Sampling Locations

Surface water sampling on Sangchris Lake was completed on October 6th and October 7th, 2021. To access the sample locations, Golder subcontracted with Environmental Restoration, LLC. (ER) to provide and operate an open boat with a low horsepower outboard motor. Thirty-two (32) surface water samples were collected from

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Sangchris Lake at locations agreed upon prior to sampling between Golder and IPGC. Sample locations were confirmed in the field using a Trimble Geo7X handheld GPS unit as displayed in **Figure 1**.

3.3 Surface Water Sample Collection and Results

At each sampling location, the field methods described in section 3.2.1.3 of the *Surface Water Sampling Work Plan – Kincaid Power Plant, Christian County, Illinois* were completed as applicable. Field parameters including turbidity, pH, specific conductivity, dissolved oxygen, redox potential, and temperature were recorded prior to collecting each sample as shown on the field forms provided in **Appendix A**.

Surface water samples were placed in clean laboratory-supplied containers and properly labeled with well ID, project name, sampler initials, analyses to be performed, date, and time of collection. Sample information was logged on a chain of custody (COC) and the samples and COC were shipped to Teklab, Inc. (Teklab) for analysis. Sampling data validation was completed by Golder following receipt of the analytical data from Teklab. A summary of the results is displayed in **Table 1** and the laboratory data packet from Teklab as well as the data validation is provided in **Appendix B**.

No exceedances of the Site Groundwater Protection Standards (GWPS) used for Part 845 groundwater monitoring were noted based on our initial evaluation of the surface water sampling results. Further evaluation of the surface water data will be completed as part of the MNA evaluation for the site.

4.0 CLOSING

Golder appreciates the opportunity to continue to work on this project. Should you require any additional information about this technical memo, please feel free to contact the undersigned.

Sincerely,

Golder Associates Inc.





Jeffrey Ingram
Senior Project Geologist
JSI/PJB

Patrick J. Behling
Principal and Practice Leader

Attachments: Table 1 – Sangchris Lake Surface Water Sampling Results
Figure 1 – Sangchris Lake Surface Water Sample Locations
Appendix A – Surface Water Sampling Field Forms
Appendix B – Laboratory Analytical Data

Tables

Table 1
Sangchris Lake Sampling Results
Kincaid Power Plant
Christian County, Illinois

Analyte	Units	Site GWPS	K-A-1	K-A-2M	K-A-2D	K-A-3M	K-A-3D	K-B-1	K-B-2M	K-B-2D	K-B-3M
Field Parameters											
Dissolved Oxygen	mg/L	NA	6.98	7.74	7.65	6.27	7.53	7.27	6.85	6.39	6.78
Redox Potential	mV	NA	94.5	93.0	94.3	97.5	97.9	93.0	81.4	88.2	89.3
Specific Conductance	µS/cm	NA	293.2	287.2	288.8	291.2	295.0	298.6	296.7	291.6	293.2
Temperature	°C	NA	23.8	23.8	23.6	23.8	22.8	24.1	23.9	23.9	24.1
Turbidity	NTU	NA	12.6	10.1	14.1	11.3	23.2	13.5	10.7	11.6	10.9
Sample Depth	FT BLE	NA	2.5	5.4	10.3	7.5	15.0	1.0	4.8	9.7	8.6
Part 845 Constituents											
Antimony, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Arsenic, Total	mg/L	0.01	0.0025	0.0026	0.0027	0.0026	0.0029	0.0025	0.0026	0.0027	0.0027
Barium, Total	mg/L	2	0.0694	0.0673	0.0701	0.0704	0.0706	0.0702	0.0716	0.0712	0.0732
Beryllium, Total	mg/L	0.004	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Total	mg/L	2	0.0504	0.0469	0.0564	0.0483	0.0486	0.0649	0.0517	0.0472	0.0471
Cadmium, Total	mg/L	0.005	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Total	mg/L	NA	31.2	31.0	31.6	31.5	32.6	32.0	31.5	30.4	31.6
Chloride, Total	mg/L	200	21	21	20	20	21	20	20	20	21
Chromium, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Fluoride, Total	mg/L	4	0.36	0.36	0.36	0.36	0.35	0.36	0.36	0.36	0.36
Lead, Total	mg/L	0.0075	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Total	mg/L	0.04	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Total	mg/L	0.002	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020
Molybdenum, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
pH	SU	5.6 - 9.0	8.79	8.72	8.69	8.61	8.73	8.52	8.48	8.40	8.45
Radium (226+228)	pCi/L	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	mg/L	0.05	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Sulfate, Total	mg/L	300	30	31	31	31	30	32	31	31	31
Thalium, Total	mg/L	0.002	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Total Dissolved Solids	mg/L	1,200	194 J	190	182	196	188	198	198	190	202
Dissolved Metals											
Antimony, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Arsenic, Dissolved	mg/L	NA	0.0021	0.0021	0.0022	0.0022	0.0023	0.0020	0.0021	0.0021	0.0021
Barium, Dissolved	mg/L	NA	0.0553	0.0549	0.0555	0.0551	0.0520	0.0573	0.0537	0.0551	0.0547
Beryllium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Dissolved	mg/L	NA	0.0411	0.0454	0.0459	0.0452	0.0470	0.0558	0.0404	0.0403	0.0466
Cadmium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Dissolved	mg/L	NA	29.1	29.2	29.2	28.7	29.5	29.8	29.0	28.9	28.8
Chromium, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	0.0024
Cobalt, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lead, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Dissolved	mg/L	NA	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Dissolved	mg/L	NA	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002
Molybdenum, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Selenium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Thalium, Dissolved	mg/L	NA	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Iron Speciation											
Ferric Iron	mg/L	NA	0.250	0.220	0.390	0.210	0.900	0.210	0.220	0.300	0.230
Ferrous Iron	mg/L	NA	ND < 0.020	0.021	0.025	0.021	0.028	0.032	0.032	0.032	0.028
Additional Major Cations/Anions											
Alkalinity, Bicarbonate	mg/L	NA	105	106	106	107	106	112	107	119	113
Alkalinity, Carbonate	mg/L	NA	11	11	11	9	14	6	0	0	4
Sodium, Dissolved	mg/L	NA	11.6	11.5	11.5	11.4	11.6	11.7	11.6	11.4	11.5
Sodium, Total	mg/L	NA	12.2	12.1	12.3	12.3	12.3	12.5	12.3	11.9	12.2
Magnesium, Dissolved	mg/L	NA	18.1	18.1	18.1	17.7	18.3	18.3	18.0	17.9	17.8
Magnesium, Total	mg/L	NA	19.3	19.2	19.6	19.5	20.1	19.7	19.5	18.8	19.5
Potassium, Dissolved	mg/L	NA	2.81	2.83	2.82	2.79	2.84	2.85	2.82	2.80	2.81
Potassium, Total	mg/L	NA	3.03	2.99	3.06	3.06	3.15	3.07	3.04	2.96	3.04
Manganese, Dissolved	mg/L	NA	ND < 0.0020	ND < 0.0020	0.0032	ND < 0.0020	ND < 0.0020	0.0023	ND < 0.0020	ND < 0.0020	ND < 0.0020
Manganese, Total	mg/L	NA	0.0808	0.0787	0.0929	0.0845	0.1170	0.0948	0.0946	0.0989	0.1040
Iron, Dissolved	mg/L	NA	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	0.0371
Iron, Total	mg/L	NA	0.263	0.238	0.416	0.230	0.929	0.240	0.254	0.330	0.261
Additoinal MNA Parameters											
Sulfide, Total	mg/L	NA	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
Total Organic Carbon	mg/L	NA	4.2	4.3	4.3	4.2	4.3	4.5	4.2	4.2	4.3
Nitrate, Total	mg/L	NA	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	0.094
Phosphorus, Total	mg/L	NA	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100

Notes:
1. Unit Abbreviations: °C - degrees celcius, mg/L - milligrams per liter, SU - standard units, mV - millivolts, µS/cm - microsiemens per centimeter, NTU - nephelometric turbidity unit, pCi/L - picocuries per liter, FT BLE - feet below lake elevation.
2. ND - Non Detects. NDs reported as less than the Method Detection Limit (MDL) or adjusted Practical Quanitation Limit (PQL) basd on data validation.
3. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.
4. J - Flags are estimated values based on data validation.
5. Site Groundwater Protection Standards (GWPS) from Table 3-1, Background Groundwater Quality Standards from the Newton Groundwater Monitoring Plan.
6. For pH, the values represent the upper / lower limits. Values outside of these values represents a statistical exceedance.
7. No values are present above the Site GWPS, therefore, no highlighting is used in the table.

Table 1
Sangchris Lake Sampling Results
Kincaid Power Plant
Christian County, Illinois

Analyte	Units	Site GWPS	K-B-3D	K-C-1	K-C-2M	K-C-2D	K-C-3M	K-C-3D	K-D-1	K-D-2M
Field Parameters										
Dissolved Oxygen	mg/L	NA	7.02	6.43	4.92	5.90	6.23	4.55	5.33	5.55
Redox Potential	mV	NA	92.2	79.0	86.0	86.7	86.7	91.6	77.7	79.8
Specific Conductance	µS/cm	NA	294.0	298.1	301.2	301.4	297.5	296.4	351.4	301.1
Temperature	°C	NA	23.5	24.1	23.9	23.9	24.0	23.9	23.5	23.6
Turbidity	NTU	NA	19.8	10.1	9.7	11.6	11.2	25.4	9.1	7.7
Sample Depth	FT BLE	NA	17.2	2.7	4.2	8.3	9.9	19.8	2.1	6.6
Part 845 Constituents										
Antimony, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Arsenic, Total	mg/L	0.01	0.0028	0.0026	0.0026	0.0026	0.0026	0.0028	0.0027	0.0026
Barium, Total	mg/L	2	0.0738	0.0706	0.0708	0.0741	0.0720	0.0786	0.0736	0.0703
Beryllium, Total	mg/L	0.004	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Total	mg/L	2	0.0518	0.0505	0.0491	0.0517	0.0452	0.0498	0.0481	0.0484
Cadmium, Total	mg/L	0.005	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Total	mg/L	NA	31.9	30.8	31.1	31.5	30.9	31.8	28.9	30.8
Chloride, Total	mg/L	200	21	20	20	20	21	21	20	20
Chromium, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Fluoride, Total	mg/L	4	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Lead, Total	mg/L	0.0075	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Total	mg/L	0.04	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Total	mg/L	0.002	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020
Molybdenum, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
pH	SU	5.6 - 9.0	8.53	8.51	8.40	8.35	8.35	8.29	8.49	8.43
Radium (226+228)	pCi/L	5	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	mg/L	0.05	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Sulfate, Total	mg/L	300	30	32	32	31	31	31	32	31
Thalium, Total	mg/L	0.002	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Total Dissolved Solids	mg/L	1,200	194	216	200	202	192	190	210	200
Dissolved Metals										
Antimony, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	0.0012	0.0039	ND < 0.0010	ND < 0.0010	ND < 0.0010	0.0012
Arsenic, Dissolved	mg/L	NA	0.0021	0.0023	0.0021	0.0022	0.0022	0.0022	0.0023	0.0021
Barium, Dissolved	mg/L	NA	0.0553	0.0561	0.0559	0.0565	0.0552	0.0543	0.0533	0.0560
Beryllium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Dissolved	mg/L	NA	0.0437	0.0429	0.0429	0.0421	0.0407	0.0463	0.0459	0.0408
Cadmium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Dissolved	mg/L	NA	28.9	29.1	29.2	29.0	29.0	29.1	28.7	28.8
Chromium, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lead, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Dissolved	mg/L	NA	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Dissolved	mg/L	NA	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002
Molybdenum, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Selenium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Thalium, Dissolved	mg/L	NA	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Iron Speciation										
Ferric Iron	mg/L	NA	0.550	0.190	0.230	0.340	0.250	0.630	0.510	0.180
Ferrous Iron	mg/L	NA	0.054	0.021	0.021	0.036	0.021 J	0.068	0.025	0.036
Additional Major Cations/Anions										
Alkalinity, Bicarbonate	mg/L	NA	109	112	117	118	116	119	115	119
Alkalinity, Carbonate	mg/L	NA	7	6	0	0	0	0	5	0
Sodium, Dissolved	mg/L	NA	11.5	11.6	11.6	11.4	11.4	11.4	11.4	11.4
Sodium, Total	mg/L	NA	12.2	12.1	12.3	12.3	12.1	12.2	11.9	12.1
Magnesium, Dissolved	mg/L	NA	17.9	18.1	18.1	18.0	18.0	18.1	17.7	17.9
Magnesium, Total	mg/L	NA	19.6	19.1	19.3	19.5	19.1	19.6	17.7	19.1
Potassium, Dissolved	mg/L	NA	2.82	2.86	2.82	2.80	2.79	2.81	2.79	2.79
Potassium, Total	mg/L	NA	3.09	3.02	3.06	3.10	3.02	3.09	2.78	3.02
Manganese, Dissolved	mg/L	NA	0.0087	ND < 0.0020	ND < 0.0020	ND < 0.0020	ND < 0.0020	0.0044	ND < 0.0020	ND < 0.0020
Manganese, Total	mg/L	NA	0.1250	0.0869	0.0908	0.0992	0.1010	0.1680	0.1250	0.0833
Iron, Dissolved	mg/L	NA	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250
Iron, Total	mg/L	NA	0.604	0.210	0.254	0.378	0.298	0.693	0.533	0.213
Additoinal MNA Parameters										
Sulfide, Total	mg/L	NA	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
Total Organic Carbon	mg/L	NA	4.2	4.2	4.1	4.0	4.1	4.4	4.1	4.4
Nitrate, Total	mg/L	NA	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050
Phosphorus, Total	mg/L	NA	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100

Notes:
1. Unit Abbreviations: °C - degrees celcius, mg/L - milligrams per liter, SU - standard units, mV - millivolts, µS/cm - microsiemens per centimeter, NTU - nephelometric turbidity unit, pCi/L - picocuries per liter, FT BLE - feet below lake elevation.
2. ND - Non Detects. NDs reported as less than the Method Detection Limit (MDL) or adjusted Practical Quanitation Limit (PQL) basd on data validation.
3. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.
4. J - Flags are estimated values based on data validation.
5. Site Groundwater Protection Standards (GWPS) from Table 3-1, Background Groundwater Quality Standards from the Newton Groundwater Monitoring Plan.
6. For pH, the values represent the upper / lower limits. Values outside of these values represents a statistical exceedance.
7. No values are present above the Site GWPS, therefore, no highlighting is used in the table.

Table 1
Sangchris Lake Sampling Results
Kincaid Power Plant
Christian County, Illinois

Analyte	Units	Site GWPS	K-D-2D	K-E-1	K-E-2M	K-E-2D	K-F-1	K-F-2M	K-F-2D	K-G-1
Field Parameters										
Dissolved Oxygen	mg/L	NA	5.85	5.90	69.70	5.95	6.60	7.45	7.64	5.62
Redox Potential	mV	NA	80.9	80.7	79.1	78.3	98.5	98.2	99.6	166.4
Specific Conductance	µS/cm	NA	298.7	354.0	355.0	354.7	293.6	291.2	291.5	329.6
Temperature	°C	NA	23.7	23.6	23.8	23.7	24.0	23.7	23.4	23.0
Turbidity	NTU	NA	13.5	8.9	10.0	16.2	12.3	11.5	19.7	11.9
Sample Depth	FT BLE	NA	13.2	3.3	9.9	19.8	1.1	11.2	22.4	1.7
Part 845 Constituents										
Antimony, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Arsenic, Total	mg/L	0.01	0.0025	0.0025	0.0025	0.0026	0.0026	0.0025	0.0025	0.0025
Barium, Total	mg/L	2	0.0737	0.0671	0.0633	0.0703	0.0711	0.0703	0.0723	0.0683
Beryllium, Total	mg/L	0.004	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Total	mg/L	2	0.0513	0.0474	0.0455	0.0496	0.0463	0.0471	0.0447	0.0472
Cadmium, Total	mg/L	0.005	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Total	mg/L	NA	31.1	29.6	30.2	30.9	31.4	30.8	31.8	33.0
Chloride, Total	mg/L	200	20	20	20	20	21	21	21	20
Chromium, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Fluoride, Total	mg/L	4	0.36	0.36	0.36	0.36	0.35	0.35	0.36	0.36
Lead, Total	mg/L	0.0075	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Total	mg/L	0.04	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Total	mg/L	0.002	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020
Molybdenum, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
pH	SU	5.6 - 9.0	8.37	8.35	8.37	8.36	8.64	8.64	8.58	8.28
Radium (226+228)	pCi/L	5	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	mg/L	0.05	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Sulfate, Total	mg/L	300	32	31	31	31	31	31	31	31
Thalium, Total	mg/L	0.002	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Total Dissolved Solids	mg/L	1,200	214	214	216	218	188	214	204	172
Dissolved Metals										
Antimony, Dissolved	mg/L	NA	0.0045	ND < 0.0010	ND < 0.0010	ND < 0.0010	0.0012	0.0038	0.0039	ND < 0.0010
Arsenic, Dissolved	mg/L	NA	0.0020	0.0021	0.0021	0.0021	0.0022	0.0022	0.0022	0.0021
Barium, Dissolved	mg/L	NA	0.0570	0.0530	0.0523	0.0522	0.0562	0.0558	0.0550	0.0538
Beryllium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Dissolved	mg/L	NA	0.0421	0.0446	0.0441	0.0435	0.0421	0.0451	0.0407	0.0482
Cadmium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Dissolved	mg/L	NA	28.7	29.0 J	28.8	28.5	28.7	28.6	29.2	30.9 J
Chromium, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lead, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Dissolved	mg/L	NA	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Dissolved	mg/L	NA	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002
Molybdenum, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Selenium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Thalium, Dissolved	mg/L	NA	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Iron Speciation										
Ferric Iron	mg/L	NA	0.450	0.170	0.140	0.260	0.300	0.260	0.490	0.170
Ferrous Iron	mg/L	NA	0.061	0.036	0.036	0.028	0.021	0.021	0.032	0.043
Additional Major Cations/Anions										
Alkalinity, Bicarbonate	mg/L	NA	117	119	118	120	107	108	112	121
Alkalinity, Carbonate	mg/L	NA	0	0	0	0	10	9	8	0
Sodium, Dissolved	mg/L	NA	11.4	11.4	11.5	11.3	11.5	11.5	11.4	11.7
Sodium, Total	mg/L	NA	12.2	12.0	12.2	12.3	12.2	12.1	12.0	12.7
Magnesium, Dissolved	mg/L	NA	17.8	17.9	17.8	17.6	17.7	17.7	18.0	18.4 J
Magnesium, Total	mg/L	NA	19.1	18.1	18.3	18.7	19.4	19.1	19.6	19.6
Potassium, Dissolved	mg/L	NA	2.78	2.79	2.81	2.78	2.82	2.81	2.77	2.66
Potassium, Total	mg/L	NA	3.06	2.78	2.88	2.93	3.05	3.03	3.04	2.86
Manganese, Dissolved	mg/L	NA	0.0032	0.0032	0.0061	0.0121	ND < 0.0020	ND < 0.0020	ND < 0.0020	0.0077
Manganese, Total	mg/L	NA	0.0976	0.0870	0.0741	0.0934	0.0842	0.0896	0.1140	0.0793
Iron, Dissolved	mg/L	NA	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250
Iron, Total	mg/L	NA	0.512	0.204	0.171	0.290	0.321	0.280	0.525	0.211
Additoinal MNA Parameters										
Sulfide, Total	mg/L	NA	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
Total Organic Carbon	mg/L	NA	4.1	4.2	4.1	4.1	4.2	4.1	4.2	4.1
Nitrate, Total	mg/L	NA	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	0.054	ND < 0.050
Phosphorus, Total	mg/L	NA	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100

Notes:
1. Unit Abbreviations: °C - degrees celcius, mg/L - milligrams per liter, SU - standard units, mV - millivolts, µS/cm - microsiemens per centimeter, NTU - nephelometric turbidity unit, pCi/L - picocuries per liter, FT BLE - feet below lake elevation.
2. ND - Non Detects. NDs reported as less than the Method Detection Limit (MDL) or adjusted Practical Quanitation Limit (PQL) basd on data validation.
3. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.
4. J - Flags are estimated values based on data validation.
5. Site Groundwater Protection Standards (GWPS) from Table 3-1, Background Groundwater Quality Standards from the Newton Groundwater Monitoring Plan.
6. For pH, the values represent the upper / lower limits. Values outside of these values represents a statistical exceedance.
7. No values are present above the Site GWPS, therefore, no highlighting is used in the table.

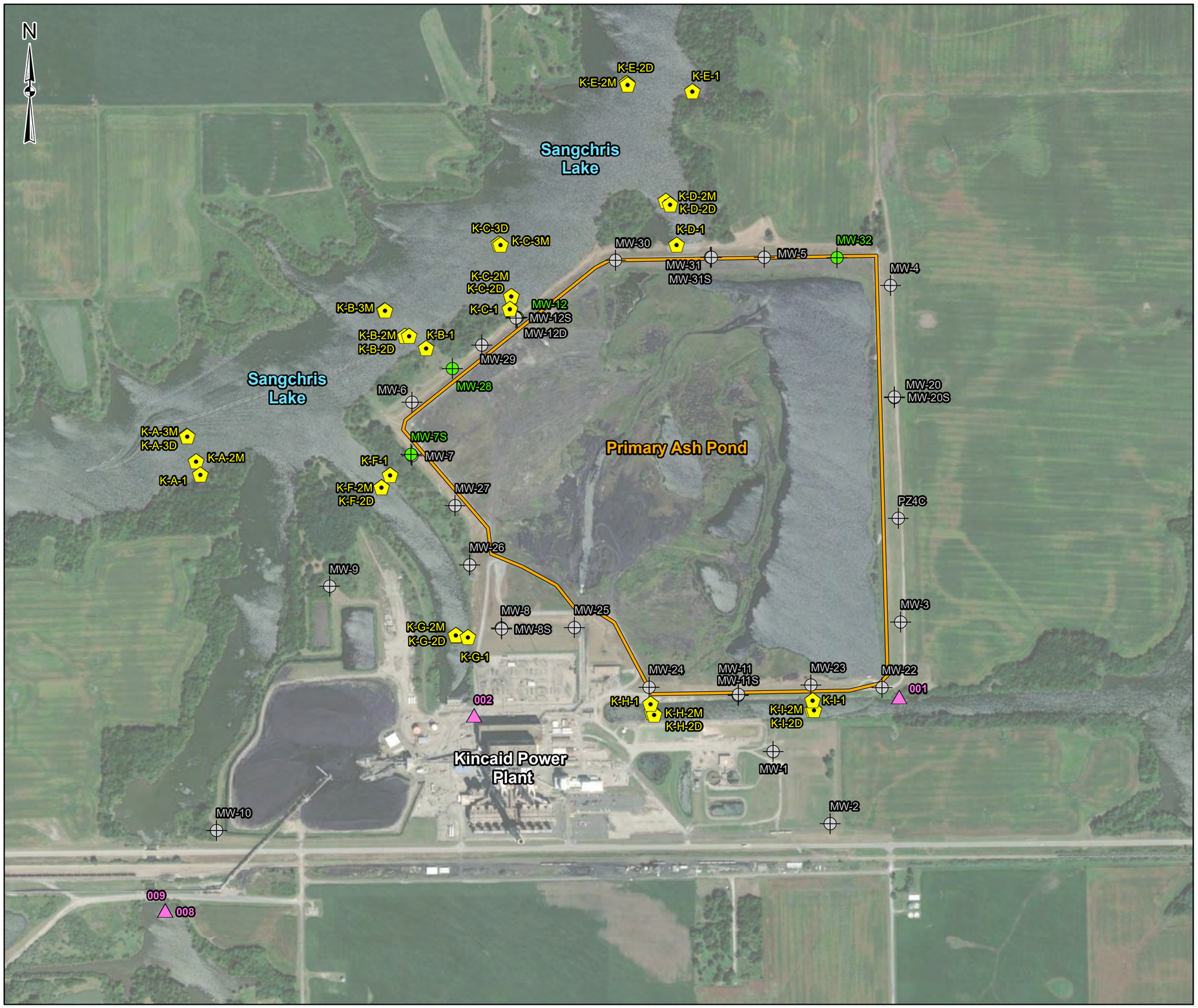
Table 1
Sangchris Lake Sampling Results
Kincaid Power Plant
Christian County, Illinois

Analyte	Units	Site GWPS	K-G-2M	K-G-2D	K-H-1	K-H-2M	K-H-2D	K-I-1	K-I-2M	K-I-2D
Field Parameters										
Dissolved Oxygen	mg/L	NA	6.58	6.49	4.87	6.03	6.14	4.17	4.67	5.13
Redox Potential	mV	NA	149.0	145.5	125.8	124.0	122.4	102.4	120.6	120.8
Specific Conductance	µS/cm	NA	322.7	322.6	328.1	326.2	324.6	320.0	324.3	324.0
Temperature	°C	NA	23.3	23.3	24.5	23.9	24.1	27.2	27.2	26.1
Turbidity	NTU	NA	11.7	32.9	12.7	11.1	11.7	13.0	12.5	12.5
Sample Depth	FT BLE	NA	11.6	23.2	3.0	4.1	8.1	3.6	5.1	10.1
Part 845 Constituents										
Antimony, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Arsenic, Total	mg/L	0.01	0.0027	0.0034	0.0025	0.0026	0.0025	0.0025	0.0023	0.0025
Barium, Total	mg/L	2	0.0672	0.0844	0.0676	0.0680	0.0681	0.0692	0.0687	0.0688
Beryllium, Total	mg/L	0.004	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Total	mg/L	2	0.0432	0.0411	0.0370	0.0353	0.0365	0.0386	0.0389	0.0389
Cadmium, Total	mg/L	0.005	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Total	mg/L	NA	31.8	33.9	32.6	32.0	31.6 J	33.1	32.1	31.2
Chloride, Total	mg/L	200	21	21	20	21	20	21	20	20
Chromium, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Total	mg/L	0.006	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Fluoride, Total	mg/L	4	0.36	0.36	0.35	0.36	0.36	0.36	0.36	0.36
Lead, Total	mg/L	0.0075	ND < 0.0010	0.0011	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Total	mg/L	0.04	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Total	mg/L	0.002	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020	ND < 0.00020
Molybdenum, Total	mg/L	0.1	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
pH	SU	5.6 - 9.0	8.28	8.36	8.31	8.31	8.32	8.29	8.32	8.33
Radium (226+228)	pCi/L	5	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	mg/L	0.05	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Sulfate, Total	mg/L	300	31	31	31	31	31	31	31	31
Thalium, Total	mg/L	0.002	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Total Dissolved Solids	mg/L	1,200	174	178	172	176	176	162	166	164
Dissolved Metals										
Antimony, Dissolved	mg/L	NA	0.0041	ND < 0.0010	ND < 0.0010	ND < 0.0010	0.0024	ND < 0.0010	ND < 0.0010	ND < 0.0010
Arsenic, Dissolved	mg/L	NA	0.0022	0.0021	0.0021	0.0021	0.0021	0.0022	0.0022	0.0020
Barium, Dissolved	mg/L	NA	0.0535	0.0529	0.0539	0.0538	0.0527	0.0563	0.0534	0.0534
Beryllium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Boron, Dissolved	mg/L	NA	0.0509	0.0481	0.0481	0.0432	0.0511	0.0514	0.0450	0.0484
Cadmium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Calcium, Dissolved	mg/L	NA	29.0	29.2	30.4	29.1	29.0 J	29.0	29.0	29.2
Chromium, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Cobalt, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lead, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Lithium, Dissolved	mg/L	NA	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030	ND < 0.0030
Mercury, Dissolved	mg/L	NA	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002	ND < 0.0002
Molybdenum, Dissolved	mg/L	NA	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015	ND < 0.0015
Selenium, Dissolved	mg/L	NA	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010	ND < 0.0010
Thalium, Dissolved	mg/L	NA	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100	ND < 0.00100
Iron Speciation										
Ferric Iron	mg/L	NA	0.190	1.600	0.230	0.250	0.210	0.210	0.220	0.260
Ferrous Iron	mg/L	NA	0.032	0.075	0.043	0.032	0.032	0.032	0.046	0.043
Additional Major Cations/Anions										
Alkalinity, Bicarbonate	mg/L	NA	116	115	118	111	118	115	115	119
Alkalinity, Carbonate	mg/L	NA	0	0	0	5	0	0	4	0
Sodium, Dissolved	mg/L	NA	11.2	11.0	11.6	11.0	12.0	11.1	11.0	11.0
Sodium, Total	mg/L	NA	12.2	12.6	12.5	12.3	12.2	12.6	12.3	12.1
Magnesium, Dissolved	mg/L	NA	17.2	17.2	18.2	17.2	17.4	17.2	17.4	17.2
Magnesium, Total	mg/L	NA	18.8	19.8	19.4	19.0	18.7 J	19.6	19.1	18.8
Potassium, Dissolved	mg/L	NA	2.55	2.54	2.64	2.54	2.55	2.55	2.54	2.53
Potassium, Total	mg/L	NA	2.82	3.06	2.86	2.81	2.79	2.93	2.80	2.79
Manganese, Dissolved	mg/L	NA	ND < 0.0020	0.0026	0.0041	ND < 0.0020	0.0027	0.0013	ND < 0.0020	ND < 0.0020
Manganese, Total	mg/L	NA	0.0786	0.2250	0.0839	0.0852	0.0841	0.0887	0.0850	0.0876
Iron, Dissolved	mg/L	NA	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250	ND < 0.0250
Iron, Total	mg/L	NA	0.220	1.640	0.275	0.284	0.245	0.238	0.261	0.306
Additoinal MNA Parameters										
Sulfide, Total	mg/L	NA	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
Total Organic Carbon	mg/L	NA	4.0	4.2	4.1	4.1	4.3	4.1	4.1	4.0
Nitrate, Total	mg/L	NA	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	ND < 0.050	0.125	ND < 0.050
Phosphorus, Total	mg/L	NA	ND < 0.100	0.148	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100	ND < 0.100

Notes:
1. Unit Abbreviations: °C - degrees celcius, mg/L - milligrams per liter, SU - standard units, mV - millivolts, µS/cm - microsiemens per centimeter, NTU - nephelometric turbidity unit, pCi/L - picocuries per liter, FT BLE - feet below lake elevation.
2. ND - Non Detects. NDs reported as less than the Method Detection Limit (MDL) or adjusted Practical Quanitation Limit (PQL) basd on data validation.
3. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.
4. J - Flags are estimated values based on data validation.
5. Site Groundwater Protection Standards (GWPS) from Table 3-1, Background Groundwater Quality Standards from the Newton Groundwater Monitoring Plan.
6. For pH, the values represent the upper / lower limits. Values outside of these values represents a statistical exceedance.
7. No values are present above the Site GWPS, therefore, no highlighting is used in the table.

Prepared by: GTM
Checked by: RP
Reviewed by: PJB

Figures



LEGEND

- Primary Ash Pond Boundary
- NPDES Outfall Locations
- Surface Water Sampling Location
- Part 845 Well With Potential Exceedances
- Part 845 Well With No Potential Exceedances

0 250 500 1,000 1,500
Feet

NOTE(S)

1. LOCATIONS FOR SURFACE WATER SAMPLES WERE OBTAINED DURING SAMPLING USING A TRIMBLE GEO7X UNIT.
2. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
3. NPDES - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.

REFERENCE(S)

1. RAMBOLL 2021. GROUNDWATER MONITORING PLAN, ASH POND, KINCAID POWER PLANT, KINCAID, ILLINOIS.
2. RAMBOLL 2021. TABLE 2 SUMMARY OF POTENTIAL EXCEEDANCES.
3. NPDES PERMIT NO. IL0002241.

CLIENT
KINCAID GENERATION, LLC
KINCAID POWER PLANT

PROJECT
MONITORED NATURAL ATTENUATION EVALUATION

TITLE
SANGCHRIS LAKE SURFACE WATER SAMPLING LOCATIONS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	10/21/2021
DESIGNED	JSI
PREPARED	ETF
REVIEWED	BTT
APPROVED	PJB

PROJECT NO.
21454831

FIGURE
1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in
0

PATH: C:\Users\BTalbert\Golder Associates\21454831 \ Vistra IL MNA Part 845 Support - Project Files\5 Technical Work\Phase3 - Kincaid\3.11-Figures\SW-Sampling Figures\20210803_F1-SW-Sampling-10.7.mxd PRINTED ON: 2021-12-14 AT: 1:03:18 PM

APPENDIX A

Surface Water Sampling Field Forms

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-A-1 Sample No. K-A-1

Sample Date 10/6/2021 Time 1500 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 2.5 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1451	
Volume Discharged	gals	-	
pH	Standard	8.79	
Spec. Cond.	µ S/CM	293.2	
Turbidity	NTU	12.6	
Temperature	°C	23.8	
Dissolved Oxygen	mg/l	6.98	
Redox Potential	+/- mV	94.5	

Northing: 1069374.57
Easting: 654339.41
Elevation: 483.08

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	500mL HDPE	Yes	HNO_3
3	Chloride Fluoride Sulfate TDS Alkalinity	1.25L HDPE	No	None
4	Sulfide	250mL HDPE		NaOH+ZnAcetate
5	Nitrate	250mL HDPE		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	1L HDPE		HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: ~~NA~~ Collected K-FB-1 @ 1505

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-A-2 Sample No. K-A-2M

Sample Date 10/6/2021 Time ~~1519~~ 1520 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 10.3 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1519	
Volume Discharged	gals		
pH	Standard	8.72	
Spec. Cond.	µS/CM	287.2	
Turbidity	NTU	10.1	
Temperature	°C	23.8	
Dissolved Oxygen	mg/l	7.74	
Redox Potential	+/- mV	93.0	

Northing: 1069463.73
Easting: 654312.33
Elevation: 480.44

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	|	NaOH & Acetate
5	Nitrate	↓	|	None
6	Total Organic Carbon	125mL Glass	|	H_2SO_4
7	Phosphorus	1L HDPE	|	None
8	Radium 226 & 228	↓	↓	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-A-2 Sample No. K-A-2D

Sample Date 10/16/2024 Time 1533 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 10.3 Ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1531	
Volume Discharged	gals	—	
pH	Standard	8.69	
Spec. Cond.	µS/CM	288.8	
Turbidity	NTU	14.1	
Temperature	°C	23.6	
Dissolved Oxygen	mg/l	7.65	
Redox Potential	+/- mV	94.3	

Northing: 1069470.45
Easting: 654309.81
Elevation: 479.59

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	NO	HNO_3
2	Dissolved Metals	⊥	Yes	⊥
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	NO	None
4	Sulfide	250mL HDPE	⊥	NaOH-Zn Acetate
5	Nitrate	⊥	⊥	None
6	Total Organic Carbon	125mL Glass	⊥	H_2SO_4
7	Phosphorus	1L HDPE	⊥	None
8	Radium 226 & 228	⊥	⊥	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/NO	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-A-3 Sample No. K-A-3M

Sample Date 10/6/2021 Time 1605 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 15.0 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1604	
Volume Discharged	gals	—	
pH	Standard	8.61	
Spec. Cond.	µS/CM	291.2	
Turbidity	NTU	11.3	
Temperature	°C	23.8	
Dissolved Oxygen	mg/l	6.27	
Redox Potential	+/- mV	97.5	

Northing: 1069637.04
Easting: 654254.55
Elevation: 477.39

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	〃	Zn Acetate NaOH
5	Nitrate	〃	〃	None
6	Total Organic Carbon	125mL Glass	〃	H_2SO_4
7	Phosphorus	1L HDPE	〃	None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-A-3 Sample No. K-A-3D

Sample Date 10/6/2021 Time 1620 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 15.0 Ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1619	
Volume Discharged	gals	1	
pH	Standard	8.73	
Spec. Cond.	µ S/CM	2950	
Turbidity	NTU	23.2	
Temperature	°C	~~8.73~~ 22.8	
Dissolved Oxygen	mg/l	7.53	
Redox Potential	+/- mV	97.9	

Northing: 10696 38.30
Easting: 654251.26
Elevation: 478.69

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate / NaOH
5	Nitrate	〃		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	2		HNO_3
9	Ferrous/Ferric Iron	2 x 125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 65°F Weather Rain

SAMPLE INFORMATION

Sample Location K-B-1 Sample No. K-B-1

Sample Date 10/6/2021 Time 1232 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 1 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1227	
Volume Discharged	gals		
pH	Standard	8.52	
Spec. Cond.	µS/CM	298.6	
Turbidity	NTU	13.5	
Temperature	°C	24.1	
Dissolved Oxygen	mg/l	7.27	
Redox Potential	+/- mV	930	

Northing: 1070203.67
Easting: 655893.84
Elevation: 482.73

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		ZN Acetate NaOH
5	Nitrate	〃		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 65 'F Weather Rain

SAMPLE INFORMATION

Sample Location K-B-2 Sample No. K-B-2M

Sample Date 10/6/2021 Time 1343 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & colorless

Depth to Bottom of Lake: 9.7 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1342	
Volume Discharged	gals	—	
pH	Standard	8.48	
Spec. Cond.	µ S/CM	296.7	
Turbidity	NTU	10.7	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	68.5	
Redox Potential	+/- mV	81.4	

Northing: 1070290.75
Easting: 655780.21
Elevation: 478.58

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	|	Zn Acetate NaOH
5	Nitrate	〃	|	None
6	Total Organic Carbon	125mL Glass	|	H_2SO_4
7	Phosphorus	1L HDPE	|	None
8	Radium 226 & 228	〃	〃	HNO3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: Offset to get to depth ~ 10 ft due to lake bottom drop off

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Cloudy

SAMPLE INFORMATION

Sample Location K-B-2 Sample No. K-B-21

Sample Date 10/6/2021 Time 1358 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 9.7 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1355	
Volume Discharged	gals	—	
pH	Standard	8.40	
Spec. Cond.	µS/CM	291.6	
Turbidity	NTU	11.6	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	6.39	
Redox Potential	+/- mV	88.2	

Northing: 1070289.06
Easting: 655750.05
Elevation: 479.40 ft HTC

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	↓		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	↓	↓	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes / No	HCl

REMARKS: Offset to get depth ~10 ft due to lake bottom dropoff

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 65°F Weather Cloudy

SAMPLE INFORMATION

Sample Location K-MW-3B Sample No. K-MW-3BM

Sample Date 10/6/2021 Time 1425 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 17.2 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1418	
Volume Discharged	gals	-	
pH	Standard	8.45	
Spec. Cond.	µS/CM	293.2	
Turbidity	NTU	10.9	
Temperature	°C	24.1	
Dissolved Oxygen	mg/l	6.78	
Redox Potential	+/- mV	89.3	

Northing: 1070464.63
Easting: 655618.37
Elevation: 480.38 ft AMSL

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H2SO4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"	"	HNO3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 65 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-B-3 Sample No. K-B-3D

Sample Date 10/6/2021 Time 1438 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear + Colorless

Depth to Bottom of Lake: 17.2 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1436	
Volume Discharged	gals	—	
pH	Standard	8.53	
Spec. Cond.	µ S/CM	294.0	
Turbidity	NTU	19.8	
Temperature	°C	23.5	
Dissolved Oxygen	mg/l	7.02	
Redox Potential	+/- mV	92.2	

Northing: 1070463.91
Easting: 655615.30
Elevation: 474.74

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	〃	ZnAcetate NaOH
5	Nitrate	〃	〃	None
6	Total Organic Carbon	125mL glass	〃	H_2SO_4
7	Phosphorus	1L HDPE	〃	None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes / No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70° F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-C-1 Sample No. K-C-1

Sample Date 10/6/2021 Time 1027 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 2.7 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1026	
Volume Discharged	gals	—	
pH	Standard	8.51	
Spec. Cond.	µS/CM	298.1	
Turbidity	NTU	10.1	
Temperature	°C	24.1	
Dissolved Oxygen	mg/l	6.43	
Redox Potential	+/- mV	79.0	

Northing: 1070457.81
Easting: 656470.57
Elevation: 485.79 ft HAE

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		2N Acetate Nadh
5	Nitrate	↓		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	↓	↓	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-C-2 Sample No. K-C-2M

Sample Date 10/6/2021 Time 1053 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 8.3 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1050	
Volume Discharged	gals	—	
pH	Standard	8.40	
Spec. Cond.	µS/CM	301.2	
Turbidity	NTU	9.69	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	4.92	
Redox Potential	+/- mV	86.0	

Northing: 1070544.96
Easting: 656480.01
Elevation: 484.50 ft HE

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H2SO4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"	"	HNO3
9	Ferrous/Ferric Iron	2x125mL HDPE	YES/NO	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-C-2 Sample No. K-C-2D

Sample Date 10/6/2021 Time 1108 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 8.3ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1107	
Volume Discharged	gals	–	
pH	Standard	8.35	
Spec. Cond.	µS/CM	301.4	
Turbidity	NTU	11.6	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	5.90	
Redox Potential	+/- mV	86.7	

Northing: 1070541.87
Easting: 666480.99
Elevation: 481.57

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	NO	HNO_3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn acetate NaOH
5	Nitrate	↓		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	↓	↓	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	YES/NO	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70 °F Weather Cloudy

SAMPLE INFORMATION

Sample Location K-C-3 Sample No. K-C-3M

Sample Date 10/6/2021 Time 1135 Sample By EMB

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 19.8 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1131	
Volume Discharged	gals	–	
pH	Standard	8.35	
Spec. Cond.	µS/CM	297.5	
Turbidity	NTU	11.2	
Temperature	°C	24.0	
Dissolved Oxygen	mg/l	6.23	
Redox Potential	+/- mV	86.7	

Northing: 1070897.80
Easting: 656414.38
Elevation: 479.64

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate + NaOH
5	Nitrate	↓		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	↓		HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes / No	HCl

REMARKS: Collect N-DUP-1 @ 1135

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature ~ 70 F Weather Cloudy & Light Rain

SAMPLE INFORMATION

Sample Location K-C-3 Sample No. K-C-3-D

Sample Date 10/6/2021 Time 1200 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear + Colorless, Some light suspended solids

Depth to Bottom of Lake: 19.8 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1158	
Volume Discharged	gals	—	
pH	Standard	8.29	
Spec. Cond.	µS/CM	296.4	
Turbidity	NTU	25.4	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	4.55	
Redox Potential	+/- mV	91.6	

Northing: SEE Remarks Below

Easting:

Elevation:

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	NO	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	NO	None
4	Sulfide	250mL HDPE		Zn Acetate + NaOH
5	Nitrate	〃		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/NO	HCl

REMARKS: 1010000 25
6564021 77
4500 77

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 65°F Weather Overcast

SAMPLE INFORMATION

Sample Location K-D-1 Sample No. K-D-1

Sample Date 10/6/2021 Time 0933 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 2.1 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0932	
Volume Discharged	gals	—	
pH	Standard	8.49	
Spec. Cond.	µS/CM	351.4	
Turbidity	NTU	9.11	
Temperature	°C	23.5	
Dissolved Oxygen	mg/l	5.33	
Redox Potential	+/- mV	77.7	

Northing: 1070873.41

Easting: 657615.64

Elevation: 481.28

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	〃		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70 · F Weather Overcast

SAMPLE INFORMATION

Sample Location K-D-2 Sample No. K-D-2M

Sample Date 10/6/2021 Time 0953 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear + Colorless

Depth to Bottom of Lake: 13.2 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0952	
Volume Discharged	gals	—	
pH	Standard	8.43	
Spec. Cond.	µ S/CM	301.1	
Turbidity	NTU	7.66	
Temperature	°_C__	23.6	
Dissolved Oxygen	mg/l	5.55	
Redox Potential	+/- mV	79.8	

Northing: 1071148.52
Easting: 657574.79
Elevation: 480.20 ft Hdt

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	〃		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Overcast

SAMPLE INFORMATION

Sample Location K-D-2 Sample No. K-D-2D
Sample Date 10/6/2021 Time 1006 Sample By EMS
Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear + Colorless
Depth to Bottom of Lake: 13.2 ft
Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1005	
Volume Discharged	gals	—	
pH	Standard	8.37	
Spec. Cond.	µ S/CM	298.7	
Turbidity	NTU	13.5	
Temperature	°C	23.7	
Dissolved Oxygen	mg/l	5.85	
Redox Potential	+/- mV	80.9	

Northing: 1074173.19
Easting: 657547.29
Elevation: 481.14

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	〃	Zn Acetate NaOH
5	Nitrate	〃	〃	None
6	Total Organic Carbon	125mL glass	〃	H_2SO_4
7	Phosphorus	1L HDPE	〃	None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 65° F Weather Overcast

SAMPLE INFORMATION

Sample Location K-E-1 Sample No. K-E-1

Sample Date 10/6/21 Time 0820 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 3.3 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0820	
Volume Discharged	gals		
pH	Standard	8.35	
Spec. Cond.	µ S/CM	3540	
Turbidity	NTU	8.87	
Temperature	°C	23.6	
Dissolved Oxygen	mg/l	5.90	
Redox Potential	+/- mV	80.7	

Northing: 1071915.04
Easting: 657742.92
Elevation: 480.41 ft MSL

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"		HNO_3
9	Ferrous/Ferric Iron	2x 125mL HDPE	Yes / No	HCl

REMARKS: Offset by 60ft due to algae, West

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 65 °F Weather Cloudy

SAMPLE INFORMATION

Sample Location K-E-2 Sample No. K-E-2M

Sample Date 10/6/2021 Time 0845 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 19.8 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0845	
Volume Discharged	gals	—	
pH	Standard	8.37	
Spec. Cond.	µS/CM	355.0	
Turbidity	NTU	10.0	
Temperature	°C	23.8	
Dissolved Oxygen	mg/l	69.7	
Redox Potential	+/- mV	79.1	

Northing: 1071967.45
Easting: 657303.41
Elevation: 477.64 ft HAE

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"		HNO3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 65' F Weather Cloudy

SAMPLE INFORMATION

Sample Location K-E-2D Sample No. K-E-2D

Sample Date 10/6/21 Time 0858 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear - Colorless

Depth to Bottom of Lake: 19.8 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0858	
Volume Discharged	gals	—	
pH	Standard	8.36	
Spec. Cond.	µS/CM	354.7	
Turbidity	NTU	16.2	
Temperature	°C	23.7	
Dissolved Oxygen	mg/l	5.95	
Redox Potential	+/- mV	78.3	

Northing: 107980.75
Easting: 657296.91
Elevation: 474.51

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	〃		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	〃		HNO_3
9	Ferrous/Ferric Iron	2~~3~~ 125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-F-1 Sample No. K-F-1

Sample Date 10/6/2021 Time 1712 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 1.1 Ft

Other Water Sample notes: NL

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1709	
Volume Discharged	gals	-	
pH	Standard	8.64	
Spec. Cond.	µS/CM	293.6	
Turbidity	NTU	12.3	
Temperature	°C	24.0	
Dissolved Oxygen	mg/l	6.60	
Redox Potential	+/- mV	98.5	

Northing: 1069342.41
Easting: 655631.63
Elevation: 480.93

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	↓	Zn Acetate NaOH
5	Nitrate	↓		None
6	Total Organic Carbon	125mL glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	↓	↓	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-F-2 Sample No. K-F-2M

Sample Date 10/6/2021 Time 1732 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 22.4

Other Water Sample notes: NR

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1731	
Volume Discharged	gals	-	
pH	Standard	8.64	
Spec. Cond.	µS/CM	291.2	
Turbidity	NTU	11.5	
Temperature	°C	23.7	
Dissolved Oxygen	mg/l	7.45	
Redox Potential	+/- mV	98.2	

Northing: 39° 35' 44.4"
Easting: 89° 29' 58.9"
Elevation: 590 ft

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	NO	HNO3
2	Dissolved Metals	↓	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	|	Zn Acetate/NaOH
5	Nitrate	↓	|	None
6	Total Organic Carbon	125mL glass	|	H2SO4
7	Phosphorus	1L HDPE	|	None
8	Radium 226 & 228	↓	↓	HNO3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-F-2 Sample No. K-F-21

Sample Date 10/6/2021 Time 1748 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 22.4 Ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1747	
Volume Discharged	gals	—	
pH	Standard	8.58	
Spec. Cond.	µS/CM	291.5	
Turbidity	NTU	14.7	
Temperature	°C	23.4	
Dissolved Oxygen	mg/l	7.64	
Redox Potential	+/- mV	99.6	

Northing: 39° 35' 49.4"

Easting: 89° 29' 58.9"

Elevation: ~~462 m~~ 590 ft

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	1	Yes	1
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	~~Yes~~	Zn Acetate NaOH
5	Nitrate	1		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	1	1	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 60°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-G-1 Sample No. K-G-1

Sample Date 10/7/2021 Time 0750 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 2.7 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0749	
Volume Discharged	gals	-	
pH	Standard	8.28	
Spec. Cond.	µS/CM	329.6	
Turbidity	NTU	~~23.0~~ 11.9	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	5.62	
Redox Potential	+/- mV	166.4	

Northing: 1068228.52
Easting: 656138.78
Elevation: 498.75

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	1	Yes	1
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	1		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	1		HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 60 °F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-G-2 Sample No. K-G-2M

Sample Date 10/7/2021 Time 0813 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 23.2 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0812	
Volume Discharged	gals	–	
pH	Standard	8.28	
Spec. Cond.	µS/CM	322.7	
Turbidity	NTU	~~23.3~~ 11.7	
Temperature	°C	23.3	
Dissolved Oxygen	mg/l	6.58	
Redox Potential	+/- mV	149.0	

Northing: 1068243.71
Easting: 656055.54
Elevation: 480.79

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	"	Zinc Acetate + NaOH
5	Nitrate	"	"	None
6	Total Organic Carbon	125mL Glass	"	H_2SO_4
7	Phosphorus	1L HDPE	"	None
8	Radium 226 & 228	"	"	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 60'F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-G-2 Sample No. K-G-2D
Sample Date 10/7/2021 Time 0825 Sample By EMS
Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: ~~NA~~ Clear, brownish
Depth to Bottom of Lake: 23.2 ft
Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	0824	
Volume Discharged	gals	-	
pH	Standard	8.36	
Spec. Cond.	µ S/CM	322.6	
Turbidity	NTU	~~23.3~~ 32.9	
Temperature	°C	23.3	
Dissolved Oxygen	mg/l	6.49	
Redox Potential	+/- mV	145.5	

Northing: 1068238.51
Easting: 656060.40
Elevation: 478.85

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL glass		H2SO4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"		HNO3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS:

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70° F Weather Rain

SAMPLE INFORMATION

Sample Location K-H-1 Sample No. K-H-1

Sample Date 10/7/2021 Time 1101 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 3 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1100	
Volume Discharged	gals	-	
pH	Standard	8.31	
Spec. Cond.	uS/CM	328.1	
Turbidity	NTU	12.7	
Temperature	°C	24.5	
Dissolved Oxygen	mg/l	4.87	
Redox Potential	+/- mV	125.8	

Northing: 1067750.64
Easting: 657372.06
Elevation: 474.55

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	NO	HNO_3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	NO	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"	"	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/NO	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70'F Weather Rain

SAMPLE INFORMATION

Sample Location K-H-2 Sample No. K-H-2M

Sample Date 10/7/2021 Time 1122 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 8.1 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1121	
Volume Discharged	gals	-	
pH	Standard	8.31	
Spec. Cond.	uS/CM	326.2	
Turbidity	NTU	11.1	
Temperature	°C	23.9	
Dissolved Oxygen	mg/l	6.03	
Redox Potential	+/- mV	124.0	

Northing: 1067677.33
Easting: 657395.95
Elevation: 475.39

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"		HNO_3
9	Ferrous/Ferric Iron	2x 125mL HDPE	Yes / No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Rain

SAMPLE INFORMATION

Sample Location K-H-2 Sample No. K-H-2D

Sample Date 10/7/2021 Time 1142 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & colorless

Depth to Bottom of Lake: 8.1 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1141	
Volume Discharged	gals	-	
pH	Standard	8.32	
Spec. Cond.	µS/CM	324.6	
Turbidity	NTU	11.7	
Temperature	°C	24.1	
Dissolved Oxygen	mg/l	6.19	
Redox Potential	+/- mV	122.4	

Northing: 1067695.13
Easting: 657381.26
Elevation: 479.71

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	〃	Yes	〃
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE	〃	Zn Acetate NaOH
5	Nitrate	〃	〃	None
6	Total Organic Carbon	125mL Glass	〃	H_2SO_4
7	Phosphorus	1L HDPE	〃	None
8	Radium 226 & 228	〃	〃	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	YES/NO	HCl

REMARKS: Collect K-MS/MSD-1

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature & 70° F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-I-1 Sample No. K-I-1

Sample Date 10/7/2021 Time 1010 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear - Colorless

Depth to Bottom of Lake: 3.6 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1009	
Volume Discharged	gals	-	
pH	Standard	8.29	
Spec. Cond.	µS/CM	320.0	
Turbidity	NTU	13.0	
Temperature	°C	27.2	
Dissolved Oxygen	mg/l	4.17	
Redox Potential	+/- mV	102.4	

Northing: 1067752.81
Easting: 658477.77
Elevation: 476.39

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals (ES)	~~FEB~~ 1	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"	"	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation **Project No. : 21454831**

WEATHER CONDITIONS

Temperature 70° F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-I-2 Sample No. ~~K-A~~ K-I-2M

Sample Date 10/7/2021 Time 1028 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 10.1 ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1027	
Volume Discharged	gals	-	
pH	Standard	8.32	
Spec. Cond.	uS/CM	324.3	
Turbidity	NTU	12.5	
Temperature	°C	21.2	
Dissolved Oxygen	mg/l	4.67	
Redox Potential	+/- mV	120.6	

Northing: 1067685.13
Easting: 658484.60
Elevation: 478.90

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500 mL HDPE	NO	HNO_3
2	Dissolved Metals	2	Yes	↓
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	NO	None
4	Sulfide	250mL HDPE	↓	Zinc Acetate + NaOH
5	Nitrate	2		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	2	↓	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes/No	HCl

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: Other: Peristaltic Pump

GOLDER
MEMBER OF WSP

SURFACE WATER SAMPLE COLLECTION FORM

Project Ref: Surface Water Sampling - Kincaid & Newton - MNA Evaluation Project No. : 21454831

WEATHER CONDITIONS

Temperature 70°F Weather Partly Cloudy

SAMPLE INFORMATION

Sample Location K-I-2 Sample No. K-I-2M2D

Sample Date 10/7/2021 Time 1041 Sample By EMS

Sample Method Peristaltic Sample Type GRAB

Appearance of Sample: Clear & Colorless

Depth to Bottom of Lake: 101 Ft

Other Water Sample notes: NA

FIELD MEASUREMENTS

Parameter	Units	Measurement	Sample
Time	hhmm	1037	
Volume Discharged	gals	—	
pH	Standard	6.33	
Spec. Cond.	S/CM	324.0	
Turbidity	NTU	12.5	
Temperature	°C	26.1	
Dissolved Oxygen	mg/l	5.13	
Redox Potential	+/- mV	120.8	

Northing: 1067683.43
Easting: 653974.76
Elevation: 457.15

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	500mL HDPE	No	HNO_3
2	Dissolved Metals	"	Yes	"
3	Chloride Fluoride Sulfate TDS Alkalinity	1L HDPE	No	None
4	Sulfide	250mL HDPE		Zn Acetate + NaOH
5	Nitrate	"		None
6	Total Organic Carbon	125mL Glass		H_2SO_4
7	Phosphorus	1L HDPE		None
8	Radium 226 & 228	"	"	HNO_3
9	Ferrous/Ferric Iron	2x125mL HDPE	Yes No	HCL

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:
Bailer: Other: Peristaltic Pump

APPENDIX B

Laboratory Analytical Data

November 12, 2021

Jeffrey Ingram
Golder Associates, Inc
13515 Barrett Parkway Drive, Suite 260
Ballwin, MO 63021
TEL: (314) 984-8800
FAX:

Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Kincaid SW Sampling **WorkOrder:** 21100448

Dear Jeffrey Ingram:

TEKLAB, INC received 26 samples on 10/7/2021 12:35:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	59
Dates Report	60
Quality Control Results	84
Receiving Check List	118
Chain of Custody	Appended

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Qualifiers

- Unknown hydrocarbon

B - Analyte detected in associated Method Blank

C - RL shown is a Client Requested Quantitation Limit

E - Value above quantitation range

H - Holding times exceeded

I - Associated internal standard was outside method criteria

J - Analyte detected below quantitation limits

M - Manual Integration used to determine area response

ND - Not Detected at the Reporting Limit

R - RPD outside accepted recovery limits

S - Spike Recovery outside recovery limits

T - TIC(Tentatively identified compound)

X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Golder Associates, Inc
Client Project: Kincaid SW Sampling

Work Order: 21100448
Report Date: 12-Nov-21

Cooler Receipt Temp: 2.8 °C

Radium-226 and Radium-228 analysis was performed by Pace Analytical Services, LLC. See attached report for results.

Thallium by ICPMS analysis performed by Pace Analytical Gulf Coast. See attached for results and QC summary.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-001 **Client Sample ID:** K-F-2D

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 17:48

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**0.054**	mg/L	1	10/07/2021 17:38	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 16:38	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.49**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 9:29	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:47	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:54	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**112**	mg/L	1	10/08/2021 8:51	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**8**	mg/L	1	10/08/2021 8:51	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**204**	mg/L	1	10/12/2021 18:59	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 19:16	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:06	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 16:39	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100	S	**29.2**	mg/L	1	10/15/2021 20:37	183849
Magnesium	NELAP	0.0500		**18.0**	mg/L	1	10/15/2021 20:37	183849
Potassium	NELAP	0.100		**2.77**	mg/L	1	10/15/2021 20:37	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 20:37	183849
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.								
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.8**	mg/L	1	10/15/2021 19:28	183833
Magnesium	NELAP	0.0500		**19.6**	mg/L	1	10/15/2021 19:28	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:28	183833
Potassium	NELAP	0.100		**3.04**	mg/L	1	10/15/2021 19:28	183833
Sodium	NELAP	0.0500		**12.0**	mg/L	1	10/15/2021 19:28	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0039**	mg/L	5	10/21/2021 4:31	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 16:20	183849
Barium	NELAP	0.0010		**0.0550**	mg/L	5	10/21/2021 4:31	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:20	183849
Boron	NELAP	0.0250		**0.0407**	mg/L	5	10/17/2021 16:20	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:20	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:20	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:20	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-001
Client Sample ID: K-F-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 17:48

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 16:20	183849
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:20	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 16:20	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 4:31	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:20	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:20	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 1:02	183833
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/17/2021 20:39	183833
Barium	NELAP	0.0010	B	**0.0723**	mg/L	5	10/21/2021 1:02	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:39	183833
Boron	NELAP	0.0250		**0.0447**	mg/L	5	10/17/2021 20:39	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:39	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:39	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:39	183833
Iron	NELAP	0.0250		**0.525**	mg/L	5	10/17/2021 20:39	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:39	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 20:39	183833
Manganese	NELAP	0.0020		**0.114**	mg/L	5	10/21/2021 1:02	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:39	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:39	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:30	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:07	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-002 **Client Sample ID:** K-F-2M

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 17:32

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 17:46	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 17:15	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.26**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/19/2021 9:31	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:49	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:55	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**108**	mg/L	1	10/08/2021 9:03	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**9**	mg/L	1	10/08/2021 9:03	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**214**	mg/L	1	10/12/2021 18:59	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 19:22	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.35**	mg/L	1	10/08/2021 10:08	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 17:16	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.6**	mg/L	1	10/15/2021 20:42	183849
Magnesium	NELAP	0.0500		**17.7**	mg/L	1	10/15/2021 20:42	183849
Potassium	NELAP	0.100		**2.81**	mg/L	1	10/15/2021 20:42	183849
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 20:42	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.8**	mg/L	1	10/15/2021 19:33	183833
Magnesium	NELAP	0.0500		**19.1**	mg/L	1	10/15/2021 19:33	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:33	183833
Potassium	NELAP	0.100		**3.03**	mg/L	1	10/15/2021 19:33	183833
Sodium	NELAP	0.0500		**12.1**	mg/L	1	10/15/2021 19:33	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0038**	mg/L	5	10/21/2021 5:15	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 16:43	183849
Barium	NELAP	0.0010		**0.0558**	mg/L	5	10/21/2021 5:15	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:43	183849
Boron	NELAP	0.0250		**0.0451**	mg/L	5	10/17/2021 16:43	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:43	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:43	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:43	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 16:43	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-002
Client Sample ID: K-F-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 17:32

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:43	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 16:43	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 5:15	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:43	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:43	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 1:20	183833
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/17/2021 21:33	183833
Barium	NELAP	0.0010	B	**0.0703**	mg/L	5	10/21/2021 1:20	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:33	183833
Boron	NELAP	0.0250		**0.0471**	mg/L	5	10/17/2021 21:33	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:33	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:33	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:33	183833
Iron	NELAP	0.0250		**0.280**	mg/L	5	10/17/2021 21:33	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:33	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 21:33	183833
Manganese	NELAP	0.0020		**0.0896**	mg/L	5	10/21/2021 1:20	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:33	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:33	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:33	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:09	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-003 **Client Sample ID:** K-F-1

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 17:12

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 17:49	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 17:24	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.30**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/19/2021 9:33	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:50	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:55	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**107**	mg/L	1	10/08/2021 9:09	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**10**	mg/L	1	10/08/2021 9:09	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**188**	mg/L	1	10/12/2021 18:59	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 19:29	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.35**	mg/L	1	10/08/2021 10:09	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 17:24	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.7**	mg/L	1	10/15/2021 20:43	183849
Magnesium	NELAP	0.0500		**17.7**	mg/L	1	10/15/2021 20:43	183849
Potassium	NELAP	0.100		**2.82**	mg/L	1	10/15/2021 20:43	183849
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 20:43	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.4**	mg/L	1	10/15/2021 19:34	183833
Magnesium	NELAP	0.0500		**19.4**	mg/L	1	10/15/2021 19:34	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:34	183833
Potassium	NELAP	0.100		**3.05**	mg/L	1	10/15/2021 19:34	183833
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/15/2021 19:34	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0012**	mg/L	5	10/21/2021 5:21	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 16:51	183849
Barium	NELAP	0.0010		**0.0562**	mg/L	5	10/21/2021 5:21	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:51	183849
Boron	NELAP	0.0250		**0.0421**	mg/L	5	10/17/2021 16:51	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:51	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:51	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:51	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 16:51	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-003
Client Sample ID: K-F-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 17:12

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:51	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 16:51	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 5:21	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:51	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:51	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 1:26	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/17/2021 21:40	183833
Barium	NELAP	0.0010	B	**0.0711**	mg/L	5	10/21/2021 1:26	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:40	183833
Boron	NELAP	0.0250		**0.0463**	mg/L	5	10/17/2021 21:40	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:40	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:40	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:40	183833
Iron	NELAP	0.0250		**0.321**	mg/L	5	10/17/2021 21:40	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:40	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 21:40	183833
Manganese	NELAP	0.0020		**0.0842**	mg/L	5	10/21/2021 1:26	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:40	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:40	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:35	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:11	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-004
Client Sample ID: K-A-3D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 16:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 17:51	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**30**	mg/L	1	10/18/2021 17:31	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.90**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.028**	mg/L	1	10/19/2021 9:34	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:52	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:56	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**106**	mg/L	1	10/08/2021 9:16	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**14**	mg/L	1	10/08/2021 9:16	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**188**	mg/L	1	10/12/2021 19:20	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.3**	mg/L	1	10/08/2021 19:35	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.35**	mg/L	1	10/08/2021 10:12	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 17:32	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.5**	mg/L	1	10/15/2021 20:45	183849
Magnesium	NELAP	0.0500		**18.3**	mg/L	1	10/15/2021 20:45	183849
Potassium	NELAP	0.100		**2.84**	mg/L	1	10/15/2021 20:45	183849
Sodium	NELAP	0.0500		**11.6**	mg/L	1	10/15/2021 20:45	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**32.6**	mg/L	1	10/15/2021 19:36	183833
Magnesium	NELAP	0.0500		**20.1**	mg/L	1	10/15/2021 19:36	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:36	183833
Potassium	NELAP	0.100		**3.15**	mg/L	1	10/15/2021 19:36	183833
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/15/2021 19:36	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 5:27	183849
Arsenic	NELAP	0.0010		**0.0023**	mg/L	5	10/17/2021 16:58	183849
Barium	NELAP	0.0010		**0.0520**	mg/L	5	10/21/2021 5:27	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:58	183849
Boron	NELAP	0.0250		**0.0470**	mg/L	5	10/17/2021 16:58	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:58	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:58	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:58	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 16:58	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-004
Client Sample ID: K-A-3D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 16:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:58	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 16:58	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 5:27	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 16:58	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 16:58	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 1:33	183833
Arsenic	NELAP	0.0010		**0.0029**	mg/L	5	10/17/2021 21:48	183833
Barium	NELAP	0.0010	B	**0.0706**	mg/L	5	10/21/2021 1:33	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:48	183833
Boron	NELAP	0.0250		**0.0486**	mg/L	5	10/17/2021 21:48	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:48	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:48	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:48	183833
Iron	NELAP	0.0250		**0.929**	mg/L	5	10/17/2021 21:48	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:48	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 21:48	183833
Manganese	NELAP	0.0020		**0.117**	mg/L	5	10/21/2021 1:33	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:48	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:48	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:37	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:18	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-005
Client Sample ID: K-A-3M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 16:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 17:53	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 17:53	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.21**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/19/2021 9:35	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:53	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:57	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**107**	mg/L	1	10/08/2021 9:22	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**9**	mg/L	1	10/08/2021 9:22	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**196**	mg/L	1	10/12/2021 19:21	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 19:41	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:14	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 17:54	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.7**	mg/L	1	10/15/2021 20:57	183849
Magnesium	NELAP	0.0500		**17.7**	mg/L	1	10/15/2021 20:57	183849
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/15/2021 20:57	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 20:57	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.5**	mg/L	1	10/15/2021 19:38	183833
Magnesium	NELAP	0.0500		**19.5**	mg/L	1	10/15/2021 19:38	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:38	183833
Potassium	NELAP	0.100		**3.06**	mg/L	1	10/15/2021 19:38	183833
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/15/2021 19:38	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 5:33	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 17:06	183849
Barium	NELAP	0.0010		**0.0551**	mg/L	5	10/21/2021 5:33	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:06	183849
Boron	NELAP	0.0250		**0.0452**	mg/L	5	10/17/2021 17:06	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:06	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:06	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:06	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 17:06	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-005
Client Sample ID: K-A-3M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 16:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:06	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 17:06	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 5:33	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:06	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:06	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 1:39	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/17/2021 21:56	183833
Barium	NELAP	0.0010	B	**0.0704**	mg/L	5	10/21/2021 1:39	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:56	183833
Boron	NELAP	0.0250		**0.0483**	mg/L	5	10/17/2021 21:56	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:56	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:56	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:56	183833
Iron	NELAP	0.0250		**0.230**	mg/L	5	10/17/2021 21:56	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:56	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 21:56	183833
Manganese	NELAP	0.0020		**0.0845**	mg/L	5	10/21/2021 1:39	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 21:56	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 21:56	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:40	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:21	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-006 **Client Sample ID:** K-A-2D

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 15:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 17:55	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 18:01	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.39**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.025**	mg/L	1	10/19/2021 9:36	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:54	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:58	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**106**	mg/L	1	10/08/2021 9:28	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**11**	mg/L	1	10/08/2021 9:28	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**182**	mg/L	1	10/12/2021 19:21	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.3**	mg/L	1	10/08/2021 19:48	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:16	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 18:02	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.2**	mg/L	1	10/15/2021 20:58	183849
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/15/2021 20:58	183849
Potassium	NELAP	0.100		**2.82**	mg/L	1	10/15/2021 20:58	183849
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 20:58	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.6**	mg/L	1	10/15/2021 19:48	183833
Magnesium	NELAP	0.0500		**19.6**	mg/L	1	10/15/2021 19:48	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:48	183833
Potassium	NELAP	0.100		**3.06**	mg/L	1	10/15/2021 19:48	183833
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/15/2021 19:48	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 5:39	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 17:14	183849
Barium	NELAP	0.0010		**0.0555**	mg/L	5	10/21/2021 5:39	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:14	183849
Boron	NELAP	0.0250		**0.0459**	mg/L	5	10/17/2021 17:14	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:14	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:14	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:14	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 17:14	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-006
Client Sample ID: K-A-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 15:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:14	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 17:14	183849
Manganese	NELAP	0.0020		**0.0032**	mg/L	5	10/21/2021 5:39	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:14	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:14	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 1:45	183833
Arsenic	NELAP	0.0010		**0.0027**	mg/L	5	10/17/2021 22:03	183833
Barium	NELAP	0.0010	B	**0.0701**	mg/L	5	10/21/2021 1:45	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:03	183833
Boron	NELAP	0.0250		**0.0564**	mg/L	5	10/17/2021 22:03	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:03	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:03	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:03	183833
Iron	NELAP	0.0250		**0.416**	mg/L	5	10/17/2021 22:03	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:03	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 22:03	183833
Manganese	NELAP	0.0020		**0.0929**	mg/L	5	10/21/2021 1:45	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:03	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:03	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:51	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:27	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-007
Client Sample ID: K-A-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 15:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:10	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 18:09	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.22**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/19/2021 9:37	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 8:55	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/08/2021 14:59	R301111
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**106**	mg/L	1	10/08/2021 9:35	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**11**	mg/L	1	10/08/2021 9:35	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**190**	mg/L	1	10/12/2021 19:21	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.3**	mg/L	1	10/08/2021 19:54	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:26	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 18:10	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.2**	mg/L	1	10/15/2021 21:00	183849
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/15/2021 21:00	183849
Potassium	NELAP	0.100		**2.83**	mg/L	1	10/15/2021 21:00	183849
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 21:00	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.0**	mg/L	1	10/15/2021 19:50	183833
Magnesium	NELAP	0.0500		**19.2**	mg/L	1	10/15/2021 19:50	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:50	183833
Potassium	NELAP	0.100		**2.99**	mg/L	1	10/15/2021 19:50	183833
Sodium	NELAP	0.0500		**12.1**	mg/L	1	10/15/2021 19:50	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 5:45	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 17:52	183849
Barium	NELAP	0.0010		**0.0549**	mg/L	5	10/21/2021 5:45	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:52	183849
Boron	NELAP	0.0250		**0.0454**	mg/L	5	10/17/2021 17:52	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:52	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:52	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:52	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 17:52	183849
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:52	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-007
Client Sample ID: K-A-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 15:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 17:52	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 5:45	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:52	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:52	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:16	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/17/2021 22:11	183833
Barium	NELAP	0.0010	B	**0.0673**	mg/L	5	10/21/2021 2:16	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:11	183833
Boron	NELAP	0.0250		**0.0469**	mg/L	5	10/17/2021 22:11	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:11	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:11	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:11	183833
Iron	NELAP	0.0250		**0.238**	mg/L	5	10/17/2021 22:11	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:11	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 22:11	183833
Manganese	NELAP	0.0020		**0.0787**	mg/L	5	10/21/2021 2:16	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:11	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:11	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:54	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:30	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-008 **Client Sample ID:** K-A-1

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 15:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:19	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**30**	mg/L	1	10/18/2021 18:17	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.25**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/19/2021 9:39	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:30	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/08/2021 14:59	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**105**	mg/L	1	10/08/2021 9:40	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**11**	mg/L	1	10/08/2021 9:40	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**194**	mg/L	1	10/12/2021 19:22	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 20:01	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:28	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 18:18	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.1**	mg/L	1	10/15/2021 21:02	183849
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/15/2021 21:02	183849
Potassium	NELAP	0.100		**2.81**	mg/L	1	10/15/2021 21:02	183849
Sodium	NELAP	0.0500		**11.6**	mg/L	1	10/15/2021 21:02	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.2**	mg/L	1	10/15/2021 19:51	183833
Magnesium	NELAP	0.0500		**19.3**	mg/L	1	10/15/2021 19:51	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:51	183833
Potassium	NELAP	0.100		**3.03**	mg/L	1	10/15/2021 19:51	183833
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/15/2021 19:51	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 5:52	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 17:59	183849
Barium	NELAP	0.0010		**0.0553**	mg/L	5	10/21/2021 5:52	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:59	183849
Boron	NELAP	0.0250		**0.0411**	mg/L	5	10/17/2021 17:59	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:59	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:59	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:59	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 17:59	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-008
Client Sample ID: K-A-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 15:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:59	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 17:59	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 5:52	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 17:59	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 17:59	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:22	183833
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/17/2021 22:18	183833
Barium	NELAP	0.0010	B	**0.0694**	mg/L	5	10/21/2021 2:22	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:18	183833
Boron	NELAP	0.0250		**0.0504**	mg/L	5	10/17/2021 22:18	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:18	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:18	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:18	183833
Iron	NELAP	0.0250		**0.263**	mg/L	5	10/17/2021 22:18	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:18	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 22:18	183833
Manganese	NELAP	0.0020		**0.0808**	mg/L	5	10/21/2021 2:22	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:18	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:18	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:56	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:32	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-009
Client Sample ID: K-B-3D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 14:38

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:21	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**30**	mg/L	1	10/18/2021 18:25	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.55**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.054**	mg/L	1	10/19/2021 9:41	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:32	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	SR	**< 0.05**	mg/L	1	10/08/2021 15:00	R301111
RPD for MS/MSD was outside control limits.								
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**109**	mg/L	1	10/08/2021 9:47	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**7**	mg/L	1	10/08/2021 9:47	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**194**	mg/L	1	10/12/2021 19:22	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 20:39	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:30	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 18:26	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.9**	mg/L	1	10/15/2021 21:04	183849
Magnesium	NELAP	0.0500		**17.9**	mg/L	1	10/15/2021 21:04	183849
Potassium	NELAP	0.100		**2.82**	mg/L	1	10/15/2021 21:04	183849
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 21:04	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.9**	mg/L	1	10/15/2021 19:53	183833
Magnesium	NELAP	0.0500		**19.6**	mg/L	1	10/15/2021 19:53	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:53	183833
Potassium	NELAP	0.100		**3.09**	mg/L	1	10/15/2021 19:53	183833
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/15/2021 19:53	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 5:58	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 18:07	183849
Barium	NELAP	0.0010		**0.0553**	mg/L	5	10/21/2021 5:58	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:07	183849
Boron	NELAP	0.0250		**0.0437**	mg/L	5	10/17/2021 18:07	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:07	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:07	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:07	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-009
Client Sample ID: K-B-3D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 14:38

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 18:07	183849
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:07	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:07	183849
Manganese	NELAP	0.0020		**0.0087**	mg/L	5	10/21/2021 5:58	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:07	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:07	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:28	183833
Arsenic	NELAP	0.0010		**0.0028**	mg/L	5	10/17/2021 22:26	183833
Barium	NELAP	0.0010	B	**0.0738**	mg/L	5	10/21/2021 2:28	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:26	183833
Boron	NELAP	0.0250		**0.0518**	mg/L	5	10/17/2021 22:26	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:26	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:26	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:26	183833
Iron	NELAP	0.0250		**0.604**	mg/L	5	10/17/2021 22:26	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:26	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 22:26	183833
Manganese	NELAP	0.0020		**0.125**	mg/L	5	10/21/2021 2:28	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:26	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:26	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 14:58	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:34	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-010
Client Sample ID: K-B-3M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 14:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**0.094**	mg/L	1	10/07/2021 18:23	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 18:46	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.23**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.028**	mg/L	1	10/19/2021 9:43	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:33	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/09/2021 12:12	R301111
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**113**	mg/L	1	10/08/2021 9:53	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**4**	mg/L	1	10/08/2021 9:53	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**202**	mg/L	1	10/12/2021 19:22	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.3**	mg/L	1	10/08/2021 14:23	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:32	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 18:47	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.8**	mg/L	1	10/15/2021 21:05	183849
Magnesium	NELAP	0.0500		**17.8**	mg/L	1	10/15/2021 21:05	183849
Potassium	NELAP	0.100		**2.81**	mg/L	1	10/15/2021 21:05	183849
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 21:05	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.6**	mg/L	1	10/15/2021 19:55	183833
Magnesium	NELAP	0.0500		**19.5**	mg/L	1	10/15/2021 19:55	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:55	183833
Potassium	NELAP	0.100		**3.04**	mg/L	1	10/15/2021 19:55	183833
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/15/2021 19:55	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 6:04	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 18:15	183849
Barium	NELAP	0.0010		**0.0547**	mg/L	5	10/21/2021 6:04	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:15	183849
Boron	NELAP	0.0250		**0.0466**	mg/L	5	10/17/2021 18:15	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:15	183849
Chromium	NELAP	0.0015		**0.0024**	mg/L	5	10/17/2021 18:15	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:15	183849
Iron	NELAP	0.0250		**0.0371**	mg/L	5	10/17/2021 18:15	183849
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:15	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-010
Client Sample ID: K-B-3M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 14:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:15	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 6:04	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:15	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:15	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:34	183833
Arsenic	NELAP	0.0010		**0.0027**	mg/L	5	10/17/2021 22:34	183833
Barium	NELAP	0.0010	B	**0.0732**	mg/L	5	10/21/2021 2:34	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:34	183833
Boron	NELAP	0.0250		**0.0471**	mg/L	5	10/17/2021 22:34	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:34	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:34	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:34	183833
Iron	NELAP	0.0250		**0.261**	mg/L	5	10/17/2021 22:34	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:34	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 22:34	183833
Manganese	NELAP	0.0020		**0.104**	mg/L	5	10/21/2021 2:34	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 22:34	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 22:34	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:00	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:37	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-011 **Client Sample ID:** K-B-2D

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 13:58

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:25	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 18:55	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.30**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 9:45	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:34	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:11	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**119**	mg/L	1	10/08/2021 9:58	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 9:58	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**190**	mg/L	1	10/12/2021 19:22	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 20:45	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:34	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 18:55	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.9**	mg/L	1	10/15/2021 21:07	183849
Magnesium	NELAP	0.0500		**17.9**	mg/L	1	10/15/2021 21:07	183849
Potassium	NELAP	0.100		**2.80**	mg/L	1	10/15/2021 21:07	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 21:07	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.4**	mg/L	1	10/15/2021 19:56	183833
Magnesium	NELAP	0.0500		**18.8**	mg/L	1	10/15/2021 19:56	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:56	183833
Potassium	NELAP	0.100		**2.96**	mg/L	1	10/15/2021 19:56	183833
Sodium	NELAP	0.0500		**11.9**	mg/L	1	10/15/2021 19:56	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 6:35	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 18:22	183849
Barium	NELAP	0.0010		**0.0551**	mg/L	5	10/21/2021 6:35	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:22	183849
Boron	NELAP	0.0250		**0.0403**	mg/L	5	10/17/2021 18:22	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:22	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:22	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:22	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 18:22	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-011
Client Sample ID: K-B-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 13:58

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:22	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:22	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 6:35	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:22	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:22	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:40	183833
Arsenic	NELAP	0.0010		**0.0027**	mg/L	5	10/17/2021 23:12	183833
Barium	NELAP	0.0010	B	**0.0712**	mg/L	5	10/21/2021 2:40	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:12	183833
Boron	NELAP	0.0250		**0.0472**	mg/L	5	10/17/2021 23:12	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:12	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:12	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:12	183833
Iron	NELAP	0.0250		**0.330**	mg/L	5	10/17/2021 23:12	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:12	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 23:12	183833
Manganese	NELAP	0.0020		**0.0989**	mg/L	5	10/21/2021 2:40	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:12	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:12	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:03	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:39	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-012 **Client Sample ID:** K-B-2M

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 13:43

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:28	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 19:15	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.22**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 9:46	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:36	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:12	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**107**	mg/L	1	10/08/2021 10:09	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 10:09	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**198**	mg/L	1	10/12/2021 19:22	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 20:51	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:36	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 19:16	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.0**	mg/L	1	10/15/2021 21:09	183849
Magnesium	NELAP	0.0500		**18.0**	mg/L	1	10/15/2021 21:09	183849
Potassium	NELAP	0.100		**2.82**	mg/L	1	10/15/2021 21:09	183849
Sodium	NELAP	0.0500		**11.6**	mg/L	1	10/15/2021 21:09	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.5**	mg/L	1	10/15/2021 19:58	183833
Magnesium	NELAP	0.0500		**19.5**	mg/L	1	10/15/2021 19:58	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 19:58	183833
Potassium	NELAP	0.100		**3.04**	mg/L	1	10/15/2021 19:58	183833
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/15/2021 19:58	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 6:41	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 18:30	183849
Barium	NELAP	0.0010		**0.0537**	mg/L	5	10/21/2021 6:41	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:30	183849
Boron	NELAP	0.0250		**0.0404**	mg/L	5	10/17/2021 18:30	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:30	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:30	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:30	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 18:30	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-012
Client Sample ID: K-B-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 13:43

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:30	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:30	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 6:41	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:30	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:30	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:47	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/17/2021 23:19	183833
Barium	NELAP	0.0010	B	**0.0716**	mg/L	5	10/21/2021 2:47	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:19	183833
Boron	NELAP	0.0250		**0.0517**	mg/L	5	10/17/2021 23:19	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:19	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:19	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:19	183833
Iron	NELAP	0.0250		**0.254**	mg/L	5	10/17/2021 23:19	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:19	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 23:19	183833
Manganese	NELAP	0.0020		**0.0946**	mg/L	5	10/21/2021 2:47	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:19	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:19	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:05	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:41	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-013 **Client Sample ID:** K-B-1

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 12:32

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:30	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**32**	mg/L	1	10/18/2021 19:36	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.21**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 9:47	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:37	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:13	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**112**	mg/L	1	10/08/2021 10:15	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**6**	mg/L	1	10/08/2021 10:15	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**198**	mg/L	1	10/12/2021 19:23	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.5**	mg/L	1	10/08/2021 20:58	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:38	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 19:38	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.8**	mg/L	1	10/15/2021 21:20	183849
Magnesium	NELAP	0.0500		**18.3**	mg/L	1	10/15/2021 21:20	183849
Potassium	NELAP	0.100		**2.85**	mg/L	1	10/15/2021 21:20	183849
Sodium	NELAP	0.0500		**11.7**	mg/L	1	10/15/2021 21:20	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**32.0**	mg/L	1	10/15/2021 20:00	183833
Magnesium	NELAP	0.0500		**19.7**	mg/L	1	10/15/2021 20:00	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:00	183833
Potassium	NELAP	0.100		**3.07**	mg/L	1	10/15/2021 20:00	183833
Sodium	NELAP	0.0500		**12.5**	mg/L	1	10/15/2021 20:00	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 6:47	183849
Arsenic	NELAP	0.0010		**0.0020**	mg/L	5	10/17/2021 18:37	183849
Barium	NELAP	0.0010		**0.0573**	mg/L	5	10/21/2021 6:47	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:37	183849
Boron	NELAP	0.0250		**0.0558**	mg/L	5	10/17/2021 18:37	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:37	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:37	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:37	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 18:37	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-013
Client Sample ID: K-B-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 12:32

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:37	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:37	183849
Manganese	NELAP	0.0020		**0.0233**	mg/L	5	10/21/2021 6:47	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:37	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:37	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:53	183833
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/17/2021 23:27	183833
Barium	NELAP	0.0010	B	**0.0702**	mg/L	5	10/21/2021 2:53	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:27	183833
Boron	NELAP	0.0250		**0.0649**	mg/L	5	10/17/2021 23:27	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:27	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:27	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:27	183833
Iron	NELAP	0.0250		**0.240**	mg/L	5	10/17/2021 23:27	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:27	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 23:27	183833
Manganese	NELAP	0.0020		**0.0948**	mg/L	5	10/21/2021 2:53	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:27	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:27	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:07	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:44	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-014
Client Sample ID: K-C-3D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:32	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 19:45	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.63**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.068**	mg/L	1	10/19/2021 9:48	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:38	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:15	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**119**	mg/L	1	10/08/2021 10:20	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 10:20	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**190**	mg/L	1	10/12/2021 19:35	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.4**	mg/L	1	10/08/2021 21:04	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:40	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 19:46	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.1**	mg/L	1	10/15/2021 21:22	183849
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/15/2021 21:22	183849
Potassium	NELAP	0.100		**2.81**	mg/L	1	10/15/2021 21:22	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 21:22	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.8**	mg/L	1	10/15/2021 20:01	183833
Magnesium	NELAP	0.0500		**19.6**	mg/L	1	10/15/2021 20:01	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:01	183833
Potassium	NELAP	0.100		**3.09**	mg/L	1	10/15/2021 20:01	183833
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/15/2021 20:01	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 6:53	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 18:45	183849
Barium	NELAP	0.0010		**0.0543**	mg/L	5	10/21/2021 6:53	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:45	183849
Boron	NELAP	0.0250		**0.0463**	mg/L	5	10/17/2021 18:45	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:45	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:45	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:45	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 18:45	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-014
Client Sample ID: K-C-3D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:45	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:45	183849
Manganese	NELAP	0.0020		**0.0436**	mg/L	5	10/21/2021 6:53	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:45	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:45	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 2:59	183833
Arsenic	NELAP	0.0010		**0.0028**	mg/L	5	10/17/2021 23:35	183833
Barium	NELAP	0.0010	B	**0.0786**	mg/L	5	10/21/2021 2:59	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:35	183833
Boron	NELAP	0.0250		**0.0498**	mg/L	5	10/17/2021 23:35	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:35	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:35	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:35	183833
Iron	NELAP	0.0250		**0.693**	mg/L	5	10/17/2021 23:35	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:35	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 23:35	183833
Manganese	NELAP	0.0020		**0.168**	mg/L	5	10/21/2021 2:59	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:35	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:35	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:14	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:46	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-015
Client Sample ID: K-C-3M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 11:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:47	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 19:52	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.25**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.043**	mg/L	1	10/19/2021 9:50	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/08/2021 9:40	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/09/2021 14:18	R301111
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**116**	mg/L	1	10/08/2021 10:26	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 10:26	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**192**	mg/L	1	10/12/2021 19:36	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 21:10	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:50	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 19:54	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.0**	mg/L	1	10/15/2021 21:24	183849
Magnesium	NELAP	0.0500		**18.0**	mg/L	1	10/15/2021 21:24	183849
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/15/2021 21:24	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 21:24	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.9**	mg/L	1	10/15/2021 20:11	183833
Magnesium	NELAP	0.0500		**19.1**	mg/L	1	10/15/2021 20:11	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:11	183833
Potassium	NELAP	0.100		**3.02**	mg/L	1	10/15/2021 20:11	183833
Sodium	NELAP	0.0500		**12.1**	mg/L	1	10/15/2021 20:11	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 6:59	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 18:53	183849
Barium	NELAP	0.0010		**0.0552**	mg/L	5	10/21/2021 6:59	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:53	183849
Boron	NELAP	0.0250		**0.0407**	mg/L	5	10/17/2021 18:53	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:53	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:53	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:53	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 18:53	183849
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:53	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-015
Client Sample ID: K-C-3M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 11:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 18:53	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 6:59	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 18:53	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 18:53	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 3:05	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/17/2021 23:42	183833
Barium	NELAP	0.0010	B	**0.0720**	mg/L	5	10/21/2021 3:05	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:42	183833
Boron	NELAP	0.0250		**0.0452**	mg/L	5	10/17/2021 23:42	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:42	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:42	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:42	183833
Iron	NELAP	0.0250		**0.298**	mg/L	5	10/17/2021 23:42	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:42	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 23:42	183833
Manganese	NELAP	0.0020		**0.101**	mg/L	5	10/21/2021 3:05	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:42	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:42	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:16	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 18:57	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-016
Client Sample ID: K-C-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 11:08

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:49	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 20:00	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.34**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.036**	mg/L	1	10/19/2021 9:51	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:43	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:20	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**118**	mg/L	1	10/08/2021 10:32	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 10:32	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**202**	mg/L	1	10/12/2021 19:36	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.0**	mg/L	1	10/08/2021 21:17	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:51	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 20:02	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.0**	mg/L	1	10/15/2021 21:29	183849
Magnesium	NELAP	0.0500		**18.0**	mg/L	1	10/15/2021 21:29	183849
Potassium	NELAP	0.100		**2.80**	mg/L	1	10/15/2021 21:29	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 21:29	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100	S	**31.5**	mg/L	1	10/15/2021 20:13	183833
Magnesium	NELAP	0.0500		**19.5**	mg/L	1	10/15/2021 20:13	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:13	183833
Potassium	NELAP	0.100		**3.10**	mg/L	1	10/15/2021 20:13	183833
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/15/2021 20:13	183833
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.								
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0039**	mg/L	5	10/21/2021 7:18	183849
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/17/2021 20:01	183849
Barium	NELAP	0.0010		**0.0565**	mg/L	5	10/21/2021 7:18	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:01	183849
Boron	NELAP	0.0250		**0.0421**	mg/L	5	10/17/2021 20:01	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:01	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:01	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:01	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-016
Client Sample ID: K-C-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 11:08

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 20:01	183849
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:01	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 20:01	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 7:18	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:01	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:01	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 3:11	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/17/2021 23:50	183833
Barium	NELAP	0.0010	B	**0.0741**	mg/L	5	10/21/2021 3:11	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:50	183833
Boron	NELAP	0.0250		**0.0517**	mg/L	5	10/17/2021 23:50	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:50	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:50	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:50	183833
Iron	NELAP	0.0250		**0.378**	mg/L	5	10/17/2021 23:50	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:50	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 23:50	183833
Manganese	NELAP	0.0020		**0.0992**	mg/L	5	10/21/2021 3:11	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 23:50	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 23:50	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:23	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 19:00	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-017 **Client Sample ID:** K-C-2M

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 10:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:51	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**32**	mg/L	1	10/18/2021 20:09	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.23**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/19/2021 9:54	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:45	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:22	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**117**	mg/L	1	10/08/2021 10:38	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 10:38	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**200**	mg/L	1	10/12/2021 19:36	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 21:23	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:53	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 20:10	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.2**	mg/L	1	10/15/2021 21:30	183849
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/15/2021 21:30	183849
Potassium	NELAP	0.100		**2.82**	mg/L	1	10/15/2021 21:30	183849
Sodium	NELAP	0.0500		**11.6**	mg/L	1	10/15/2021 21:30	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.1**	mg/L	1	10/15/2021 20:18	183833
Magnesium	NELAP	0.0500		**19.3**	mg/L	1	10/15/2021 20:18	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:18	183833
Potassium	NELAP	0.100		**3.06**	mg/L	1	10/15/2021 20:18	183833
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/15/2021 20:18	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0012**	mg/L	5	10/21/2021 7:24	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 20:09	183849
Barium	NELAP	0.0010		**0.0559**	mg/L	5	10/21/2021 7:24	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:09	183849
Boron	NELAP	0.0250		**0.0429**	mg/L	5	10/17/2021 20:09	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:09	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:09	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:09	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 20:09	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-017
Client Sample ID: K-C-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 10:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:09	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 20:09	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 7:24	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:09	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:09	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 4:07	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/18/2021 0:13	183833
Barium	NELAP	0.0010	B	**0.0708**	mg/L	5	10/21/2021 4:07	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:13	183833
Boron	NELAP	0.0250		**0.0491**	mg/L	5	10/18/2021 0:13	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:13	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 0:13	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:13	183833
Iron	NELAP	0.0250		**0.254**	mg/L	5	10/18/2021 0:13	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:13	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 0:13	183833
Manganese	NELAP	0.0020		**0.0908**	mg/L	5	10/21/2021 4:07	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 0:13	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:13	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:26	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 19:02	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/04/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-018 **Client Sample ID:** K-C-1

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 10:27

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:54	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**32**	mg/L	1	10/18/2021 20:30	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.19**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/19/2021 9:56	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:46	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:23	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**112**	mg/L	1	10/08/2021 10:44	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**6**	mg/L	1	10/08/2021 10:44	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**216**	mg/L	1	10/12/2021 19:37	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 21:29	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:55	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 20:31	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.1**	mg/L	1	10/15/2021 21:32	183849
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/15/2021 21:32	183849
Potassium	NELAP	0.100		**2.86**	mg/L	1	10/15/2021 21:32	183849
Sodium	NELAP	0.0500		**11.6**	mg/L	1	10/15/2021 21:32	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.8**	mg/L	1	10/15/2021 20:20	183833
Magnesium	NELAP	0.0500		**19.1**	mg/L	1	10/15/2021 20:20	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:20	183833
Potassium	NELAP	0.100		**3.02**	mg/L	1	10/15/2021 20:20	183833
Sodium	NELAP	0.0500		**12.1**	mg/L	1	10/15/2021 20:20	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 7:30	183849
Arsenic	NELAP	0.0010		**0.0023**	mg/L	5	10/17/2021 20:16	183849
Barium	NELAP	0.0010		**0.0561**	mg/L	5	10/21/2021 7:30	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:16	183849
Boron	NELAP	0.0250		**0.0429**	mg/L	5	10/17/2021 20:16	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:16	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:16	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:16	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 20:16	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-018
Client Sample ID: K-C-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 10:27

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:16	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 20:16	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 7:30	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:16	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:16	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 4:13	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/18/2021 0:20	183833
Barium	NELAP	0.0010	B	**0.0706**	mg/L	5	10/21/2021 4:13	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:20	183833
Boron	NELAP	0.0250		**0.0505**	mg/L	5	10/18/2021 0:20	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:20	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 0:20	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:20	183833
Iron	NELAP	0.0250		**0.210**	mg/L	5	10/18/2021 0:20	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:20	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 0:20	183833
Manganese	NELAP	0.0020		**0.0869**	mg/L	5	10/21/2021 4:13	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 0:20	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:20	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:28	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 19:04	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-019 **Client Sample ID:** K-D-2D

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 10:06

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 18:58	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**32**	mg/L	1	10/18/2021 20:38	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.45**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.061**	mg/L	1	10/19/2021 9:58	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:48	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:25	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**117**	mg/L	1	10/08/2021 10:58	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 10:58	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**214**	mg/L	1	10/12/2021 19:38	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 21:36	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:57	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 20:39	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.7**	mg/L	1	10/15/2021 21:55	183849
Magnesium	NELAP	0.0500		**17.8**	mg/L	1	10/15/2021 21:55	183849
Potassium	NELAP	0.100		**2.78**	mg/L	1	10/15/2021 21:55	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 21:55	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.1**	mg/L	1	10/15/2021 20:22	183833
Magnesium	NELAP	0.0500		**19.1**	mg/L	1	10/15/2021 20:22	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:22	183833
Potassium	NELAP	0.100		**3.06**	mg/L	1	10/15/2021 20:22	183833
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/15/2021 20:22	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0045**	mg/L	5	10/21/2021 8:14	183849
Arsenic	NELAP	0.0010		**0.0020**	mg/L	5	10/17/2021 20:24	183849
Barium	NELAP	0.0010		**0.0570**	mg/L	5	10/21/2021 8:14	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:24	183849
Boron	NELAP	0.0250		**0.0421**	mg/L	5	10/17/2021 20:24	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:24	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:24	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:24	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 20:24	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-019
Client Sample ID: K-D-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 10:06

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:24	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 20:24	183849
Manganese	NELAP	0.0020		**0.0032**	mg/L	5	10/21/2021 8:14	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:24	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:24	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 4:19	183833
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/18/2021 0:59	183833
Barium	NELAP	0.0010	B	**0.0737**	mg/L	5	10/21/2021 4:19	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:59	183833
Boron	NELAP	0.0250		**0.0513**	mg/L	5	10/18/2021 0:59	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:59	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 0:59	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:59	183833
Iron	NELAP	0.0250		**0.512**	mg/L	5	10/18/2021 0:59	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:59	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 0:59	183833
Manganese	NELAP	0.0020		**0.0976**	mg/L	5	10/21/2021 4:19	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 0:59	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 0:59	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:30	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 19:07	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-020 **Client Sample ID:** K-D-2M

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 9:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:07	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 20:46	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.18**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.036**	mg/L	1	10/19/2021 9:59	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:49	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/09/2021 14:26	R301111
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**119**	mg/L	1	10/08/2021 11:04	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:04	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**200**	mg/L	1	10/12/2021 19:44	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.4**	mg/L	1	10/08/2021 14:49	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 10:58	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 20:47	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.8**	mg/L	1	10/15/2021 21:57	183849
Magnesium	NELAP	0.0500		**17.9**	mg/L	1	10/15/2021 21:57	183849
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/15/2021 21:57	183849
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 21:57	183849
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.8**	mg/L	1	10/15/2021 20:23	183833
Magnesium	NELAP	0.0500		**19.1**	mg/L	1	10/15/2021 20:23	183833
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 20:23	183833
Potassium	NELAP	0.100		**3.02**	mg/L	1	10/15/2021 20:23	183833
Sodium	NELAP	0.0500		**12.1**	mg/L	1	10/15/2021 20:23	183833
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0012**	mg/L	5	10/21/2021 8:20	183849
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/17/2021 20:32	183849
Barium	NELAP	0.0010		**0.0560**	mg/L	5	10/21/2021 8:20	183849
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:32	183849
Boron	NELAP	0.0250		**0.0408**	mg/L	5	10/17/2021 20:32	183849
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:32	183849
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:32	183849
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:32	183849
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/17/2021 20:32	183849

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-020
Client Sample ID: K-D-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 9:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:32	183849
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/17/2021 20:32	183849
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/21/2021 8:20	183849
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/17/2021 20:32	183849
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/17/2021 20:32	183849
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/21/2021 4:25	183833
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/18/2021 1:06	183833
Barium	NELAP	0.0010	B	**0.0703**	mg/L	5	10/21/2021 4:25	183833
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 1:06	183833
Boron	NELAP	0.0250		**0.0484**	mg/L	5	10/18/2021 1:06	183833
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 1:06	183833
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 1:06	183833
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 1:06	183833
Iron	NELAP	0.0250		**0.213**	mg/L	5	10/18/2021 1:06	183833
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 1:06	183833
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 1:06	183833
Manganese	NELAP	0.0020		**0.0833**	mg/L	5	10/21/2021 4:25	183833
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 1:06	183833
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 1:06	183833
Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:32	183868
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 19:09	183866
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-021 **Client Sample ID:** K-D-1

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 9:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:09	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**32**	mg/L	1	10/18/2021 20:55	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.51**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.025**	mg/L	1	10/19/2021 10:00	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:50	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/12/2021 14:34	R301164
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**115**	mg/L	1	10/08/2021 11:10	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**5**	mg/L	1	10/08/2021 11:10	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**210**	mg/L	1	10/12/2021 19:44	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 22:14	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:00	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 20:55	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.7**	mg/L	1	10/15/2021 18:51	183857
Magnesium	NELAP	0.0500		**17.7**	mg/L	1	10/15/2021 18:51	183857
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/15/2021 18:51	183857
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 18:51	183857
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**28.9**	mg/L	1	10/13/2021 18:25	183842
Magnesium	NELAP	0.0500		**17.7**	mg/L	1	10/13/2021 18:25	183842
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:25	183842
Potassium	NELAP	0.100		**2.78**	mg/L	1	10/13/2021 18:25	183842
Sodium	NELAP	0.0500		**11.9**	mg/L	1	10/13/2021 18:25	183842
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 21:04	183857
Arsenic	NELAP	0.0010		**0.0023**	mg/L	5	10/18/2021 5:35	183857
Barium	NELAP	0.0010		**0.0533**	mg/L	5	10/18/2021 5:35	183857
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:35	183857
Boron	NELAP	0.0250		**0.0459**	mg/L	5	10/18/2021 5:35	183857
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:35	183857
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:35	183857
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:35	183857
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 5:35	183857
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:35	183857

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-021
Client Sample ID: K-D-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 9:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 5:35	183857
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 5:35	183857
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:35	183857
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:35	183857
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 22:43	183842
Arsenic	NELAP	0.0010		**0.0027**	mg/L	5	10/18/2021 8:53	183842
Barium	NELAP	0.0010		**0.0736**	mg/L	5	10/18/2021 8:53	183842
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 8:53	183842
Boron	NELAP	0.0250		**0.0481**	mg/L	5	10/18/2021 8:53	183842
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 8:53	183842
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 8:53	183842
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 8:53	183842
Iron	NELAP	0.0250		**0.533**	mg/L	5	10/18/2021 8:53	183842
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 8:53	183842
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 8:53	183842
Manganese	NELAP	0.0020		**0.125**	mg/L	5	10/18/2021 8:53	183842
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 8:53	183842
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 8:53	183842
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:46	183871
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:44	183871
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/06/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-022 **Client Sample ID:** K-E-2D

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 8:58

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:11	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 21:03	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.26**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.028**	mg/L	1	10/19/2021 10:01	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**0.021**	mg/L	1	10/08/2021 9:51	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/12/2021 14:35	R301164
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**120**	mg/L	1	10/08/2021 11:21	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:21	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**218**	mg/L	1	10/12/2021 19:47	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 22:20	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:02	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 21:03	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.5**	mg/L	1	10/15/2021 18:52	183857
Magnesium	NELAP	0.0500		**17.6**	mg/L	1	10/15/2021 18:52	183857
Potassium	NELAP	0.100		**2.78**	mg/L	1	10/15/2021 18:52	183857
Sodium	NELAP	0.0500		**11.3**	mg/L	1	10/15/2021 18:52	183857
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.9**	mg/L	1	10/13/2021 18:26	183842
Magnesium	NELAP	0.0500		**18.7**	mg/L	1	10/13/2021 18:26	183842
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:26	183842
Potassium	NELAP	0.100		**2.93**	mg/L	1	10/13/2021 18:26	183842
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/13/2021 18:26	183842
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 21:31	183857
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/18/2021 5:42	183857
Barium	NELAP	0.0010		**0.0522**	mg/L	5	10/18/2021 5:42	183857
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:42	183857
Boron	NELAP	0.0250		**0.0435**	mg/L	5	10/18/2021 5:42	183857
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:42	183857
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:42	183857
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:42	183857
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 5:42	183857

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-022
Client Sample ID: K-E-2D
Matrix: GROUNDWATER
Collection Date: 10/06/2021 8:58

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:42	183857
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 5:42	183857
Manganese	NELAP	0.0020		**0.0121**	mg/L	5	10/18/2021 5:42	183857
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:42	183857
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:42	183857
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 23:03	183842
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/18/2021 9:01	183842
Barium	NELAP	0.0010		**0.0703**	mg/L	5	10/18/2021 9:01	183842
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:01	183842
Boron	NELAP	0.0250		**0.0496**	mg/L	5	10/18/2021 9:01	183842
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:01	183842
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 9:01	183842
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:01	183842
Iron	NELAP	0.0250		**0.290**	mg/L	5	10/18/2021 9:01	183842
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:01	183842
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 9:01	183842
Manganese	NELAP	0.0020		**0.0934**	mg/L	5	10/18/2021 9:01	183842
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 9:01	183842
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:01	183842
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:51	183871
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:49	183871
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-023
Client Sample ID: K-E-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:26	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 21:24	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.14**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.036**	mg/L	1	10/19/2021 10:03	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:53	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/12/2021 14:37	R301164
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**118**	mg/L	1	10/08/2021 11:27	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:27	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**216**	mg/L	1	10/12/2021 19:48	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 22:27	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:12	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 21:24	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.8**	mg/L	1	10/15/2021 18:54	183857
Magnesium	NELAP	0.0500		**17.8**	mg/L	1	10/15/2021 18:54	183857
Potassium	NELAP	0.100		**2.81**	mg/L	1	10/15/2021 18:54	183857
Sodium	NELAP	0.0500		**11.5**	mg/L	1	10/15/2021 18:54	183857
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**30.2**	mg/L	1	10/13/2021 18:28	183842
Magnesium	NELAP	0.0500		**18.3**	mg/L	1	10/13/2021 18:28	183842
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:28	183842
Potassium	NELAP	0.100		**2.88**	mg/L	1	10/13/2021 18:28	183842
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/13/2021 18:28	183842
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 21:34	183857
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/18/2021 5:50	183857
Barium	NELAP	0.0010		**0.0523**	mg/L	5	10/18/2021 5:50	183857
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:50	183857
Boron	NELAP	0.0250		**0.0441**	mg/L	5	10/18/2021 5:50	183857
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:50	183857
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:50	183857
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:50	183857
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 5:50	183857
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:50	183857

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-023
Client Sample ID: K-E-2M
Matrix: GROUNDWATER
Collection Date: 10/06/2021 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 5:50	183857
Manganese	NELAP	0.0020		**0.0061**	mg/L	5	10/18/2021 5:50	183857
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:50	183857
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:50	183857
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 23:06	183842
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/18/2021 9:46	183842
Barium	NELAP	0.0010		**0.0633**	mg/L	5	10/18/2021 9:46	183842
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:46	183842
Boron	NELAP	0.0250		**0.0455**	mg/L	5	10/18/2021 9:46	183842
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:46	183842
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 9:46	183842
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:46	183842
Iron	NELAP	0.0250		**0.171**	mg/L	5	10/18/2021 9:46	183842
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:46	183842
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 9:46	183842
Manganese	NELAP	0.0020		**0.0741**	mg/L	5	10/18/2021 9:46	183842
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 9:46	183842
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:46	183842
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:55	183871
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:53	183871
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Lab ID: 21100448-024 **Client Sample ID:** K-E-1

Matrix: GROUNDWATER **Collection Date:** 10/06/2021 8:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:28	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 21:44	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.17**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.036**	mg/L	1	10/19/2021 10:04	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:56	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/12/2021 14:38	R301164
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**119**	mg/L	1	10/08/2021 11:33	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:33	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**214**	mg/L	1	10/12/2021 19:48	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 15:39	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:14	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 21:46	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100	S	**29.0**	mg/L	1	10/15/2021 19:11	183857
Magnesium	NELAP	0.0500	S	**17.9**	mg/L	1	10/15/2021 19:11	183857
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/15/2021 19:11	183857
Sodium	NELAP	0.0500		**11.4**	mg/L	1	10/15/2021 19:11	183857
Matrix spike control limits for Ca and Mg are not applicable due to high sample/spike ratio.								
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**29.6**	mg/L	1	10/13/2021 18:30	183842
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/13/2021 18:30	183842
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:30	183842
Potassium	NELAP	0.100		**2.78**	mg/L	1	10/13/2021 18:30	183842
Sodium	NELAP	0.0500		**12.0**	mg/L	1	10/13/2021 18:30	183842
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 21:37	183857
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/18/2021 5:57	183857
Barium	NELAP	0.0010		**0.0530**	mg/L	5	10/18/2021 5:57	183857
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:57	183857
Boron	NELAP	0.0250		**0.0446**	mg/L	5	10/18/2021 5:57	183857
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:57	183857
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:57	183857
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:57	183857

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-024
Client Sample ID: K-E-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 8:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 5:57	183857
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:57	183857
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 5:57	183857
Manganese	NELAP	0.0020		**0.0032**	mg/L	5	10/18/2021 5:57	183857
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 5:57	183857
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 5:57	183857
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 23:09	183842
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/18/2021 9:54	183842
Barium	NELAP	0.0010		**0.0671**	mg/L	5	10/18/2021 9:54	183842
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:54	183842
Boron	NELAP	0.0250		**0.0474**	mg/L	5	10/18/2021 9:54	183842
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:54	183842
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 9:54	183842
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:54	183842
Iron	NELAP	0.0250		**0.204**	mg/L	5	10/18/2021 9:54	183842
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:54	183842
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 9:54	183842
Manganese	NELAP	0.0020		**0.0870**	mg/L	5	10/18/2021 9:54	183842
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 9:54	183842
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 9:54	183842
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 16:09	183871
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 15:58	183871
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-025
Client Sample ID: K-DUP-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:30	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 21:52	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.26**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.039**	mg/L	1	10/19/2021 10:07	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:57	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/12/2021 14:39	R301164
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**116**	mg/L	1	10/08/2021 11:39	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:39	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**228**	mg/L	1	10/12/2021 19:48	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.0**	mg/L	1	10/08/2021 22:33	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.35**	mg/L	1	10/08/2021 11:16	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 21:53	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**28.5**	mg/L	1	10/15/2021 18:56	183857
Magnesium	NELAP	0.0500		**17.6**	mg/L	1	10/15/2021 18:56	183857
Potassium	NELAP	0.100		**2.77**	mg/L	1	10/15/2021 18:56	183857
Sodium	NELAP	0.0500		**11.3**	mg/L	1	10/15/2021 18:56	183857
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**29.6**	mg/L	1	10/13/2021 18:31	183842
Magnesium	NELAP	0.0500		**18.1**	mg/L	1	10/13/2021 18:31	183842
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:31	183842
Potassium	NELAP	0.100		**2.84**	mg/L	1	10/13/2021 18:31	183842
Sodium	NELAP	0.0500		**12.0**	mg/L	1	10/13/2021 18:31	183842
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0022**	mg/L	5	10/19/2021 21:47	183857
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/18/2021 6:20	183857
Barium	NELAP	0.0010		**0.0506**	mg/L	5	10/18/2021 6:20	183857
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:20	183857
Boron	NELAP	0.0250		**0.0468**	mg/L	5	10/18/2021 6:20	183857
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:20	183857
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 6:20	183857
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:20	183857
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 6:20	183857
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:20	183857

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-025
Client Sample ID: K-DUP-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 6:20	183857
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 6:20	183857
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 6:20	183857
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:20	183857
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 23:13	183842
Arsenic	NELAP	0.0010		**0.0027**	mg/L	5	10/18/2021 10:01	183842
Barium	NELAP	0.0010		**0.0674**	mg/L	5	10/18/2021 10:01	183842
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:01	183842
Boron	NELAP	0.0250		**0.0467**	mg/L	5	10/18/2021 10:01	183842
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:01	183842
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 10:01	183842
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:01	183842
Iron	NELAP	0.0250		**0.297**	mg/L	5	10/18/2021 10:01	183842
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:01	183842
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 10:01	183842
Manganese	NELAP	0.0020		**0.0951**	mg/L	5	10/18/2021 10:01	183842
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 10:01	183842
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:01	183842
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 16:19	183871
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 16:16	183871
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-026
Client Sample ID: K-FB-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 15:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/07/2021 19:32	R301019
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**< 10**	mg/L	1	10/18/2021 22:17	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**< 0.020**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/19/2021 10:08	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 9:58	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/12/2021 14:42	R301164
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**1**	mg/L	1	10/08/2021 11:44	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:44	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**30**	mg/L	1	10/12/2021 19:49	R301209
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**< 1.0**	mg/L	1	10/08/2021 22:40	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**< 0.10**	mg/L	1	10/08/2021 11:18	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**< 1**	mg/L	1	10/18/2021 22:18	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 18:57	183857
Magnesium	NELAP	0.0500		**< 0.0500**	mg/L	1	10/15/2021 18:57	183857
Potassium	NELAP	0.100		**< 0.100**	mg/L	1	10/15/2021 18:57	183857
Sodium	NELAP	0.0500		**< 0.0500**	mg/L	1	10/15/2021 18:57	183857
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:33	183842
Magnesium	NELAP	0.0500		**< 0.0500**	mg/L	1	10/13/2021 18:33	183842
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:33	183842
Potassium	NELAP	0.100		**< 0.100**	mg/L	1	10/13/2021 18:33	183842
Sodium	NELAP	0.0500		**< 0.0500**	mg/L	1	10/13/2021 18:33	183842
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 21:50	183857
Arsenic	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857
Barium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857
Boron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 6:28	183857
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 6:28	183857
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 6:28	183857
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857

Client: Golder Associates, Inc
Work Order: 21100448
Client Project: Kincaid SW Sampling
Report Date: 12-Nov-21
Lab ID: 21100448-026
Client Sample ID: K-FB-1
Matrix: GROUNDWATER
Collection Date: 10/06/2021 15:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 6:28	183857
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 6:28	183857
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 6:28	183857
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 6:28	183857
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 23:16	183842
Arsenic	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
Barium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
Boron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 10:47	183842
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 10:47	183842
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/18/2021 10:47	183842
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/18/2021 10:47	183842
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 10:47	183842
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/18/2021 10:47	183842
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 10:47	183842
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 16:23	183871
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 16:21	183871
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
Radium-228	*	0		**See Attached**	pci/L	1	10/26/2021 0:00	R302150
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc
Client Project: Kincaid SW Sampling

Work Order: 21100448
Report Date: 12-Nov-21

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
21100448-001	K-F-2D	Groundwater	9	10/06/2021 17:48
21100448-002	K-F-2M	Groundwater	9	10/06/2021 17:32
21100448-003	K-F-1	Groundwater	9	10/06/2021 17:12
21100448-004	K-A-3D	Groundwater	9	10/06/2021 16:20
21100448-005	K-A-3M	Groundwater	9	10/06/2021 16:05
21100448-006	K-A-2D	Groundwater	9	10/06/2021 15:33
21100448-007	K-A-2M	Groundwater	9	10/06/2021 15:20
21100448-008	K-A-1	Groundwater	9	10/06/2021 15:00
21100448-009	K-B-3D	Groundwater	9	10/06/2021 14:38
21100448-010	K-B-3M	Groundwater	9	10/06/2021 14:25
21100448-011	K-B-2D	Groundwater	9	10/06/2021 13:58
21100448-012	K-B-2M	Groundwater	9	10/06/2021 13:43
21100448-013	K-B-1	Groundwater	9	10/06/2021 12:32
21100448-014	K-C-3D	Groundwater	9	10/06/2021 12:00
21100448-015	K-C-3M	Groundwater	9	10/06/2021 11:35
21100448-016	K-C-2D	Groundwater	9	10/06/2021 11:08
21100448-017	K-C-2M	Groundwater	9	10/06/2021 10:53
21100448-018	K-C-1	Groundwater	9	10/06/2021 10:27
21100448-019	K-D-2D	Groundwater	9	10/06/2021 10:06
21100448-020	K-D-2M	Groundwater	9	10/06/2021 9:53
21100448-021	K-D-1	Groundwater	9	10/06/2021 9:33
21100448-022	K-E-2D	Groundwater	9	10/06/2021 8:58
21100448-023	K-E-2M	Groundwater	9	10/06/2021 8:45
21100448-024	K-E-1	Groundwater	9	10/06/2021 8:20
21100448-025	K-DUP-1	Groundwater	9	10/06/2021 0:00
21100448-026	K-FB-1	Groundwater	9	10/06/2021 15:05

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-001A	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 8:51
	Standard Methods 2320 B 1997, 2011				10/08/2021 8:51
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 18:59
	SW-846 9214 (Total)				10/08/2021 10:06
21100448-001B	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 17:38
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 16:38
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:09
	SW-846 9251 (Total)				10/18/2021 16:39
21100448-001C	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-001D	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 20:39
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 1:02
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:07
21100448-001E	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 20:37
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 16:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 4:31
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:30
21100448-001F	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:54
21100448-001G	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:16
21100448-001H	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:29
21100448-001I	K-F-2D	10/06/2021 17:48	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:47
21100448-002A	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:03
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:03

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 18:59
	SW-846 9214 (Total)				10/08/2021 10:08
21100448-002B	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 17:46
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 17:15
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:31
	SW-846 9251 (Total)				10/18/2021 17:16
21100448-002C	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-002D	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 21:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 1:20
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:09
21100448-002E	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 20:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 16:43
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:15
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:33
21100448-002F	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:55
21100448-002G	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:22
21100448-002H	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:31
21100448-002I	K-F-2M	10/06/2021 17:32	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:49
21100448-003A	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:09
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:09
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 18:59
	SW-846 9214 (Total)				10/08/2021 10:09
21100448-003B	K-F-1	10/06/2021 17:12	10/07/2021 12:35		

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	EPA 600 353.2 R2.0 (Total)				10/07/2021 17:49
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 17:24
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:13
	SW-846 9251 (Total)				10/18/2021 17:24
21100448-003C	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-003D	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:34
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 21:40
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 1:26
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:11
21100448-003E	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 20:43
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 16:51
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:21
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:35
21100448-003F	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:55
21100448-003G	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:29
21100448-003H	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:33
21100448-003I	K-F-1	10/06/2021 17:12	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:50
21100448-004A	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:16
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:16
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:20
	SW-846 9214 (Total)				10/08/2021 10:12
21100448-004B	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 17:51
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 17:31
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:13

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 9251 (Total)				10/18/2021 17:32
21100448-004C	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-004D	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 21:48
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 1:33
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:18
21100448-004E	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 20:45
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 16:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:27
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:37
21100448-004F	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:56
21100448-004G	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:35
21100448-004H	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:34
21100448-004I	K-A-3D	10/06/2021 16:20	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:52
21100448-005A	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:22
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:22
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:21
	SW-846 9214 (Total)				10/08/2021 10:14
21100448-005B	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 17:53
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 17:53
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:17
	SW-846 9251 (Total)				10/18/2021 17:54
21100448-005C	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-005D	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:38
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 21:56
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 1:39
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:21
21100448-005E	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 20:57
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 17:06
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:33
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:40
21100448-005F	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:57
21100448-005G	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:41
21100448-005H	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:35
21100448-005I	K-A-3M	10/06/2021 16:05	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:53
21100448-006A	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:28
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:28
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:21
	SW-846 9214 (Total)				10/08/2021 10:16
21100448-006B	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 17:55
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 18:01
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:18
	SW-846 9251 (Total)				10/18/2021 18:02
21100448-006C	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-006D	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:48

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 22:03
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 1:45
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:27
21100448-006E	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 20:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 17:14
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:39
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:51
21100448-006F	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:58
21100448-006G	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:48
21100448-006H	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:36
21100448-006I	K-A-2D	10/06/2021 15:33	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:54
21100448-007A	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:35
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:35
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:21
	SW-846 9214 (Total)				10/08/2021 10:26
21100448-007B	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:10
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 18:09
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:18
	SW-846 9251 (Total)				10/18/2021 18:10
21100448-007C	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-007D	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 22:11
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:16
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:30

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-007E	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:00
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 17:52
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:45
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:54
21100448-007F	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:59
21100448-007G	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	SW-846 9060				10/08/2021 19:54
21100448-007H	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:37
21100448-007I	K-A-2M	10/06/2021 15:20	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 8:55
21100448-008A	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:40
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:40
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:22
	SW-846 9214 (Total)				10/08/2021 10:28
21100448-008B	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:19
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 18:17
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:19
	SW-846 9251 (Total)				10/18/2021 18:18
21100448-008C	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-008D	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:51
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 22:18
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:22
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:32
21100448-008E	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:02

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 17:59
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:52
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:56
21100448-008F	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 14:59
21100448-008G	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	SW-846 9060				10/08/2021 20:01
21100448-008H	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:39
21100448-008I	K-A-1	10/06/2021 15:00	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:30
21100448-009A	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:47
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:47
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:22
	SW-846 9214 (Total)				10/08/2021 10:30
21100448-009B	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:21
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 18:25
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:20
	SW-846 9251 (Total)				10/18/2021 18:26
21100448-009C	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-009D	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:53
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 22:26
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:28
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:34
21100448-009E	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:04
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:07
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 5:58
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 14:58

Client: Golder Associates, Inc

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Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-009F	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/08/2021 15:00
21100448-009G	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	SW-846 9060				10/08/2021 20:39
21100448-009H	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:41
21100448-009I	K-B-3D	10/06/2021 14:38	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:32
21100448-010A	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:53
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:53
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:22
	SW-846 9214 (Total)				10/08/2021 10:32
21100448-010B	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:23
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 18:46
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:21
	SW-846 9251 (Total)				10/18/2021 18:47
21100448-010C	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-010D	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:55
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 22:34
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:34
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:37
21100448-010E	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:05
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:15
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 6:04
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:00
21100448-010F	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 12:12
21100448-010G	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		

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Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 9060				10/08/2021 14:23
21100448-010H	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:43
21100448-010I	K-B-3M	10/06/2021 14:25	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:33
21100448-011A	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 9:58
	Standard Methods 2320 B 1997, 2011				10/08/2021 9:58
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:22
	SW-846 9214 (Total)				10/08/2021 10:34
21100448-011B	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:25
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 18:55
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:21
	SW-846 9251 (Total)				10/18/2021 18:55
21100448-011C	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-011D	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:56
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 23:12
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:40
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:39
21100448-011E	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:07
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:22
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 6:35
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:03
21100448-011F	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:11
21100448-011G	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	SW-846 9060				10/08/2021 20:45
21100448-011H	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

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Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:45
21100448-011I	K-B-2D	10/06/2021 13:58	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:34
21100448-012A	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:09
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:09
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:22
	SW-846 9214 (Total)				10/08/2021 10:36
21100448-012B	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:28
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 19:15
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:22
	SW-846 9251 (Total)				10/18/2021 19:16
21100448-012C	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-012D	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 19:58
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 23:19
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:47
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:41
21100448-012E	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:09
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:30
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 6:41
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:05
21100448-012F	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:12
21100448-012G	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	SW-846 9060				10/08/2021 20:51
21100448-012H	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:46
21100448-012I	K-B-2M	10/06/2021 13:43	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:36

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

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Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-013A	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:15
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:15
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:23
	SW-846 9214 (Total)				10/08/2021 10:38
21100448-013B	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:30
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 19:36
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:22
	SW-846 9251 (Total)				10/18/2021 19:38
21100448-013C	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-013D	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:00
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 23:27
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:53
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:44
21100448-013E	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:37
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 6:47
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:07
21100448-013F	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:13
21100448-013G	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	SW-846 9060				10/08/2021 20:58
21100448-013H	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:47
21100448-013I	K-B-1	10/06/2021 12:32	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:37
21100448-014A	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:20
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:20

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Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:35
	SW-846 9214 (Total)				10/08/2021 10:40
21100448-014B	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:32
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 19:45
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:22
	SW-846 9251 (Total)				10/18/2021 19:46
21100448-014C	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-014D	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:01
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 23:35
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 2:59
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:46
21100448-014E	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:22
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:45
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 6:53
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:14
21100448-014F	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:15
21100448-014G	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	SW-846 9060				10/08/2021 21:04
21100448-014H	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:48
21100448-014I	K-C-3D	10/06/2021 12:00	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:38
21100448-015A	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:26
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:26
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:36
	SW-846 9214 (Total)				10/08/2021 10:50
21100448-015B	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:47
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 19:52
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:23
	SW-846 9251 (Total)				10/18/2021 19:54
21100448-015C	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-015D	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:11
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 23:42
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 3:05
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 18:57
21100448-015E	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:24
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 18:53
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 6:59
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:16
21100448-015F	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:18
21100448-015G	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	SW-846 9060				10/08/2021 21:10
21100448-015H	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:50
21100448-015I	K-C-3M	10/06/2021 11:35	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:40
21100448-016A	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:32
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:32
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:36
	SW-846 9214 (Total)				10/08/2021 10:51
21100448-016B	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:49
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 20:00
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:23

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 9251 (Total)				10/18/2021 20:02
21100448-016C	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-016D	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:13
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/17/2021 23:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 3:11
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 19:00
21100448-016E	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:29
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 20:01
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 7:18
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:23
21100448-016F	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:20
21100448-016G	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	SW-846 9060				10/08/2021 21:17
21100448-016H	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:51
21100448-016I	K-C-2D	10/06/2021 11:08	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:43
21100448-017A	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:38
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:38
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:36
	SW-846 9214 (Total)				10/08/2021 10:53
21100448-017B	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:51
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 20:09
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:24
	SW-846 9251 (Total)				10/18/2021 20:10
21100448-017C	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-017D	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/04/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:18
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/18/2021 0:13
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 4:07
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 19:02
21100448-017E	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:30
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 20:09
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 7:24
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:26
21100448-017F	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:22
21100448-017G	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	SW-846 9060				10/08/2021 21:23
21100448-017H	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:54
21100448-017I	K-C-2M	10/06/2021 10:53	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:45
21100448-018A	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:44
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:44
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:37
	SW-846 9214 (Total)				10/08/2021 10:55
21100448-018B	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:54
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 20:30
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:24
	SW-846 9251 (Total)				10/18/2021 20:31
21100448-018C	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-018D	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:20

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

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Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/18/2021 0:20
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 4:13
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 19:04
21100448-018E	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:32
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 20:16
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 7:30
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:28
21100448-018F	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:23
21100448-018G	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	SW-846 9060				10/08/2021 21:29
21100448-018H	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:56
21100448-018I	K-C-1	10/06/2021 10:27	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:46
21100448-019A	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 10:58
	Standard Methods 2320 B 1997, 2011				10/08/2021 10:58
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:38
	SW-846 9214 (Total)				10/08/2021 10:57
21100448-019B	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 18:58
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 20:38
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:25
	SW-846 9251 (Total)				10/18/2021 20:39
21100448-019C	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-019D	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/18/2021 0:59
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 4:19
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 19:07

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
21100448-019E	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:55
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 20:24
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 8:14
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:30
21100448-019F	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:25
21100448-019G	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	SW-846 9060				10/08/2021 21:36
21100448-019H	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:58
21100448-019I	K-D-2D	10/06/2021 10:06	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:48
21100448-020A	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:04
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:04
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:44
	SW-846 9214 (Total)				10/08/2021 10:58
21100448-020B	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:07
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 20:46
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:25
	SW-846 9251 (Total)				10/18/2021 20:47
21100448-020C	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-020D	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:52	10/15/2021 20:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/18/2021 1:06
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:52	10/21/2021 4:25
	SW-846 7470A (Total)			10/12/2021 15:07	10/13/2021 19:09
21100448-020E	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:17	10/15/2021 21:57

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/17/2021 20:32
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:17	10/21/2021 8:20
	SW-846 7470A (Dissolved)			10/12/2021 15:32	10/13/2021 15:32
21100448-020F	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/09/2021 14:26
21100448-020G	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	SW-846 9060				10/08/2021 14:49
21100448-020H	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 9:59
21100448-020I	K-D-2M	10/06/2021 9:53	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:49
21100448-021A	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:10
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:10
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:44
	SW-846 9214 (Total)				10/08/2021 11:00
21100448-021B	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:09
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 20:55
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:26
	SW-846 9251 (Total)				10/18/2021 20:55
21100448-021C	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-021D	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 12:36	10/13/2021 18:25
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/18/2021 8:53
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/19/2021 22:43
	SW-846 7470A (Total)			10/12/2021 15:48	10/13/2021 15:44
21100448-021E	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/06/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:20	10/15/2021 18:51
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/18/2021 5:35
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/19/2021 21:04
	SW-846 7470A (Dissolved)			10/12/2021 15:48	10/13/2021 15:46

Client: Golder Associates, Inc

Client Project: Kincaid SW Sampling

Work Order: 21100448

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-021F	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/12/2021 14:34
21100448-021G	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	SW-846 9060				10/08/2021 22:14
21100448-021H	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:00
21100448-021I	K-D-1	10/06/2021 9:33	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:50
21100448-022A	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:21
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:21
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:47
	SW-846 9214 (Total)				10/08/2021 11:02
21100448-022B	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:11
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 21:03
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:26
	SW-846 9251 (Total)				10/18/2021 21:03
21100448-022C	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-022D	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 12:36	10/13/2021 18:26
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/18/2021 9:01
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/19/2021 23:03
	SW-846 7470A (Total)			10/12/2021 15:48	10/13/2021 15:49
21100448-022E	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:20	10/15/2021 18:52
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/18/2021 5:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/19/2021 21:31
	SW-846 7470A (Dissolved)			10/12/2021 15:48	10/13/2021 15:51
21100448-022F	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/12/2021 14:35
21100448-022G	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		

Client: Golder Associates, Inc
Client Project: Kincaid SW Sampling

Work Order: 21100448
Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 9060				10/08/2021 22:20
21100448-022H	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:01
21100448-022I	K-E-2D	10/06/2021 8:58	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:51
21100448-023A	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:27
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:27
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:48
	SW-846 9214 (Total)				10/08/2021 11:12
21100448-023B	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:26
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 21:24
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:27
	SW-846 9251 (Total)				10/18/2021 21:24
21100448-023C	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-023D	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 12:36	10/13/2021 18:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/18/2021 9:46
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/19/2021 23:06
	SW-846 7470A (Total)			10/12/2021 15:48	10/13/2021 15:53
21100448-023E	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:20	10/15/2021 18:54
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/18/2021 5:50
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/19/2021 21:34
	SW-846 7470A (Dissolved)			10/12/2021 15:48	10/13/2021 15:55
21100448-023F	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/12/2021 14:37
21100448-023G	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	SW-846 9060				10/08/2021 22:27
21100448-023H	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:03
21100448-023I	K-E-2M	10/06/2021 8:45	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:53
21100448-024A	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:33
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:33
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:48
	SW-846 9214 (Total)				10/08/2021 11:14
21100448-024B	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:28
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 21:44
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:27
	SW-846 9251 (Total)				10/18/2021 21:46
21100448-024C	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-024D	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 12:36	10/13/2021 18:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/18/2021 9:54
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/19/2021 23:09
	SW-846 7470A (Total)			10/12/2021 15:48	10/13/2021 15:58
21100448-024E	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:20	10/15/2021 19:11
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/18/2021 5:57
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/19/2021 21:37
	SW-846 7470A (Dissolved)			10/12/2021 15:48	10/13/2021 16:09
21100448-024F	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/12/2021 14:38
21100448-024G	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	SW-846 9060				10/08/2021 15:39
21100448-024H	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:04
21100448-024I	K-E-1	10/06/2021 8:20	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:56

Client: Golder Associates, Inc
Client Project: Kincaid SW Sampling

Work Order: 21100448
Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100448-025A	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:39
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:39
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:48
	SW-846 9214 (Total)				10/08/2021 11:16
21100448-025B	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:30
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 21:52
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:28
	SW-846 9251 (Total)				10/18/2021 21:53
21100448-025C	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-025D	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 12:36	10/13/2021 18:31
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/18/2021 10:01
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/19/2021 23:13
	SW-846 7470A (Total)			10/12/2021 15:48	10/13/2021 16:16
21100448-025E	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:20	10/15/2021 18:56
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/18/2021 6:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/19/2021 21:47
	SW-846 7470A (Dissolved)			10/12/2021 15:48	10/13/2021 16:19
21100448-025F	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/12/2021 14:39
21100448-025G	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	SW-846 9060				10/08/2021 22:33
21100448-025H	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:07
21100448-025I	K-DUP-1	10/06/2021 0:00	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:57
21100448-026A	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:44
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:44

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	Standard Methods 2540 C (Total) 1997, 2011				10/12/2021 19:49
	SW-846 9214 (Total)				10/08/2021 11:18
21100448-026B	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	EPA 600 353.2 R2.0 (Total)				10/07/2021 19:32
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 22:17
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:28
	SW-846 9251 (Total)				10/18/2021 22:18
21100448-026C	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	EPA 903.0/904.0, Radium 226/228				10/26/2021 0:00
21100448-026D	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 12:36	10/13/2021 18:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/18/2021 10:47
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 12:36	10/19/2021 23:16
	SW-846 7470A (Total)			10/12/2021 15:48	10/13/2021 16:21
21100448-026E	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 13:20	10/15/2021 18:57
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/18/2021 6:28
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 13:20	10/19/2021 21:50
	SW-846 7470A (Dissolved)			10/12/2021 15:48	10/13/2021 16:23
21100448-026F	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	Standard Methods 4500-S D (Total) 2000				10/12/2021 14:42
21100448-026G	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	SW-846 9060				10/08/2021 22:40
21100448-026H	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:08
21100448-026I	K-FB-1	10/06/2021 15:05	10/07/2021 12:35		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 9:58

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

EPA 600 353.2 R2.0 (TOTAL)

Batch R301019 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**< 0.050**	0.0090	0	0	-100	100	10/07/2021

Batch R301019 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.461**	0.5000	0	92.1	90	110	10/07/2021

Batch R301019 **SampType:** MS Units **mg/L**
SampID: 21100448-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.309**	0.2500	0.05400	102.2	90	110	10/07/2021

Batch R301019 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.310**	0.2500	0.05400	102.3	0.3094	0.13	10/07/2021

Batch R301019 **SampType:** MS Units **mg/L**
SampID: 21100448-007BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.246**	0.2500	0	98.4	90	110	10/07/2021

Batch R301019 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-007BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.253**	0.2500	0	101.1	0.2460	2.69	10/07/2021

Batch R301019 **SampType:** MS Units **mg/L**
SampID: 21100448-019BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.263**	0.2500	0.009600	101.2	90	110	10/07/2021

Batch R301019 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-019BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.267**	0.2500	0.009600	102.9	0.2626	1.62	10/07/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R301396 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**< 10**	6.140	0	0	-100	100	10/18/2021

Batch R301396 **SampType:** MBLK Units **mg/L**
SampID: MBLK TCLP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	*	10		**< 10**	7.620	0	0	-100	100	10/18/2021

Batch R301396 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**20**	20.00	0	100.5	90	110	10/18/2021

Batch R301396 **SampType:** MS Units **mg/L**
SampID: 21100448-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**49**	20.00	30.64	90.3	90	110	10/18/2021

Batch R301396 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		10	E	**50**	20.00	30.64	98.5	48.70	3.31	10/18/2021

Batch R301396 **SampType:** MS Units **mg/L**
SampID: 21100448-011BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**49**	20.00	30.91	91.1	90	110	10/18/2021

Batch R301396 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-011BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		10		**50**	20.00	30.91	94.3	49.13	1.27	10/18/2021

Batch R301396 **SampType:** MS Units **mg/L**
SampID: 21100448-023BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**50**	20.00	31.18	92.0	90	110	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R301396 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 21100448-023BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		10	E	**50**	20.00	31.18	95.4	49.58	1.34	10/18/2021

SM-3500-FE D, LABORATORY ANALYZED

Batch R301429 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**< 0.020**	0.0080	0	0	-100	100	10/19/2021

Batch R301429 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.49**	0.5000	0	97.6	90	110	10/19/2021

Batch R301429 **SampType:** MS Units **mg/L**

SampID: 21100448-001HMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.28**	0.2500	0.03200	100.0	85	115	10/19/2021

Batch R301429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-001HMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.28**	0.2500	0.03200	100.0	0.2820	0.00	10/19/2021

Batch R301429 **SampType:** MS Units **mg/L**

SampID: 21100448-009HMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.31**	0.2500	0.05400	101.2	85	115	10/19/2021

Batch R301429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-009HMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.31**	0.2500	0.05400	102.4	0.3070	0.97	10/19/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SM-3500-FE D, LABORATORY ANALYZED

Batch R301429 **SampType:** MS Units **mg/L**

SampID: 21100448-017HMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.27**	0.2500	0.02100	101.2	85	115	10/19/2021

Batch R301429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-017HMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.28**	0.2500	0.02100	102.8	0.2740	1.45	10/19/2021

SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)

Batch R301035 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**< 0.020**	0.0080	0	0	-100	100	10/08/2021

Batch R301035 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.47**	0.5000	0	94.6	90	110	10/08/2021

Batch R301035 **SampType:** MS Units **mg/L**

SampID: 21100448-001IMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.26**	0.2500	0.01000	98.4	85	115	10/08/2021

Batch R301035 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-001IMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.26**	0.2500	0.01000	101.2	0.2560	2.70	10/08/2021

Batch R301035 **SampType:** MS Units **mg/L**

SampID: 21100448-008IMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.25**	0.2500	0	101.2	85	115	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)

Batch R301035 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-008IMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.27**	0.2500	0	106.8	0.2530	5.38	10/08/2021

Batch R301035 **SampType:** MS Units **mg/L**

SampID: 21100448-016IMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.26**	0.2500	0.01000	101.2	85	115	10/08/2021

Batch R301035 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-016IMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.27**	0.2500	0.01000	104.4	0.2630	3.00	10/08/2021

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301111 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**< 0.05**	0.0080	0	0	-100	100	10/08/2021

Batch R301111 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0	106.0	90	110	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**

SampID: 21100448-001FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.06**	0.0670	0.01800	58.2	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**

SampID: 21100448-002FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.08**	0.0670	0.04000	52.2	85	115	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-003FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02200	76.1	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-004FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.05**	0.0670	0.02400	40.3	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-005FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.08**	0.0670	0.02400	82.1	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-006FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.08**	0.0670	0.02400	82.1	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-007FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.08**	0.0670	0.02000	91.0	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-008FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.08**	0.0670	0.02600	76.1	85	115	10/08/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-009FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02200	70.1	85	115	10/08/2021

Batch R301111 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-009FMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfide, Total - Colorimetric		0.05	R	**0.08**	0.0670	0.02200	88.1	0.06900	16.00	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-010FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.08**	0.0670	0.01800	94.0	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-011FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02200	67.2	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-012FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02400	70.1	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-013FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02200	76.1	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-014FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.05**	0.0670	0.03800	17.9	85	115	10/09/2021

Batch R301111 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-014FMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.05**	0.0670	0.03800	19.4	0.05000	1.98	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-015FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.10**	0.0670	0.02400	109.0	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-016FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.06**	0.0670	0.02200	58.2	85	115	10/09/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-017FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02000	76.1	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-018FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.08**	0.0670	0.02400	79.1	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-019FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.06**	0.0670	0.02200	52.2	85	115	10/09/2021

Batch R301111 **SampType:** MS Units **mg/L**
SampID: 21100448-020FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.08**	0.0670	0.02400	76.1	85	115	10/09/2021

Batch R301164 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**< 0.05**	0.0080	0	0	-100	100	10/12/2021

Batch R301164 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.06**	0.0670	0	92.5	90	110	10/12/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100448-021FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0	107.5	85	115	10/12/2021

Batch R301164 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-021FMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0	104.5	0.07200	2.82	10/12/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100448-022FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.06**	0.0670	0.01200	68.7	85	115	10/12/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100448-023FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0.008000	86.6	85	115	10/12/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100448-024FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**< 0.05**	0.0670	0	62.7	85	115	10/12/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100448-025FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0.008000	86.6	85	115	10/12/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100448-026FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0	104.5	85	115	10/12/2021

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R301209 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/12/2021
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/12/2021
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/12/2021
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/12/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R301209 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**980**	1000	0	98.0	90	110	10/12/2021
Total Dissolved Solids		20		**982**	1000	0	98.2	90	110	10/12/2021
Total Dissolved Solids		20		**982**	1000	0	98.2	90	110	10/12/2021
Total Dissolved Solids		20		**1000**	1000	0	100.2	90	110	10/12/2021

Batch R301209 **SampType:** DUP Units **mg/L** RPD Limit **5**
SampID: 21100448-005ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**190**				196.0	3.11	10/12/2021

Batch R301209 **SampType:** DUP Units **mg/L** RPD Limit **5**
SampID: 21100448-014ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**196**				190.0	3.11	10/12/2021

Batch R301209 **SampType:** DUP Units **mg/L** RPD Limit **5**
SampID: 21100448-020ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**200**				200.0	0.00	10/12/2021

Batch R301209 **SampType:** DUP Units **mg/L** RPD Limit **5**
SampID: 21100448-025ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**224**				228.0	1.77	10/12/2021

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R301049 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		**< 0.05**	0.0250	0	0	-100	100	10/08/2021

Batch R301049 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.25		**1.52**	1.520	0	100.3	90	110	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R301049 **SampType:** MS Units **mg/L**
SampID: 21100448-002BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05	H	**0.50**	0.5000	0	99.2	85	115	10/08/2021

Batch R301049 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-002BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05	H	**0.50**	0.5000	0	100.2	0.4960	1.00	10/08/2021

Batch R301049 **SampType:** MS Units **mg/L**
SampID: 21100448-011BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05	H	**0.47**	0.5000	0	93.8	85	115	10/08/2021

Batch R301049 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-011BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05	H	**0.51**	0.5000	0	101.6	0.4690	7.98	10/08/2021

Batch R301049 **SampType:** MS Units **mg/L**
SampID: 21100448-025BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05	H	**0.49**	0.5000	0	98.8	85	115	10/08/2021

Batch R301049 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-025BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05	H	**0.51**	0.5000	0	102.2	0.4940	3.38	10/08/2021

SW-846 9060

Batch R301074 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		**< 1.0**	0.4500	0	0	-100	100	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 9060

Batch R301074 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		4.0		**16.6**	16.50	0	100.8	90	110	10/08/2021

Batch R301074 **SampType:** MS Units **mg/L**
SampID: 21100448-010GMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.0**	5.000	4.320	93.0	85	115	10/08/2021

Batch R301074 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-010GMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.2**	5.000	4.320	97.2	8.970	2.31	10/08/2021

Batch R301074 **SampType:** MS Units **mg/L**
SampID: 21100448-020GMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.0**	5.000	4.420	92.6	85	115	10/08/2021

Batch R301074 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-020GMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.0**	5.000	4.420	91.6	9.050	0.55	10/08/2021

Batch R301074 **SampType:** MS Units **mg/L**
SampID: 21100448-024GMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.0**	5.000	4.180	96.8	85	115	10/08/2021

Batch R301074 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100448-024GMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.1**	5.000	4.180	98.0	9.020	0.66	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 9214 (TOTAL)

Batch R300986 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**< 0.10**	0.0370	0	0	-100	100	10/07/2021

Batch R300986 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**0.99**	1.000	0	98.8	90	110	10/07/2021

Batch R300986 **SampType:** MS Units **mg/L**
SampID: 21100448-006AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.44**	2.000	0.3550	104.4	75	125	10/08/2021

Batch R300986 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-006AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.46**	2.000	0.3550	105.4	2.444	0.77	10/08/2021

Batch R300986 **SampType:** MS Units **mg/L**
SampID: 21100448-014AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.47**	2.000	0.3550	105.6	75	125	10/08/2021

Batch R300986 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-014AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.47**	2.000	0.3550	105.6	2.467	0.00	10/08/2021

Batch R300986 **SampType:** MS Units **mg/L**
SampID: 21100448-022AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.48**	2.000	0.3560	106.0	75	125	10/08/2021

Batch R300986 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-022AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.46**	2.000	0.3560	105.4	2.477	0.53	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 9214 (TOTAL)

Batch R300986 **SampType:** MS Units **mg/L**
SampID: 21100448-026AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.11**	2.000	0	105.4	75	125	10/08/2021

Batch R300986 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-026AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.16**	2.000	0	107.8	2.109	2.20	10/08/2021

SW-846 9251 (TOTAL)

Batch R301397 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**< 1**	0.5000	0	0	-100	100	10/18/2021

Batch R301397 **SampType:** MBLK Units **mg/L**
SampID: MBLK TCLP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	*	1		**< 1**	0.5000	0	0	-100	100	10/18/2021

Batch R301397 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**20**	20.00	0	101.9	90	110	10/18/2021

Batch R301397 **SampType:** MS Units **mg/L**
SampID: 21100448-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**39**	20.00	20.65	90.3	85	115	10/18/2021

Batch R301397 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		1		**39**	20.00	20.65	93.6	38.71	1.69	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 9251 (TOTAL)

Batch R301397 **SampType:** MS Units **mg/L**

SampID: 21100448-011BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**39**	20.00	20.47	91.2	85	115	10/18/2021

Batch R301397 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-011BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		1		**39**	20.00	20.47	91.3	38.72	0.03	10/18/2021

Batch R301397 **SampType:** MS Units **mg/L**

SampID: 21100448-023BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**38**	20.00	20.36	90.3	85	115	10/18/2021

Batch R301397 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-023BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		1		**38**	20.00	20.36	89.7	38.41	0.29	10/18/2021

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 183849 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183849

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0500		**< 0.0500**	0.0068	0	0	-100	100	10/15/2021
Arsenic		0.0250		**< 0.0250**	0.0087	0	0	-100	100	10/15/2021
Barium		0.0025		**< 0.0025**	0.0007	0	0	-100	100	10/15/2021
Beryllium		0.0005	S	**< 0.0005**	0.0002	0	150.0	-100	100	10/15/2021
Boron		0.0200		**< 0.0200**	0.0090	0	0	-100	100	10/15/2021
Cadmium		0.0020		**< 0.0020**	0.0005	0	0	-100	100	10/15/2021
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/15/2021
Chromium		0.0050		**< 0.0050**	0.0028	0	0	-100	100	10/15/2021
Cobalt		0.0050		**< 0.0050**	0.0020	0	0	-100	100	10/15/2021
Iron		0.0400		**< 0.0400**	0.0200	0	0	-100	100	10/15/2021
Lead		0.0150		**< 0.0150**	0.0014	0	0	-100	100	10/15/2021
Lithium		0.0050		**< 0.0050**	0.0019	0	0	-100	100	10/15/2021
Magnesium		0.0500		**< 0.0500**	0.0070	0	0	-100	100	10/15/2021
Manganese		0.0070		**< 0.0070**	0.0025	0	0	-100	100	10/15/2021
Molybdenum		0.0100		**< 0.0100**	0.0037	0	0	-100	100	10/15/2021
Potassium		0.100		**< 0.100**	0.0400	0	0	-100	100	10/15/2021
Sodium		0.0500		**< 0.0500**	0.0180	0	0	-100	100	10/15/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 183849 **SampType:** LCS Units **mg/L**

SampID: LCS-183849

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0500		**0.433**	0.5000	0	86.5	85	115	10/15/2021
Arsenic		0.0250		**0.481**	0.5000	0	96.1	85	115	10/15/2021
Barium		0.0025		**1.80**	2.000	0	89.8	85	115	10/15/2021
Beryllium		0.0005	B	**0.0448**	0.0500	0	89.6	85	115	10/15/2021
Boron		0.0200		**0.450**	0.5000	0	90.1	85	115	10/15/2021
Cadmium		0.0020		**0.0452**	0.0500	0	90.4	85	115	10/15/2021
Calcium		0.100		**2.24**	2.500	0	89.5	85	115	10/15/2021
Chromium		0.0050		**0.175**	0.2000	0	87.6	85	115	10/15/2021
Cobalt		0.0050		**0.454**	0.5000	0	90.7	85	115	10/15/2021
Iron		0.0400		**1.74**	2.000	0	86.8	85	115	10/15/2021
Lead		0.0150		**0.452**	0.5000	0	90.4	85	115	10/15/2021
Lithium		0.0050		**0.443**	0.5000	0	88.6	85	115	10/15/2021
Magnesium		0.0500		**2.29**	2.500	0	91.4	85	115	10/15/2021
Manganese		0.0070		**0.452**	0.5000	0	90.4	85	115	10/15/2021
Molybdenum		0.0100		**0.435**	0.5000	0	87.0	85	115	10/15/2021
Potassium		0.100		**2.42**	2.500	0	96.7	85	115	10/15/2021
Sodium		0.0500		**2.23**	2.500	0	89.2	85	115	10/15/2021

Batch 183849 **SampType:** MS Units **mg/L**

SampID: 21100448-001EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**31.2**	2.500	29.15	80.4	75	125	10/15/2021
Magnesium		0.0500		**20.2**	2.500	18.00	88.4	75	125	10/15/2021
Potassium		0.100		**5.13**	2.500	2.773	94.3	75	125	10/15/2021
Sodium		0.0500		**13.4**	2.500	11.45	79.6	75	125	10/15/2021

Batch 183849 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-001EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	**30.9**	2.500	29.15	69.2	31.16	0.90	10/15/2021
Magnesium		0.0500		**20.0**	2.500	18.00	80.8	20.21	0.95	10/15/2021
Potassium		0.100		**5.19**	2.500	2.773	96.8	5.131	1.21	10/15/2021
Sodium		0.0500		**13.5**	2.500	11.45	82.8	13.44	0.59	10/15/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 183849 **SampType:** MS Units **mg/L**

SampID: 21100448-015EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**30.8**	2.500	28.96	75.2	75	125	10/15/2021
Magnesium		0.0500		**20.1**	2.500	17.97	83.9	75	125	10/15/2021
Potassium		0.100		**5.13**	2.500	2.792	93.4	75	125	10/15/2021
Sodium		0.0500		**13.4**	2.500	11.42	78.8	75	125	10/15/2021

Batch 183849 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-015EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		**31.0**	2.500	28.96	80.4	30.84	0.42	10/15/2021
Magnesium		0.0500		**20.3**	2.500	17.97	91.2	20.07	0.91	10/15/2021
Potassium		0.100		**5.15**	2.500	2.792	94.5	5.129	0.50	10/15/2021
Sodium		0.0500		**13.5**	2.500	11.42	81.6	13.39	0.52	10/15/2021

Batch 183857 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183857

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0500		**< 0.0500**	0.0068	0	0	-100	100	10/15/2021
Arsenic		0.0250		**< 0.0250**	0.0087	0	0	-100	100	10/15/2021
Barium		0.0025		**< 0.0025**	0.0007	0	0	-100	100	10/15/2021
Beryllium		0.0005		**< 0.0005**	0.0002	0	0	-100	100	10/15/2021
Boron		0.0200		**< 0.0200**	0.0090	0	0	-100	100	10/15/2021
Cadmium		0.0020		**< 0.0020**	0.0005	0	0	-100	100	10/15/2021
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/15/2021
Chromium		0.0050		**< 0.0050**	0.0028	0	0	-100	100	10/15/2021
Cobalt		0.0050		**< 0.0050**	0.0020	0	0	-100	100	10/15/2021
Iron		0.0400		**< 0.0400**	0.0200	0	0	-100	100	10/15/2021
Lead		0.0150		**< 0.0150**	0.0014	0	0	-100	100	10/15/2021
Lithium	*	0.0050		**< 0.0050**	0.0019	0	0	-100	100	10/15/2021
Magnesium		0.0500		**< 0.0500**	0.0055	0	0	-100	100	10/15/2021
Manganese		0.0070		**< 0.0070**	0.0025	0	0	-100	100	10/15/2021
Molybdenum		0.0100		**< 0.0100**	0.0037	0	0	-100	100	10/15/2021
Potassium		0.100		**< 0.100**	0.0400	0	0	-100	100	10/15/2021
Sodium		0.0500		**< 0.0500**	0.0180	0	0	-100	100	10/15/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 183857 **SampType:** LCS Units **mg/L**

SampID: LCS-183857

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0500	S	**0.419**	0.5000	0	83.8	85	115	10/15/2021
Arsenic		0.0250		**0.478**	0.5000	0	95.6	85	115	10/15/2021
Barium		0.0025		**1.78**	2.000	0	89.2	85	115	10/15/2021
Beryllium		0.0005		**0.0446**	0.0500	0	89.2	85	115	10/15/2021
Boron		0.0200		**0.448**	0.5000	0	89.5	85	115	10/15/2021
Cadmium		0.0020		**0.0470**	0.0500	0	94.0	85	115	10/15/2021
Calcium		0.100		**2.22**	2.500	0	88.8	85	115	10/15/2021
Chromium		0.0050		**0.177**	0.2000	0	88.4	85	115	10/15/2021
Cobalt		0.0050		**0.442**	0.5000	0	88.4	85	115	10/15/2021
Iron		0.0400		**1.73**	2.000	0	86.7	85	115	10/15/2021
Lead		0.0150		**0.454**	0.5000	0	90.7	85	115	10/15/2021
Lithium	*	0.0050		**0.433**	0.5000	0	86.7	85	115	10/15/2021
Magnesium		0.0500		**2.28**	2.500	0	91.1	85	115	10/15/2021
Manganese		0.0070		**0.449**	0.5000	0	89.8	85	115	10/15/2021
Molybdenum		0.0100		**0.428**	0.5000	0	85.6	85	115	10/15/2021
Potassium		0.100		**2.40**	2.500	0	95.9	85	115	10/15/2021
Sodium		0.0500		**2.21**	2.500	0	88.3	85	115	10/15/2021

Batch 183857 **SampType:** MS Units **mg/L**

SampID: 21100448-024EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	**30.4**	2.500	29.01	54.8	75	125	10/15/2021
Magnesium		0.0500	S	**19.7**	2.500	17.85	72.3	75	125	10/15/2021
Potassium		0.100		**5.08**	2.500	2.790	91.8	75	125	10/15/2021
Sodium		0.0500		**13.3**	2.500	11.39	76.0	75	125	10/15/2021

Batch 183857 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-024EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	**30.7**	2.500	29.01	66.8	30.38	0.98	10/15/2021
Magnesium		0.0500		**19.9**	2.500	17.85	80.7	19.66	1.05	10/15/2021
Potassium		0.100		**5.18**	2.500	2.790	95.6	5.084	1.86	10/15/2021
Sodium		0.0500		**13.5**	2.500	11.39	82.8	13.29	1.27	10/15/2021

Client: Golder Associates, Inc

Work Order: 21100448

Client Project: Kincaid SW Sampling

Report Date: 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 183833 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183833

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0500		**< 0.0500**	0.0068	0	0	-100	100	10/15/2021
Arsenic		0.0250		**< 0.0250**	0.0087	0	0	-100	100	10/15/2021
Barium		0.0025		**< 0.0025**	0.0007	0	0	-100	100	10/15/2021
Beryllium		0.0005		**< 0.0005**	0.0002	0	100.0	-100	100	10/15/2021
Boron		0.0200		**< 0.0200**	0.0090	0	0	-100	100	10/15/2021
Cadmium		0.0020		**< 0.0020**	0.0005	0	0	-100	100	10/15/2021
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/15/2021
Chromium		0.0050		**< 0.0050**	0.0028	0	0	-100	100	10/15/2021
Cobalt		0.0050		**< 0.0050**	0.0020	0	0	-100	100	10/15/2021
Iron		0.0400		**< 0.0400**	0.0200	0	0	-100	100	10/15/2021
Lead		0.0150		**< 0.0150**	0.0014	0	0	-100	100	10/15/2021
Lithium		0.0050		**< 0.0050**	0.0019	0	0	-100	100	10/15/2021
Magnesium		0.0500		**< 0.0500**	0.0060	0	0	-100	100	10/15/2021
Manganese		0.0070		**< 0.0070**	0.0025	0	0	-100	100	10/15/2021
Molybdenum		0.0100		**< 0.0100**	0.0037	0	0	-100	100	10/15/2021
Phosphorus		0.100		**< 0.100**	0.0259	0	0	-100	100	10/15/2021
Potassium		0.100		**< 0.100**	0.0400	0	0	-100	100	10/15/2021
Sodium		0.0500		**< 0.0500**	0.0180	0	0	-100	100	10/15/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 183833 **SampType:** LCS Units **mg/L**

SampID: LCS-183833

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0500		**0.514**	0.5000	0	102.8	85	115	10/15/2021
Arsenic		0.0250		**0.560**	0.5000	0	112.0	85	115	10/15/2021
Barium		0.0025		**2.16**	2.000	0	108.0	85	115	10/15/2021
Beryllium		0.0005		**0.0522**	0.0500	0	104.4	85	115	10/15/2021
Boron		0.0200		**0.516**	0.5000	0	103.2	85	115	10/15/2021
Cadmium		0.0020		**0.0518**	0.0500	0	103.6	85	115	10/15/2021
Calcium		0.100		**2.59**	2.500	0	103.8	85	115	10/15/2021
Chromium		0.0050		**0.200**	0.2000	0	100.2	85	115	10/15/2021
Cobalt		0.0050		**0.523**	0.5000	0	104.6	85	115	10/15/2021
Iron		0.0400		**2.06**	2.000	0	103.0	85	115	10/15/2021
Lead		0.0150		**0.524**	0.5000	0	104.7	85	115	10/15/2021
Lithium		0.0050		**0.505**	0.5000	0	100.9	85	115	10/15/2021
Magnesium		0.0500		**2.65**	2.500	0	105.8	85	115	10/15/2021
Manganese		0.0070		**0.519**	0.5000	0	103.9	85	115	10/15/2021
Molybdenum		0.0100		**0.501**	0.5000	0	100.2	85	115	10/15/2021
Phosphorus		0.100		**1.06**	1.000	0	105.7	85	115	10/15/2021
Potassium		0.100		**2.71**	2.500	0	108.4	85	115	10/15/2021
Sodium		0.0500		**2.54**	2.500	0	101.6	85	115	10/15/2021

Batch 183833 **SampType:** MS Units **mg/L**

SampID: 21100448-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**34.2**	2.500	31.83	94.8	75	125	10/15/2021
Magnesium		0.0500		**22.0**	2.500	19.60	97.0	75	125	10/15/2021
Phosphorus		0.100		**1.11**	1.000	0.06850	104.6	75	125	10/15/2021
Potassium		0.100		**5.65**	2.500	3.038	104.4	75	125	10/15/2021
Sodium		0.0500		**14.5**	2.500	12.04	99.6	75	125	10/15/2021

Batch 183833 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-001DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		**34.5**	2.500	31.83	107.2	34.20	0.90	10/15/2021
Magnesium		0.0500		**22.1**	2.500	19.60	99.5	22.03	0.28	10/15/2021
Phosphorus		0.100		**1.12**	1.000	0.06850	105.0	1.114	0.42	10/15/2021
Potassium		0.100		**5.67**	2.500	3.038	105.2	5.648	0.36	10/15/2021
Sodium		0.0500		**14.6**	2.500	12.04	103.2	14.53	0.62	10/15/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 183833 **SampType:** MS Units **mg/L**

SampID: 21100448-016DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	**34.9**	2.500	31.53	136.4	75	125	10/15/2021
Magnesium		0.0500		**22.5**	2.500	19.52	119.7	75	125	10/15/2021
Phosphorus		0.100		**1.14**	1.000	0.06600	107.7	75	125	10/15/2021
Potassium		0.100		**5.86**	2.500	3.100	110.6	75	125	10/15/2021
Sodium		0.0500		**15.1**	2.500	12.32	110.8	75	125	10/15/2021

Batch 183833 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-016DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100		**34.1**	2.500	31.53	103.2	34.94	2.40	10/15/2021
Magnesium		0.0500		**22.1**	2.500	19.52	105.1	22.51	1.64	10/15/2021
Phosphorus		0.100		**1.13**	1.000	0.06600	106.2	1.143	1.38	10/15/2021
Potassium		0.100		**5.70**	2.500	3.100	103.9	5.865	2.91	10/15/2021
Sodium		0.0500		**14.7**	2.500	12.32	93.6	15.09	2.89	10/15/2021

Batch 183842 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183842

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/13/2021
Magnesium		0.0500		**< 0.0500**	0.0055	0	0	-100	100	10/13/2021
Phosphorus		0.100		**< 0.100**	0.0259	0	0	-100	100	10/13/2021
Potassium		0.100		**< 0.100**	0.0400	0	0	-100	100	10/13/2021
Sodium		0.0500		**< 0.0500**	0.0180	0	0	-100	100	10/13/2021

Batch 183842 **SampType:** LCS Units **mg/L**

SampID: LCS-183842

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**2.54**	2.500	0	101.7	85	115	10/13/2021
Magnesium		0.0500		**2.47**	2.500	0	99.0	85	115	10/13/2021
Phosphorus		0.100		**1.04**	1.000	0	103.7	85	115	10/13/2021
Potassium		0.100		**2.55**	2.500	0	101.9	85	115	10/13/2021
Sodium		0.0500		**2.54**	2.500	0	101.6	85	115	10/13/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183849 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183849

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/21/2021
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/17/2021
Barium		0.0010		**< 0.0010**	0.0007	0	0	-100	100	10/21/2021
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/17/2021
Boron		0.0250		**< 0.0250**	0.0093	0	0	-100	100	10/17/2021
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/17/2021
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	10/17/2021
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/17/2021
Iron		0.0250		**< 0.0250**	0.0115	0	0	-100	100	10/17/2021
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/17/2021
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/17/2021
Manganese		0.0020		**< 0.0020**	0.0008	0	0	-100	100	10/21/2021
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/17/2021
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/17/2021

Batch 183849 **SampType:** LCS Units **mg/L**

SampID: LCS-183849

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.452**	0.5000	0	90.5	80	120	10/21/2021
Arsenic		0.0010		**0.455**	0.5000	0	91.1	80	120	10/17/2021
Barium		0.0010		**1.94**	2.000	0	97.0	80	120	10/21/2021
Beryllium		0.0010		**0.0439**	0.0500	0	87.8	80	120	10/17/2021
Boron		0.0250		**0.460**	0.5000	0	92.0	80	120	10/17/2021
Cadmium		0.0010		**0.0442**	0.0500	0	88.5	80	120	10/17/2021
Chromium		0.0015		**0.180**	0.2000	0	90.0	80	120	10/17/2021
Cobalt		0.0010		**0.460**	0.5000	0	92.0	80	120	10/17/2021
Iron		0.0250		**1.80**	2.000	0	90.1	80	120	10/17/2021
Lead		0.0010		**0.456**	0.5000	0	91.2	80	120	10/17/2021
Lithium	*	0.0030		**0.461**	0.5000	0	92.2	80	120	10/17/2021
Manganese		0.0020		**0.477**	0.5000	0	95.3	80	120	10/21/2021
Molybdenum		0.0015		**0.454**	0.5000	0	90.7	80	120	10/17/2021
Selenium		0.0010		**0.406**	0.5000	0	81.2	80	120	10/17/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183849 **SampType:** MS Units **mg/L**

SampID: 21100448-001EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.478**	0.5000	0.003940	94.8	75	125	10/21/2021
Arsenic		0.0010		**0.473**	0.5000	0.002243	94.1	75	125	10/17/2021
Barium		0.0010		**2.06**	2.000	0.05501	100.0	75	125	10/21/2021
Beryllium		0.0010		**0.0461**	0.0500	0	92.2	75	125	10/17/2021
Boron		0.0250		**0.505**	0.5000	0.04070	92.9	75	125	10/17/2021
Cadmium		0.0010		**0.0449**	0.0500	0	89.8	75	125	10/17/2021
Chromium		0.0015		**0.186**	0.2000	0	93.1	75	125	10/17/2021
Cobalt		0.0010		**0.469**	0.5000	0	93.8	75	125	10/17/2021
Iron		0.0250		**1.88**	2.000	0	93.8	75	125	10/17/2021
Lead		0.0010		**0.473**	0.5000	0	94.6	75	125	10/17/2021
Lithium	*	0.0030		**0.478**	0.5000	0	95.6	75	125	10/17/2021
Manganese		0.0020		**0.483**	0.5000	0.001563	96.2	75	125	10/21/2021
Molybdenum		0.0015		**0.476**	0.5000	0.001149	94.9	75	125	10/17/2021
Selenium		0.0010		**0.422**	0.5000	0	84.4	75	125	10/17/2021

Batch 183849 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-001EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.477**	0.5000	0.003940	94.7	0.4780	0.15	10/21/2021
Arsenic		0.0010		**0.473**	0.5000	0.002243	94.1	0.4725	0.09	10/17/2021
Barium		0.0010		**2.07**	2.000	0.05501	100.8	2.056	0.75	10/21/2021
Beryllium		0.0010		**0.0458**	0.0500	0	91.6	0.04608	0.65	10/17/2021
Boron		0.0250		**0.493**	0.5000	0.04070	90.5	0.5054	2.48	10/17/2021
Cadmium		0.0010		**0.0444**	0.0500	0	88.7	0.04492	1.29	10/17/2021
Chromium		0.0015		**0.186**	0.2000	0	92.8	0.1861	0.26	10/17/2021
Cobalt		0.0010		**0.473**	0.5000	0	94.5	0.4690	0.79	10/17/2021
Iron		0.0250		**1.94**	2.000	0	97.0	1.875	3.38	10/17/2021
Lead		0.0010		**0.466**	0.5000	0	93.2	0.4731	1.56	10/17/2021
Lithium	*	0.0030		**0.475**	0.5000	0	94.9	0.4778	0.67	10/17/2021
Manganese		0.0020		**0.483**	0.5000	0.001563	96.3	0.4826	0.14	10/21/2021
Molybdenum		0.0015		**0.468**	0.5000	0.001149	93.3	0.4755	1.67	10/17/2021
Selenium		0.0010		**0.417**	0.5000	0	83.3	0.4220	1.29	10/17/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183849 **SampType:** MS Units **mg/L**

SampID: 21100448-015EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.481**	0.5000	0	96.3	75	125	10/21/2021
Arsenic		0.0010		**0.463**	0.5000	0.002189	92.2	75	125	10/17/2021
Barium		0.0010		**2.07**	2.000	0.05518	100.6	75	125	10/21/2021
Beryllium		0.0010		**0.0423**	0.0500	0	84.6	75	125	10/17/2021
Boron		0.0250		**0.477**	0.5000	0.04072	87.3	75	125	10/17/2021
Cadmium		0.0010		**0.0429**	0.0500	0	85.8	75	125	10/17/2021
Chromium		0.0015		**0.173**	0.2000	0	86.6	75	125	10/17/2021
Cobalt		0.0010		**0.435**	0.5000	0	87.0	75	125	10/17/2021
Iron		0.0250		**1.77**	2.000	0	88.5	75	125	10/17/2021
Lead		0.0010		**0.472**	0.5000	0	94.5	75	125	10/17/2021
Lithium	*	0.0030		**0.443**	0.5000	0	88.6	75	125	10/17/2021
Manganese		0.0020		**0.481**	0.5000	0.0009201	96.1	75	125	10/21/2021
Molybdenum		0.0015		**0.436**	0.5000	0.0007886	87.1	75	125	10/17/2021
Selenium		0.0010		**0.448**	0.5000	0	89.6	75	125	10/17/2021

Batch 183849 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-015EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.483**	0.5000	0	96.6	0.4813	0.40	10/21/2021
Arsenic		0.0010		**0.468**	0.5000	0.002189	93.1	0.4633	0.98	10/17/2021
Barium		0.0010		**2.07**	2.000	0.05518	100.9	2.068	0.26	10/21/2021
Beryllium		0.0010		**0.0423**	0.0500	0	84.6	0.04231	0.00	10/17/2021
Boron		0.0250		**0.480**	0.5000	0.04072	87.9	0.4775	0.61	10/17/2021
Cadmium		0.0010		**0.0424**	0.0500	0	84.9	0.04288	1.04	10/17/2021
Chromium		0.0015		**0.171**	0.2000	0	85.4	0.1731	1.34	10/17/2021
Cobalt		0.0010		**0.431**	0.5000	0	86.1	0.4351	1.05	10/17/2021
Iron		0.0250		**1.79**	2.000	0	89.4	1.770	1.09	10/17/2021
Lead		0.0010		**0.480**	0.5000	0	96.0	0.4724	1.61	10/17/2021
Lithium	*	0.0030		**0.444**	0.5000	0	88.9	0.4428	0.37	10/17/2021
Manganese		0.0020		**0.490**	0.5000	0.0009201	97.8	0.4812	1.83	10/21/2021
Molybdenum		0.0015		**0.438**	0.5000	0.0007886	87.4	0.4361	0.43	10/17/2021
Selenium		0.0010		**0.451**	0.5000	0	90.2	0.4479	0.67	10/17/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183857 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183857

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/19/2021
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/18/2021
Barium		0.0010		**< 0.0010**	0.0007	0	0	-100	100	10/18/2021
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/18/2021
Boron		0.0250		**< 0.0250**	0.0093	0	0	-100	100	10/18/2021
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/18/2021
Chromium		0.0015		**< 0.0015**	0.0010	0	0	-100	100	10/18/2021
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/18/2021
Iron		0.0250		**< 0.0250**	0.0115	0	0	-100	100	10/18/2021
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/18/2021
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/18/2021
Manganese		0.0020		**< 0.0020**	0.0008	0	0	-100	100	10/18/2021
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/18/2021
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/18/2021

Batch 183857 **SampType:** LCS Units **mg/L**

SampID: LCS-183857

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.458**	0.5000	0	91.6	80	120	10/19/2021
Arsenic		0.0010		**0.465**	0.5000	0	93.0	80	120	10/18/2021
Barium		0.0010		**1.92**	2.000	0	96.0	80	120	10/18/2021
Beryllium		0.0010		**0.0432**	0.0500	0	86.4	80	120	10/18/2021
Boron		0.0250		**0.444**	0.5000	0	88.7	80	120	10/18/2021
Cadmium		0.0010		**0.0436**	0.0500	0	87.2	80	120	10/18/2021
Chromium		0.0015		**0.179**	0.2000	0	89.5	80	120	10/18/2021
Cobalt		0.0010		**0.462**	0.5000	0	92.4	80	120	10/18/2021
Iron		0.0250		**1.69**	2.000	0	84.4	80	120	10/18/2021
Lead		0.0010		**0.464**	0.5000	0	92.8	80	120	10/18/2021
Lithium	*	0.0030		**0.446**	0.5000	0	89.2	80	120	10/18/2021
Manganese		0.0020		**0.464**	0.5000	0	92.9	80	120	10/18/2021
Molybdenum		0.0015		**0.448**	0.5000	0	89.6	80	120	10/18/2021
Selenium		0.0010		**0.434**	0.5000	0	86.7	80	120	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183857 **SampType:** MS Units **mg/L**

SampID: 21100448-024EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.456**	0.5000	0	91.3	75	125	10/19/2021
Arsenic		0.0010		**0.457**	0.5000	0.002070	90.9	75	125	10/18/2021
Barium		0.0010		**1.89**	2.000	0.05298	91.9	75	125	10/18/2021
Beryllium		0.0010		**0.0441**	0.0500	0	88.1	75	125	10/18/2021
Boron		0.0250		**0.487**	0.5000	0.04455	88.5	75	125	10/18/2021
Cadmium		0.0010		**0.0423**	0.0500	0	84.6	75	125	10/18/2021
Chromium		0.0015		**0.173**	0.2000	0	86.7	75	125	10/18/2021
Cobalt		0.0010		**0.440**	0.5000	0	88.1	75	125	10/18/2021
Iron		0.0250		**1.71**	2.000	0	85.6	75	125	10/18/2021
Lead		0.0010		**0.457**	0.5000	0	91.3	75	125	10/18/2021
Lithium	*	0.0030		**0.460**	0.5000	0	92.0	75	125	10/18/2021
Manganese		0.0020		**0.454**	0.5000	0.003153	90.1	75	125	10/18/2021
Molybdenum		0.0015		**0.445**	0.5000	0.0009474	88.8	75	125	10/18/2021
Selenium		0.0010		**0.428**	0.5000	0	85.6	75	125	10/18/2021

Batch 183857 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-024EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.465**	0.5000	0	93.0	0.4564	1.85	10/19/2021
Arsenic		0.0010		**0.463**	0.5000	0.002070	92.1	0.4567	1.27	10/18/2021
Barium		0.0010		**1.92**	2.000	0.05298	93.5	1.890	1.77	10/18/2021
Beryllium		0.0010		**0.0452**	0.0500	0	90.5	0.04406	2.61	10/18/2021
Boron		0.0250		**0.486**	0.5000	0.04455	88.2	0.4871	0.30	10/18/2021
Cadmium		0.0010		**0.0426**	0.0500	0	85.2	0.04232	0.66	10/18/2021
Chromium		0.0015		**0.178**	0.2000	0	89.2	0.1734	2.89	10/18/2021
Cobalt		0.0010		**0.445**	0.5000	0	89.0	0.4403	1.09	10/18/2021
Iron		0.0250		**1.80**	2.000	0	90.0	1.713	4.94	10/18/2021
Lead		0.0010		**0.470**	0.5000	0	93.9	0.4567	2.78	10/18/2021
Lithium	*	0.0030		**0.468**	0.5000	0	93.5	0.4601	1.62	10/18/2021
Manganese		0.0020		**0.463**	0.5000	0.003153	92.0	0.4536	2.09	10/18/2021
Molybdenum		0.0015		**0.455**	0.5000	0.0009474	90.8	0.4451	2.16	10/18/2021
Selenium		0.0010		**0.427**	0.5000	0	85.4	0.4279	0.26	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 183833 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183833

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/21/2021
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/17/2021
Barium		0.0010	S	**0.0011**	0.0007	0	160.8	-100	100	10/21/2021
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/17/2021
Boron		0.0250		**< 0.0250**	0.0093	0	0	-100	100	10/17/2021
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/17/2021
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	10/17/2021
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/17/2021
Iron		0.0250		**< 0.0250**	0.0115	0	0	-100	100	10/17/2021
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/17/2021
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/17/2021
Manganese		0.0020		**< 0.0020**	0.0008	0	0	-100	100	10/21/2021
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/17/2021
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/17/2021

Batch 183833 **SampType:** LCS Units **mg/L**

SampID: LCS-183833

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.528**	0.5000	0	105.6	80	120	10/21/2021
Arsenic		0.0010		**0.512**	0.5000	0	102.5	80	120	10/17/2021
Barium		0.0010	B	**2.20**	2.000	0	110.2	80	120	10/21/2021
Beryllium		0.0010		**0.0475**	0.0500	0	95.0	80	120	10/17/2021
Boron		0.0250		**0.492**	0.5000	0	98.3	80	120	10/17/2021
Cadmium		0.0010		**0.0488**	0.0500	0	97.7	80	120	10/17/2021
Chromium		0.0015		**0.190**	0.2000	0	95.1	80	120	10/17/2021
Cobalt		0.0010		**0.487**	0.5000	0	97.4	80	120	10/17/2021
Iron		0.0250		**2.01**	2.000	0	100.6	80	120	10/17/2021
Lead		0.0010		**0.526**	0.5000	0	105.1	80	120	10/17/2021
Lithium	*	0.0030		**0.501**	0.5000	0	100.1	80	120	10/17/2021
Manganese		0.0020		**0.529**	0.5000	0	105.8	80	120	10/21/2021
Molybdenum		0.0015		**0.489**	0.5000	0	97.9	80	120	10/17/2021
Selenium		0.0010		**0.500**	0.5000	0	100.0	80	120	10/17/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 183833 **SampType:** MS Units **mg/L**

SampID: 21100448-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.529**	0.5000	0.0005575	105.6	75	125	10/21/2021
Arsenic		0.0010		**0.531**	0.5000	0.002486	105.7	75	125	10/17/2021
Barium		0.0010	B	**2.26**	2.000	0.07227	109.5	75	125	10/21/2021
Beryllium		0.0010		**0.0515**	0.0500	0	103.0	75	125	10/17/2021
Boron		0.0250		**0.563**	0.5000	0.04466	103.7	75	125	10/17/2021
Cadmium		0.0010		**0.0504**	0.0500	0	100.8	75	125	10/17/2021
Chromium		0.0015		**0.199**	0.2000	0	99.4	75	125	10/17/2021
Cobalt		0.0010		**0.510**	0.5000	0.0002067	102.1	75	125	10/17/2021
Iron		0.0250		**2.52**	2.000	0.5251	99.9	75	125	10/17/2021
Lead		0.0010		**0.538**	0.5000	0	107.6	75	125	10/17/2021
Lithium	*	0.0030		**0.529**	0.5000	0	105.8	75	125	10/17/2021
Manganese		0.0020		**0.640**	0.5000	0.1138	105.2	75	125	10/21/2021
Molybdenum		0.0015		**0.514**	0.5000	0.0008084	102.7	75	125	10/17/2021
Selenium		0.0010		**0.491**	0.5000	0	98.2	75	125	10/17/2021

Batch 183833 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-001DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.532**	0.5000	0.0005575	106.2	0.5286	0.58	10/21/2021
Arsenic		0.0010		**0.525**	0.5000	0.002486	104.4	0.5311	1.23	10/17/2021
Barium		0.0010	B	**2.28**	2.000	0.07227	110.5	2.263	0.87	10/21/2021
Beryllium		0.0010		**0.0491**	0.0500	0	98.1	0.05149	4.81	10/17/2021
Boron		0.0250		**0.557**	0.5000	0.04466	102.5	0.5629	1.05	10/17/2021
Cadmium		0.0010		**0.0482**	0.0500	0	96.4	0.05040	4.41	10/17/2021
Chromium		0.0015		**0.194**	0.2000	0	97.1	0.1987	2.33	10/17/2021
Cobalt		0.0010		**0.484**	0.5000	0.0002067	96.8	0.5105	5.28	10/17/2021
Iron		0.0250		**2.75**	2.000	0.5251	111.2	2.524	8.52	10/17/2021
Lead		0.0010		**0.527**	0.5000	0	105.5	0.5378	1.96	10/17/2021
Lithium	*	0.0030		**0.516**	0.5000	0	103.1	0.5292	2.60	10/17/2021
Manganese		0.0020		**0.646**	0.5000	0.1138	106.5	0.6397	1.06	10/21/2021
Molybdenum		0.0015		**0.500**	0.5000	0.0008084	99.8	0.5143	2.81	10/17/2021
Selenium		0.0010		**0.505**	0.5000	0	101.1	0.4912	2.85	10/17/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 183833 **SampType:** MS Units **mg/L**

SampID: 21100448-016DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.553**	0.5000	0	110.6	75	125	10/21/2021
Arsenic		0.0010		**0.523**	0.5000	0.002620	104.0	75	125	10/17/2021
Barium		0.0010	B	**2.30**	2.000	0.07412	111.2	75	125	10/21/2021
Beryllium		0.0010		**0.0520**	0.0500	0	104.1	75	125	10/17/2021
Boron		0.0250		**0.575**	0.5000	0.05171	104.6	75	125	10/17/2021
Cadmium		0.0010		**0.0509**	0.0500	0	101.8	75	125	10/17/2021
Chromium		0.0015		**0.200**	0.2000	0	100.2	75	125	10/17/2021
Cobalt		0.0010		**0.506**	0.5000	0.0001928	101.2	75	125	10/17/2021
Iron		0.0250		**2.47**	2.000	0.3782	104.8	75	125	10/17/2021
Lead		0.0010		**0.536**	0.5000	0	107.1	75	125	10/17/2021
Lithium	*	0.0030		**0.543**	0.5000	0	108.5	75	125	10/17/2021
Manganese		0.0020		**0.637**	0.5000	0.09921	107.7	75	125	10/21/2021
Molybdenum		0.0015		**0.532**	0.5000	0.001080	106.3	75	125	10/17/2021
Selenium		0.0010		**0.485**	0.5000	0	97.0	75	125	10/17/2021

Batch 183833 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100448-016DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.541**	0.5000	0	108.2	0.5529	2.20	10/21/2021
Arsenic		0.0010		**0.521**	0.5000	0.002620	103.7	0.5225	0.24	10/18/2021
Barium		0.0010	B	**2.29**	2.000	0.07412	110.7	2.297	0.43	10/21/2021
Beryllium		0.0010		**0.0524**	0.0500	0	104.9	0.05205	0.73	10/18/2021
Boron		0.0250		**0.589**	0.5000	0.05171	107.4	0.5745	2.45	10/18/2021
Cadmium		0.0010		**0.0491**	0.0500	0	98.2	0.05089	3.56	10/18/2021
Chromium		0.0015		**0.202**	0.2000	0	100.8	0.2005	0.60	10/18/2021
Cobalt		0.0010		**0.504**	0.5000	0.0001928	100.7	0.5062	0.50	10/18/2021
Iron		0.0250		**2.42**	2.000	0.3782	102.0	2.475	2.35	10/18/2021
Lead		0.0010		**0.547**	0.5000	0	109.3	0.5357	2.04	10/18/2021
Lithium	*	0.0030		**0.545**	0.5000	0	109.0	0.5425	0.45	10/18/2021
Manganese		0.0020		**0.628**	0.5000	0.09921	105.8	0.6375	1.47	10/21/2021
Molybdenum		0.0015		**0.510**	0.5000	0.001080	101.9	0.5325	4.23	10/18/2021
Selenium		0.0010		**0.482**	0.5000	0	96.4	0.4852	0.62	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 183842 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183842

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/19/2021
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/18/2021
Barium		0.0010		**< 0.0010**	0.0007	0	0	-100	100	10/18/2021
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/18/2021
Boron		0.0250		**< 0.0250**	0.0093	0	0	-100	100	10/18/2021
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/18/2021
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	10/18/2021
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/18/2021
Iron		0.0250		**< 0.0250**	0.0115	0	0	-100	100	10/18/2021
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/18/2021
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/18/2021
Manganese		0.0020		**< 0.0020**	0.0008	0	0	-100	100	10/18/2021
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/18/2021
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/18/2021

Batch 183842 **SampType:** LCS Units **mg/L**

SampID: LCS-183842

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.512**	0.5000	0	102.5	80	120	10/19/2021
Arsenic		0.0010		**0.501**	0.5000	0	100.2	80	120	10/18/2021
Barium		0.0010		**2.12**	2.000	0	106.0	80	120	10/18/2021
Beryllium		0.0010		**0.0476**	0.0500	0	95.1	80	120	10/18/2021
Boron		0.0250		**0.504**	0.5000	0	100.8	80	120	10/18/2021
Cadmium		0.0010		**0.0468**	0.0500	0	93.6	80	120	10/18/2021
Chromium		0.0015		**0.185**	0.2000	0	92.7	80	120	10/18/2021
Cobalt		0.0010		**0.475**	0.5000	0	94.9	80	120	10/18/2021
Iron		0.0250		**1.88**	2.000	0	94.0	80	120	10/18/2021
Lead		0.0010		**0.504**	0.5000	0	100.7	80	120	10/18/2021
Lithium	*	0.0030		**0.515**	0.5000	0	103.1	80	120	10/18/2021
Manganese		0.0020		**0.514**	0.5000	0	102.9	80	120	10/18/2021
Molybdenum		0.0015		**0.470**	0.5000	0	93.9	80	120	10/18/2021
Selenium		0.0010		**0.506**	0.5000	0	101.2	80	120	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 7470A (DISSOLVED)

Batch 183868 **SampType:** MBLK Units **mg/L**
SampID: MBLK-183868

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**< 0.00020**	0.0001	0	0	-100	100	10/13/2021

Batch 183868 **SampType:** LCS Units **mg/L**
SampID: LCS-183868

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00520**	0.0050	0	104.0	85	115	10/13/2021

Batch 183868 **SampType:** MS Units **mg/L**
SampID: 21100448-005EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00526**	0.0050	0	105.2	75	125	10/13/2021

Batch 183868 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-005EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00520**	0.0050	0	104.0	0.005258	1.10	10/13/2021

Batch 183868 **SampType:** MS Units **mg/L**
SampID: 21100448-015EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00526**	0.0050	0	105.2	75	125	10/13/2021

Batch 183868 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-015EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00517**	0.0050	0	103.4	0.005262	1.79	10/13/2021

Batch 183871 **SampType:** MS Units **mg/L**
SampID: 21100448-024EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00526**	0.0050	0	105.3	75	125	10/13/2021

Batch 183871 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-024EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00517**	0.0050	0	103.4	0.005263	1.81	10/13/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 7470A (TOTAL)

Batch 183866 **SampType:** MBLK Units **mg/L**
SampID: MBLK-183866

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**< 0.00020**	0.0001	0	0	-100	100	10/13/2021

Batch 183866 **SampType:** LCS Units **mg/L**
SampID: LCS-183866

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00522**	0.0050	0	104.4	85	115	10/13/2021

Batch 183866 **SampType:** MS Units **mg/L**
SampID: 21100448-003DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00536**	0.0050	0	107.2	75	125	10/13/2021

Batch 183866 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-003DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00524**	0.0050	0	104.8	0.005361	2.33	10/13/2021

Batch 183866 **SampType:** MS Units **mg/L**
SampID: 21100448-014DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00521**	0.0050	0	104.2	75	125	10/13/2021

Batch 183866 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100448-014DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00533**	0.0050	0	106.5	0.005209	2.21	10/13/2021

Batch 183871 **SampType:** MBLK Units **mg/L**
SampID: MBLK-183871

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**< 0.00020**	0.0001	0	0	-100	100	10/13/2021

Batch 183871 **SampType:** LCS Units **mg/L**
SampID: LCS-183871

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00530**	0.0050	0	105.9	85	115	10/13/2021

Client: Golder Associates, Inc **Work Order:** 21100448

Client Project: Kincaid SW Sampling **Report Date:** 12-Nov-21

SW-846 7470A (TOTAL)

Batch 183871 **SampType:** MS Units **mg/L**

SampID: 21100448-024DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00518**	0.0050	0	103.6	75	125	10/13/2021

Batch 183871 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100448-024DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00516**	0.0050	0	103.3	0.005178	0.27	10/13/2021

Receiving Check List

http://www.teklabinc.com/

Client: Golder Associates, Inc
Client Project: Kincaid SW Sampling

Work Order: 21100448
Report Date: 12-Nov-21

Carrier: Paul Reeves

Received By: PWR

Completed by: Ellie Hopkins
On: 07-Oct-21

Reviewed by: Marvin L. Darling
On: 07-Oct-21

Pages to follow: Chain of custody 3 Extra pages included 67

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C	2.8	
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐	
Chain of custody present?	Yes ☑	No ☐				
Chain of custody signed when relinquished and received?	Yes ☑	No ☐				
Chain of custody agrees with sample labels?	Yes ☑	No ☐				
Samples in proper container/bottle?	Yes ☑	No ☐				
Sample containers intact?	Yes ☑	No ☐				
Sufficient sample volume for indicated test?	Yes ☑	No ☐				
All samples received within holding time?	Yes ☑	No ☐				
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐			
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐				

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

pH strip #77492 / 75846 - PR/ERH 10/7/21

CHAIN OF CUSTODY

pg. 1 of 3 Work order # 21100448

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	Golder Associates, Inc		
Address:	13515 Barrett Parkway Drive, Suite 260		
City / State / Zip	Ballwin, MO 63021		
Contact:	Jeffrey Ingram	**Phone:**	(314) 984-8800
E-Mail:	Jeffrey_Ingram@golder.com	**Fax:**	

Samples on: X ICE ☐ BLUE ICE ☐ NO ICE 2.8 °C LTG# 5

Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**

Lab Notes TT492 / 75840 EH/PR 10/7/21

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No

Are these samples known to be hazardous? ☐ Yes ☐ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Client Comments:

Total Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo P K Se Na Tl

Dissolved Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo K Se Na Tl

Field: pH, DO, ORP, Conductivity, Temp. and Turbidity

Project Name/Number
Kincaid SW

Sample Collector's Name
Eric Schneider

Results Requested
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

Billing Instructions
2145231

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Bicarbonate	Carbonate	Chloride	Dissolved Metals	Ferric Iron	Ferrous Iron	Fluoride	Nitrate	SUB Ra226/228	Sulfate	Sulfide	TDS	TOC	Total Metals
21100448-001	K-F-2D	1748/10/6/21	2	4		1	2		1							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
-002	K-F-2M	1732/10/6/21																												
-003	K-F-1	1712/10/6/21																												
-004	K-A-3D	1620/10/6/21																												
-005	K-A-3M	1605/10/6/21																												
-006	K-A-2D	1533/10/6/21																												
-007	K-A-2M	1520/10/6/21																												
-008	K-A-1	1500/10/6/21																												
-009	K-B-3D	1438/10/6/21																												
-010	K-B-3M	1425/10/6/21																												

Courier

Relinquished By	Date/Time	Received By	Date/Time
	10/7/2021 0650		10-7-21 1019
	10-7-21 1235		10/7/21 1255

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 67929

CHAIN OF CUSTODY

pg. 2 of 3 Work order # 21100448

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	Golder Associates, Inc
Address:	13515 Barrett Parkway Drive, Suite 260
City / State / Zip	Ballwin, MO 63021
Contact:	Jeffrey Ingram
Phone:	(314) 984-8800
E-Mail:	Jeffrey_Ingram@golder.com
Fax:	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE ____ °C LTG# ____

Preserved in: ☒ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No

Are these samples known to be hazardous? ☐ Yes ☐ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Client Comments:

Total Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo P K Se Na Tl

Dissolved Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo K Se Na Tl

Field: pH, DO, ORP, Conductivity, Temp. and Turbidity

Project Name/Number: Kincaid SW

Sample Collector's Name: Eric Schneider

Results Requested: ☐ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ____ ☐ 3 Day (50% Surcharge)

Billing Instructions: 21454831

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Bicarbonate	Carbonate	Chloride	Dissolved Metals	Ferric Iron	Ferrous Iron	Fluoride	Nitrate	SUB Ra226/228	Sulfate	Sulfide	TDS	TOC	Total Metals
21100448-01	K-B-2D	1358 10/6/21	2	4		1	2		1							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
-02	K-B-2M	1343																												
-03	K-B-1	1232																												
-04	K-C-3D	1200																												
-05	K-C-3M	1135																												
-06	K-C-2D	1108																												
-07	K-C-2M	1053																												
-08	K-C-1	1027																												
-09	K-D-2D	1006																												
-10	K-D-2M	0953																												

Relinquished By	Date/Time	Received By	Date/Time
Golder	10/7/21 0650		10.7.21 1019
	10.7.21 1235		10/7/21 1235

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BottleOrder: 67929

CHAIN OF CUSTODY

pg. 3 of 3 Work order # 2110448

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	Golder Associates, Inc
Address:	13515 Barrett Parkway Drive, Suite 260
City / State / Zip	Ballwin, MO 63021
Contact:	Jeffrey Ingram
Phone:	(314) 984-8800
E-Mail:	Jeffrey_Ingram@golder.com
Fax:	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE ____ °C LTG# ____

Preserved in: ☒ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No

Are these samples known to be hazardous? ☐ Yes ☐ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Client Comments:

Total Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo P K Se Na Tl

Dissolved Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo K Se Na Tl

Field: pH, DO, ORP, Conductivity, Temp. and Turbidity

Project Name/Number: Kincaid SW

Sample Collector's Name: Eric Schmeltz

Results Requested: ☐ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ____ ☐ 3 Day (50% Surcharge)

Billing Instructions: 21454831

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Bicarbonate	Carbonate	Chloride	Dissolved Metals	Ferric Iron	Ferrous Iron	Fluoride	Nitrate	SUB Ra226/228	Sulfate	Sulfide	TDS	TOC	Total Metals
2110448-021	K-D-1	0933 10/6/21	2	4		1	2		1							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
-022	K-E-2D	0858																												
-023	K-E-2M	0845																												
-024	K-E-1	0820																												
-025	K-DUP-1	——"	2	4		1	2		1																					
-026	K-FB-1	1505																												

Relinquished By	Date/Time	Received By	Date/Time
	10/7/2021 0650		10-7-21 1019
	10.7.21 1235		10/7/21 1235

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BottleOrder: 67929

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 11/07/2021

Report # 221102380

Project 21100448

Samples Collected 10/6/21

Deliver To	*Additional Recipients*
Elizabeth Hurley Teklab, Inc 5445 Horseshoe Lake Road Collinsville, IL 62234 618-344-1004	NONE

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 221102380

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: Teklab Inc **Report:** 221102380

Pace Analytical Gulf Coast received and analyzed the sample(s) listed
on the Report Sample Summary page of this report. Receipt of the sample(s) is documented
by the attached chain of custody. This applies only to the sample(s) listed in this report.
No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found for the analyzed sample(s).

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22110238001	21100448-001	Water	10/06/21 17:48	10/20/21 10:05
22110238002	21100448-002	Water	10/06/21 17:32	10/20/21 10:05
22110238003	21100448-003	Water	10/06/21 17:12	10/20/21 10:05
22110238004	21100448-004	Water	10/06/21 16:20	10/20/21 10:05
22110238005	21100448-005	Water	10/06/21 16:05	10/20/21 10:05
22110238006	21100448-006	Water	10/06/21 15:33	10/20/21 10:05
22110238007	21100448-007	Water	10/06/21 15:20	10/20/21 10:05
22110238008	21100448-008	Water	10/06/21 15:00	10/20/21 10:05
22110238009	21100448-009	Water	10/06/21 14:38	10/20/21 10:05
22110238010	21100448-010	Water	10/06/21 14:25	10/20/21 10:05
22110238011	21100448-011	Water	10/06/21 13:58	10/20/21 10:05
22110238012	21100448-012	Water	10/06/21 13:43	10/20/21 10:05
22110238013	21100448-013	Water	10/06/21 12:32	10/20/21 10:05
22110238014	21100448-014	Water	10/06/21 12:00	10/20/21 10:05
22110238015	21100448-015	Water	10/06/21 11:35	10/20/21 10:05
22110238016	21100448-016	Water	10/06/21 11:08	10/20/21 10:05
22110238017	21100448-017	Water	10/06/21 10:53	10/20/21 10:05
22110238018	21100448-018	Water	10/06/21 10:27	10/20/21 10:05
22110238019	21100448-019	Water	10/06/21 10:06	10/20/21 10:05
22110238020	21100448-020	Water	10/06/21 09:53	10/20/21 10:05
22110238021	21100448-021	Water	10/06/21 09:33	10/20/21 10:05
22110238022	21100448-022	Water	10/06/21 08:58	10/20/21 10:05
22110238023	21100448-023	Water	10/06/21 08:45	10/20/21 10:05
22110238024	21100448-024	Water	10/06/21 08:20	10/20/21 10:05
22110238025	21100448-025	Water	10/06/21 00:01	10/20/21 10:05
22110238026	21100448-026	Water	10/06/21 15:05	10/20/21 10:05

Detect Summary

No analytes were detected for analyses performed by Pace Gulf Coast.

Sample Results

21100448-001

Collect Date	10/06/2021 17:48	**Lab ID**	22110238001
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 14:44	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:18	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-002

Collect Date	10/06/2021 17:32	**Lab ID**	22110238002
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 14:47	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:21	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-003

Collect Date	10/06/2021 17:12	**Lab ID**	22110238003
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 14:51	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:25	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-004

Collect Date	10/06/2021 16:20	**Lab ID**	22110238004
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 14:54	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:28	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-005

Collect Date	10/06/2021 16:05	**Lab ID**	22110238005
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 14:58	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:32	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-006

Collect Date	10/06/2021 15:33	**Lab ID**	22110238006
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:01	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:35	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-007

Collect Date 10/06/2021 15:20 **Lab ID** 22110238007
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:05	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:39	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-008

Collect Date 10/06/2021 15:00 **Lab ID** 22110238008
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:08	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:42	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-009

Collect Date 10/06/2021 14:38 **Lab ID** 22110238009
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:12	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:46	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-010

Collect Date 10/06/2021 14:25 **Lab ID** 22110238010
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:15	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 16:49	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-011

Collect Date 10/06/2021 13:58 **Lab ID** 22110238011
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:26	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:00	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-012

Collect Date 10/06/2021 13:43 **Lab ID** 22110238012
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:29	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:03	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-013

Collect Date 10/06/2021 12:32 **Lab ID** 22110238013
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:33	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:07	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-014

Collect Date 10/06/2021 12:00 **Lab ID** 22110238014
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:36	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:10	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-015

Collect Date	10/06/2021 11:35	**Lab ID**	22110238015
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:40	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:14	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-016

Collect Date	10/06/2021 11:08	**Lab ID**	22110238016
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:43	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 06:30	724645	EPA 3005A Dissolved	1	11/05/21 17:57	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-017

Collect Date 10/06/2021 10:53 **Lab ID** 22110238017
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:47	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:17	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-018

Collect Date 10/06/2021 10:27 **Lab ID** 22110238018
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:50	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:21	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-019

Collect Date	10/06/2021 10:06	**Lab ID**	22110238019
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:54	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:24	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-020

Collect Date	10/06/2021 09:53	**Lab ID**	22110238020
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 10:30	724635	EPA 3010A	1	11/06/21 15:57	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:28	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-021

Collect Date	10/06/2021 09:33	**Lab ID**	22110238021
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724636	EPA 3010A	1	11/05/21 16:19	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 11:15	724644	EPA 3005A Dissolved	1	11/06/21 17:31	725973	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-022

Collect Date	10/06/2021 08:58	**Lab ID**	22110238022
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724636	EPA 3010A	1	11/05/21 16:22	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 06:30	724645	EPA 3005A Dissolved	1	11/05/21 17:19	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-023

Collect Date 10/06/2021 08:45 **Lab ID** 22110238023
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724636	EPA 3010A	1	11/05/21 16:26	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 06:30	724645	EPA 3005A Dissolved	1	11/05/21 17:22	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-024

Collect Date 10/06/2021 08:20 **Lab ID** 22110238024
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724636	EPA 3010A	1	11/05/21 16:29	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 06:30	724645	EPA 3005A Dissolved	1	11/05/21 17:26	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100448-025

Collect Date 10/06/2021 00:01 **Lab ID** 22110238025
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724636	EPA 3010A	1	11/05/21 16:33	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 06:30	724645	EPA 3005A Dissolved	1	11/05/21 17:29	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100448-026

Collect Date 10/06/2021 15:05 **Lab ID** 22110238026
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724636	EPA 3010A	1	11/05/21 16:36	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 06:30	724645	EPA 3005A Dissolved	1	11/05/21 17:33	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Inorganics QC Summary

Analytical Batch	Client ID	MB724635		LCS724635				LCSD724635				
725973	Lab ID	2260412		2260414				2260413				
Prep Batch	Sample Type	MB		LCS				LCSD				
724635	Prep Date	11/04/21 10:30		11/04/21 10:30				11/04/21 10:30				
Prep Method	Analysis Date	11/06/21 14:33		11/06/21 14:40				11/06/21 14:37				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Thallium	7440-28-0	ND	1.00	50.0	47.9	96	80 - 120	50.0	50.8	102	6	20

Analytical Batch	Client ID	MB724636		LCS724636				LCSD724636				
725918	Lab ID	2260415		2260417				2260416				
Prep Batch	Sample Type	MB		LCS				LCSD				
724636	Prep Date	11/05/21 05:15		11/05/21 05:15				11/05/21 05:15				
Prep Method	Analysis Date	11/05/21 16:08		11/05/21 16:15				11/05/21 16:12				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Thallium	7440-28-0	ND	1.00	50.0	51.3	103	80 - 120	50.0	50.7	101	1	20

Analytical Batch	Client ID	MB724644		LCS724644				LCSD724644				
725973	Lab ID	2260435		2260437				2260436				
Prep Batch	Sample Type	MB		LCS				LCSD				
724644	Prep Date	11/04/21 11:15		11/04/21 11:15				11/04/21 11:15				
Prep Method	Analysis Date	11/06/21 16:07		11/06/21 16:14				11/06/21 16:11				
EPA 3005A Dissolved	Matrix	Water		Water				Water				
EPA 6020B Dissolved		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Thallium	7440-28-0	ND	1.00	50.0	49.2	98	80 - 120	50.0	49.7	99	1	20

Analytical Batch	Client ID	MB724645		LCS724645				LCSD724645				
725918	Lab ID	2260438		2260440				2260439				
Prep Batch	Sample Type	MB		LCS				LCSD				
724645	Prep Date	11/05/21 06:30		11/05/21 06:30				11/05/21 06:30				
Prep Method	Analysis Date	11/05/21 17:08		11/05/21 17:15				11/05/21 17:12				
EPA 3005A Dissolved	Matrix	Water		Water				Water				
EPA 6020B Dissolved		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Thallium	7440-28-0	ND	1.00	50.0	49.9	100	80 - 120	50.0	49.9	100	0	20

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☐ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: | Sampler: Client | QC Level: 3

Project# 21100448

Comments: **Please Issue reports and invoices via email only**
Please analyze for Tl by SW-846 3005A, 6020A, Metals by ICPMS on your standard
turn around time. Dissolved bottles distinguished with "D" on labels
Batch QC is required for all analyses requested.

Contact: Elizabeth A. Hurley | Email: ehurley@teklabinc.com
Requested Due Date: STD TAT | Billing/PO: 31994
Phone: (618) 344-1004 ext 33

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Total Tl	Dissolved Tl											
	21100448-001	10/6/2021 5:48:00 PM	HNO3	Groundwater	✓	✓											1
	21100448-002	10/6/2021 5:32:00 PM	HNO3	Groundwater	✓	✓											2
	21100448-003	10/6/2021 5:12:00 PM	HNO3	Groundwater	✓	✓											3
	21100448-004	10/6/2021 4:20:00 PM	HNO3	Groundwater	✓	✓											4
	21100448-005	10/6/2021 4:05:00 PM	HNO3	Groundwater	✓	✓											5
	21100448-006	10/6/2021 3:33:00 PM	HNO3	Groundwater	✓	✓											6
	21100448-007	10/6/2021 3:20:00 PM	HNO3	Groundwater	✓	✓											7
	21100448-008	10/6/2021 3:00:00 PM	HNO3	Groundwater	✓	✓											8
	21100448-009	10/6/2021 2:38:00 PM	HNO3	Groundwater	✓	✓											9
	21100448-010	10/6/2021 2:25:00 PM	HNO3	Groundwater	✓	✓											10
	21100448-011	10/6/2021 1:58:00 PM	HNO3	Groundwater	✓	✓											11

20.9E34

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp FedEx	10/19/21 1800		
	10/20/21 1005		10/20/21 1005

5300 5201 6584
6618
6529

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper autho
Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TN

Client ID: 5233 - Teklab Inc
SDG: 221102380
PM: RWe

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☐ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 3

Comments: **Please Issue reports and invoices via email only**
Please analyze for Tl by SW-846 3005A, 6020A, Metals by ICPMS on your standard
turn around time. Dissolved bottles distinguished with "D" on labels
Batch QC is required for all analyses requested.

Project# 21100448

Contact: Elizabeth A. Hurley Email: ehurley@teklabinc.com
Requested Due Date: STD TAT Billing/PO: 31994 Phone: (618) 344-1004 ext 33

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Total Tl	Dissolved Tl										
	21100448-012	10/6/2021 1:43:00 PM	HNO3	Groundwater	✓	✓										12
	21100448-013	10/6/2021 12:32:00 PM	HNO3	Groundwater	✓	✓										13
	21100448-014	10/6/2021 12:00:00 PM	HNO3	Groundwater	✓	✓										14
	21100448-015	10/6/2021 11:35:00 AM	HNO3	Groundwater	✓	✓										15
	21100448-016	10/6/2021 11:08:00 AM	HNO3	Groundwater	✓	✓										16
	21100448-017	10/6/2021 10:53:00 AM	HNO3	Groundwater	✓	✓										17
	21100448-018	10/6/2021 10:27:00 AM	HNO3	Groundwater	✓	✓										18
	21100448-019	10/6/2021 10:06:00 AM	HNO3	Groundwater	✓	✓										19
	21100448-020	10/6/2021 9:53:00 AM	HNO3	Groundwater	✓	✓										20
	21100448-021	10/6/2021 9:33:00 AM	HNO3	Groundwater	✓	✓										21
	21100448-022	10/6/2021 8:58:00 AM	HNO3	Groundwater	✓	✓										22

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp FedEx	10/19/21 1800		
	10/19/21 1005		10/19/21 1005

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper autho
Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TN

Client ID: 5233 - Teklab Inc
SDG: 221102380
PM: RWe

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☐ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 3

Comments: **Please Issue reports and invoices via email only**
Please analyze for Tl by SW-846 3005A, 6020A, Metals by ICPMS on your standard turn around time. Dissolved bottles distinguished with "D" on labels
Batch QC is required for all analyses requested.

Project# 21100448

Contact: Elizabeth A. Hurley Email: ehurley@teklabinc.com
Requested Due Date: STD TAT Billing/PO: 31994 Phone: (618) 344-1004 ext 33

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Total Tl	Dissolved Tl											
	21100448-023	10/6/2021 8:45:00 AM	HNO3	Groundwater	✓	✓											23
	21100448-024	10/6/2021 8:20:00 AM	HNO3	Groundwater	✓	✓											24
	21100448-025	10/6/2021	HNO3	Groundwater	✓	✓											25
	21100448-026	10/6/2021 3:05:00 PM	HNO3	Groundwater	✓	✓											26
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp FedEx	10/18/21 1800		
	10/19/21 1005		10/20/21 1005

Client ID: 5233 - Teklab Inc
SDG: 221102380
PM: RWe

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper author
Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP 221102380	
Client **PM** RWe 5233 - Teklab Inc	**Transport Method** FEDEX
Profile Number 290458	**Received By** Roberts, George S. McCune, Dodie N.
Line Item(s) 14 - Tl 6020	**Receive Date(s)** 10/20/21

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E34	Temp °C
530052016610		20.9
530052016584		
530052016529		

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 30, 2021

Ms. Elizabeth Hurley
Teklab Inc.
5445 Horseshoe Lake Road
Collinsville, IL 62234

RE: Project: 21100448
Pace Project No.: 30445660

Dear Ms. Hurley:

Enclosed are the analytical results for sample(s) received by the laboratory on October 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



David A. Pichette
david.pichette@pacelabs.com
(724)850-5617
Project Manager

Enclosures

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CERTIFICATIONS

Project: 21100448
Pace Project No.: 30445660

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: 21100448
Pace Project No.: 30445660

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30445660001	21100448-001	Water	10/06/21 17:48	10/11/21 09:00
30445660002	21100448-002	Water	10/06/21 17:32	10/11/21 09:00
30445660003	21100448-003	Water	10/06/21 17:12	10/11/21 09:00
30445660004	21100448-004	Water	10/06/21 16:20	10/11/21 09:00
30445660005	21100448-005	Water	10/06/21 16:05	10/11/21 09:00
30445660006	21100448-006	Water	10/06/21 15:33	10/11/21 09:00
30445660007	21100448-007	Water	10/06/21 15:20	10/11/21 09:00
30445660008	21100448-008	Water	10/06/21 15:00	10/11/21 09:00
30445660009	21100448-009	Water	10/06/21 14:38	10/11/21 09:00
30445660010	21100448-010	Water	10/06/21 14:25	10/11/21 09:00
30445660011	21100448-011	Water	10/06/21 13:58	10/11/21 09:00
30445660012	21100448-012	Water	10/06/21 13:43	10/11/21 09:00
30445660013	21100448-013	Water	10/06/21 12:32	10/11/21 09:00
30445660014	21100448-014	Water	10/06/21 12:00	10/11/21 09:00
30445660015	21100448-015	Water	10/06/21 11:35	10/11/21 09:00
30445660016	21100448-016	Water	10/06/21 11:08	10/11/21 09:00
30445660017	21100448-017	Water	10/06/21 10:53	10/11/21 09:00
30445660018	21100448-018	Water	10/06/21 10:27	10/11/21 09:00
30445660019	21100448-019	Water	10/06/21 10:06	10/11/21 09:00
30445660020	21100448-020	Water	10/06/21 09:53	10/11/21 09:00
30445660021	21100448-021	Water	10/06/21 09:33	10/11/21 09:00
30445660022	21100448-022	Water	10/06/21 08:58	10/11/21 09:00
30445660023	21100448-023	Water	10/06/21 08:45	10/11/21 09:00
30445660024	21100448-024	Water	10/06/21 08:20	10/11/21 09:00
30445660025	21100448-025	Water	10/06/21 00:00	10/11/21 09:00
30445660026	21100448-026	Water	10/06/21 15:05	10/11/21 09:00

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SAMPLE ANALYTE COUNT

Project: 21100448
Pace Project No.: 30445660

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30445660001	21100448-001	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660002	21100448-002	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660003	21100448-003	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660004	21100448-004	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660005	21100448-005	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660006	21100448-006	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660007	21100448-007	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660008	21100448-008	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660009	21100448-009	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660010	21100448-010	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660011	21100448-011	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660012	21100448-012	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660013	21100448-013	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660014	21100448-014	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660015	21100448-015	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660016	21100448-016	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660017	21100448-017	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660018	21100448-018	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660019	21100448-019	EPA 903.1	MK1	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 21100448
Pace Project No.: 30445660

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
30445660020	**21100448-020**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30445660021	**21100448-021**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30445660022	**21100448-022**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30445660023	**21100448-023**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30445660024	**21100448-024**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30445660025	**21100448-025**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30445660026	**21100448-026**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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PROJECT NARRATIVE

Project: 21100448
Pace Project No.: 30445660

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Teklab Inc.
Date: October 30, 2021

General Information:
26 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 21100448
Pace Project No.: 30445660

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Teklab Inc.
Date: October 30, 2021

General Information:
26 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-001 **Lab ID: 30445660001** Collected: 10/06/21 17:48 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.149 ± 0.461 (0.892) C:NA T:79%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.396 ± 0.857 (1.89) C:72% T:68%**	pCi/L	10/26/21 15:02	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-002 **Lab ID: 30445660002** Collected: 10/06/21 17:32 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.339 (0.761) C:NA T:85%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.933 ± 1.01 (2.13) C:69% T:55%**	pCi/L	10/26/21 15:02	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-003 **Lab ID: 30445660003** Collected: 10/06/21 17:12 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.133 ± 0.369 (0.715) C:NA T:86%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.249 ± 0.769 (1.80) C:69% T:72%**	pCi/L	10/26/21 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-004 **Lab ID: 30445660004** Collected: 10/06/21 16:20 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.145 ± 0.567 (1.09) C:NA T:80%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.00719 ± 0.966 (2.22) C:69% T:56%**	pCi/L	10/26/21 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-005 **Lab ID: 30445660005** Collected: 10/06/21 16:05 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.219 ± 0.591 (1.10) C:NA T:87%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.693 ± 0.594 (1.20) C:70% T:62%**	pCi/L	10/26/21 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-006 **Lab ID: 30445660006** Collected: 10/06/21 15:33 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.161 ± 0.368 (0.867) C:NA T:71%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.13 ± 0.673 (1.26) C:72% T:57%**	pCi/L	10/26/21 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-007 **Lab ID: 30445660007** Collected: 10/06/21 15:20 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0694 ± 0.652 (1.26) C:NA T:87%**	pCi/L	10/28/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.168 ± 0.440 (0.980) C:76% T:77%**	pCi/L	10/26/21 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-008 **Lab ID: 30445660008** Collected: 10/06/21 15:00 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.209 ± 0.362 (0.913) C:NA T:93%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.839 ± 0.542 (1.04) C:78% T:68%**	pCi/L	10/26/21 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-009 **Lab ID: 30445660009** Collected: 10/06/21 14:38 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.403 ± 0.560 (0.934) C:NA T:61%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.196 ± 0.604 (1.36) C:73% T:51%**	pCi/L	10/26/21 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-010 **Lab ID: 30445660010** Collected: 10/06/21 14:25 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.231 ± 0.501 (1.15) C:NA T:87%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.495 ± 0.536 (1.13) C:75% T:69%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-011 **Lab ID: 30445660011** Collected: 10/06/21 13:58 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.174 ± 0.722 (1.38) C:NA T:75%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.730 ± 0.669 (1.68) C:69% T:48%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-012 **Lab ID: 30445660012** Collected: 10/06/21 13:43 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.397 ± 0.563 (0.954) C:NA T:82%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.918 ± 0.676 (1.33) C:71% T:52%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-013 **Lab ID: 30445660013** Collected: 10/06/21 12:32 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.147 ± 0.337 (0.543) C:NA T:82%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0168 ± 0.598 (1.39) C:71% T:51%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-014 **Lab ID: 30445660014** Collected: 10/06/21 12:00 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.265 ± 0.450 (0.795) C:NA T:87%**	pCi/L	10/28/21 14:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.558 ± 1.14 (2.52) C:74% T:28%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-015 **Lab ID: 30445660015** Collected: 10/06/21 11:35 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0731 ± 0.333 (0.786) C:NA T:81%**	pCi/L	10/28/21 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.648 ± 0.556 (1.13) C:75% T:68%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-016 **Lab ID: 30445660016** Collected: 10/06/21 11:08 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.199 ± 0.344 (0.615) C:NA T:91%**	pCi/L	10/28/21 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.229 ± 0.634 (1.42) C:69% T:53%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-017 **Lab ID: 30445660017** Collected: 10/06/21 10:53 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.345 ± 0.317 (0.187) C:NA T:92%**	pCi/L	10/28/21 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.216 ± 0.404 (0.886) C:72% T:77%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-018 **Lab ID: 30445660018** Collected: 10/06/21 10:27 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0746 ± 0.341 (0.693) C:NA T:85%**	pCi/L	10/28/21 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.01 ± 0.627 (1.17) C:71% T:55%**	pCi/L	10/26/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-019 **Lab ID: 30445660019** Collected: 10/06/21 10:06 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.396 ± 0.468 (0.736) C:NA T:86%**	pCi/L	10/28/21 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.929 ± 0.871 (2.23) C:70% T:47%**	pCi/L	10/26/21 18:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-020 **Lab ID: 30445660020** Collected: 10/06/21 09:53 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.282 (0.455) C:NA T:91%**	pCi/L	10/28/21 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.246 ± 0.554 (1.23) C:74% T:73%**	pCi/L	10/26/21 18:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-021 **Lab ID: 30445660021** Collected: 10/06/21 09:33 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0580 ± 0.469 (0.967) C:NA T:95%**	pCi/L	10/28/21 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.609 ± 0.403 (0.768) C:79% T:72%**	pCi/L	10/26/21 13:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-022 **Lab ID: 30445660022** Collected: 10/06/21 08:58 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.288 ± 0.348 (0.945) C:NA T:91%**	pCi/L	10/28/21 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0246 ± 0.355 (0.828) C:73% T:68%**	pCi/L	10/26/21 13:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-023 **Lab ID: 30445660023** Collected: 10/06/21 08:45 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.115 ± 0.264 (0.425) C:NA T:92%**	pCi/L	10/28/21 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.147 ± 0.329 (0.807) C:75% T:71%**	pCi/L	10/26/21 13:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-024 **Lab ID: 30445660024** Collected: 10/06/21 08:20 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.128 ± 0.307 (0.592) C:NA T:90%**	pCi/L	10/28/21 16:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0423 ± 0.392 (0.923) C:73% T:70%**	pCi/L	10/26/21 13:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-025 **Lab ID: 30445660025** Collected: 10/06/21 00:00 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.191 ± 0.292 (0.765) C:NA T:93%**	pCi/L	10/28/21 16:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.492 ± 0.493 (1.02) C:67% T:68%**	pCi/L	10/26/21 13:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

Sample: 21100448-026 **Lab ID: 30445660026** Collected: 10/06/21 15:05 Received: 10/11/21 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0577 ± 0.263 (0.156) C:NA T:96%**	pCi/L	10/28/21 16:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.449 ± 0.339 (0.667) C:72% T:94%**	pCi/L	10/26/21 13:31	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

QC Batch: 468606
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30445660001, 30445660002, 30445660003, 30445660004, 30445660005, 30445660006, 30445660007, 30445660008, 30445660009, 30445660010, 30445660011, 30445660012, 30445660013, 30445660014, 30445660015, 30445660016, 30445660017, 30445660018, 30445660019, 30445660020

METHOD BLANK: 2262585
Matrix: Water
Associated Lab Samples: 30445660001, 30445660002, 30445660003, 30445660004, 30445660005, 30445660006, 30445660007, 30445660008, 30445660009, 30445660010, 30445660011, 30445660012, 30445660013, 30445660014, 30445660015, 30445660016, 30445660017, 30445660018, 30445660019, 30445660020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.144 ± 0.250 (0.630) C:NA T:95%	pCi/L	10/28/21 13:47	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

QC Batch: 468609
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30445660021, 30445660022, 30445660023, 30445660024, 30445660025, 30445660026

METHOD BLANK: 2262587 Matrix: Water
Associated Lab Samples: 30445660021, 30445660022, 30445660023, 30445660024, 30445660025, 30445660026

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0552 ± 0.325 (0.724) C:NA T:84%	pCi/L	10/28/21 15:28	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

QC Batch: 468610 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30445660021, 30445660022, 30445660023, 30445660024, 30445660025, 30445660026

METHOD BLANK: 2262588 Matrix: Water
Associated Lab Samples: 30445660021, 30445660022, 30445660023, 30445660024, 30445660025, 30445660026

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.354 ± 0.302 (0.605) C:80% T:90%	pCi/L	10/26/21 13:30	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 21100448
Pace Project No.: 30445660

QC Batch: 468608
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30445660001, 30445660002, 30445660003, 30445660004, 30445660005, 30445660006, 30445660007, 30445660008, 30445660009, 30445660010, 30445660011, 30445660012, 30445660013, 30445660014, 30445660015, 30445660016, 30445660017, 30445660018, 30445660019, 30445660020

METHOD BLANK: 2262586
Matrix: Water
Associated Lab Samples: 30445660001, 30445660002, 30445660003, 30445660004, 30445660005, 30445660006, 30445660007, 30445660008, 30445660009, 30445660010, 30445660011, 30445660012, 30445660013, 30445660014, 30445660015, 30445660016, 30445660017, 30445660018, 30445660019, 30445660020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.609 ± 0.363 (0.665) C:72% T:85%	pCi/L	10/26/21 11:55	

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QUALIFIERS

Project: 21100448
Pace Project No.: 30445660

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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without the written consent of Pace Analytical Services, LLC.

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: QC Level: 3

Comments: **Please issue reports and invoices via email only**
Please analyze for Radium 22/228 per method.
IL site
Batch QC is required for all analyses requested.

Project# 21100448

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
Requested Due Date: 10-15 day TAT Billing/PO: 31937

Any changes to analysis/methods must be approved by Teklab, Inc.

Phone:

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

WO# : 30445660

30445660

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228											
001	21100448 - 001	10/6/21 1748	HNO3	Groundwater	☑											
002	21100448 - 002	10/6/21 1732	HNO3	Groundwater	☑											
003	21100448 - 003	10/6/21 1712	HNO3	Groundwater	☑											
004	21100448 - 004	10/6/21 1620	HNO3	Groundwater	☑											
005	21100448 - 005	10/6/21 1605	HNO3	Groundwater	☑											
006	21100448 - 006	10/6/21 1533	HNO3	Groundwater	☑											
007	21100448 - 007	10/6/21 1520	HNO3	Groundwater	☑											
008	21100448 - 008	10/6/21 1500	HNO3	Groundwater	☑											
009	21100448 - 009	10/6/21 1438	HNO3	Groundwater	☑											
010	21100448 - 010	10/6/21 1425	HNO3	Groundwater	☑											
011	21100448 - 011	10/6/21 1358	HNO3	Groundwater	☑											

*Relinquished By	Date/Time	Received By	Date/Time
			10/11/21 0900

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

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Collinsville, IL 62234

Cooler Temp: Sampler: QC Level: 3

Comments: Please issue reports and invoices via email only
Please analyze for Radium 22/228 per method.
IL site
Batch QC is required for all analyses requested.

Project# 21100448

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
Requested Due Date: 10-15 day TAT Billing/PO: 31937

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WO# : 30445660
PM: DAP Due Date: 11/01/21
CLIENT: TEKLAB

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228												
012	21100448 - 012	10/6/21 1343	HNO3	Groundwater	☑												
013	21100448 - 013	10/6/21 1232	HNO3	Groundwater	☑												
014	21100448 - 014	10/6/21 1200	HNO3	Groundwater	☑												
015	21100448 - 015	10/6/21 1135	HNO3	Groundwater	☑												
016	21100448 - 016	10/6/21 1108	HNO3	Groundwater	☑												
017	21100448 - 017	10/6/21 1053	HNO3	Groundwater	☑												
018	21100448 - 018	10/6/21 1027	HNO3	Groundwater	☑												
019	21100448 - 019	10/6/21 1006	HNO3	Groundwater	☑												
020	21100448 - 020	10/6/21 0953	HNO3	Groundwater	☑												
021	21100448 - 021	10/6/21 0933	HNO3	Groundwater	☑												
022	21100448 - 022	10/6/21 0858	HNO3	Groundwater	☑												

*Relinquished By	Date/Time	Received By	Date/Time
			10/11/21 0900

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SubCocRevA
3/2/2016

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5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: QC Level: 3

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 22/228 per method.
IL site
Batch QC is required for all analyses requested.

Project# 21100448

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
Requested Due Date: 10-15 day TAT Billing/PO: 31937

Any changes to analysis/methods must be approved by Teklab, Inc.

Phone:

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WO# : 30445660

PM: DAP Due Date: 11/01/21
CLIENT: TEKLAB

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228													
023	21100448 - 023	10/6/21 0845	HNO3	Groundwater	✓													
024	21100448 - 024	10/6/21 0820	HNO3	Groundwater	✓													
025	21100448 - 025	10/6/21	HNO3	Groundwater	✓													
026	21100448 - 026	10/6/21 1505	HNO3	Groundwater	✓													
			HNO3	Groundwater														
			HNO3	Groundwater														
			HNO3	Groundwater														
			HNO3	Groundwater														
			HNO3	Groundwater														
			HNO3	Groundwater														
			HNO3	Groundwater														

*Relinquished By	Date/Time	Received By	Date/Time
			10/11/21 0900

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SubCocRevA
3/2/2016

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: TekLab Project #

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Label AR

LIMS Login AR

Tracking #: 5300 5201 5739/5717/5706

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used — Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

WO#: 30445660

PM: DAP Due Date: 11/01/21

CLIENT: TEKLAB

Comments:	Yes	No	N/A	pH paper Lot# 100411 / Date and initials of person examining contents: AR 10/15/21
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:		X		3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:		X		
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	X			16.
All containers meet method preservation requirements.	X			Initial when completed: AR Date/time of preservation:
				Lot # of added preservative:
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:			X	18.
Trip Blank Custody Seals Present			X	
Rad Samples Screened < 0.5 mrem/hr	X			Initial when completed: AR Date: 10/15/21 Survey Meter SN: 1383

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

David Pichette

From: Elizabeth A. Hurley <EHurley@TekLabInc.com>
Sent: Friday, October 15, 2021 1:54 PM
To: David Pichette
Subject: Teklab CoCs
Attachments: 21100448SUBCOC.pdf; 21100474SUBCOC.pdf

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.
Hi, David,

Thanks, again, for calling about the missing CoCs. Copies are attached for your review/use.

Have a great day!

Elizabeth Hurley
Director of Customer Service

Teklab, Inc.
5445 Horseshoe Lake Road
Collinsville, IL 62234
Phone: (618) 344-1004
Ext. 33
Cell: (618) 791-8119
Fax: (618) 344-1005
E-mail: ehurley@teklabinc.com
www.teklabinc.com

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WO# : 30445660
PM: DAP Due Date: 11/01/21
CLIENT: TEKLAB

November 12, 2021

Jeffrey Ingram
Golder Associates, Inc
13515 Barrett Parkway Drive, Suite 260
Ballwin, MO 63021
TEL: (314) 984-8800
FAX:

Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Kincaid SW **WorkOrder:** 21100474

Dear Jeffrey Ingram:

TEKLAB, INC received 9 samples on 10/7/2021 3:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Report Contents

Client: Golder Associates, Inc
Client Project: Kincaid SW

Work Order: 21100474
Report Date: 12-Nov-21

This reporting package includes the following:

Cover Letter	1
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Accreditations	6
Laboratory Results	7
Sample Summary	25
Dates Report	26
Quality Control Results	35
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Chain of Custody	Appended

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Definitions

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21

Cooler Receipt Temp: 7.4 °C

Radium-226 and Radium-228 analysis was performed by Pace Analytical Services, LLC. See attached report for results.

Thallium by ICPMS analysis performed by Pace Analytical Gulf Coast. See attached for results and QC summary.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-001 **Client Sample ID:** K-G-1

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 7:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 17:55	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 22:19	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.17**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.043**	mg/L	1	10/19/2021 10:09	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:05	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:26	R301164
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**121**	mg/L	1	10/08/2021 11:47	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:47	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**172**	mg/L	1	10/13/2021 14:34	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/08/2021 23:11	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:25	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 22:20	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100	S	**30.9**	mg/L	1	10/14/2021 21:22	183830
Magnesium	NELAP	0.0500	S	**18.4**	mg/L	1	10/14/2021 21:22	183830
Potassium	NELAP	0.100		**2.66**	mg/L	1	10/14/2021 21:22	183830
Sodium	NELAP	0.0500		**11.7**	mg/L	1	10/16/2021 19:48	183830
Matrix spike control limits for Ca and Mg are not applicable due to high sample/spike ratio.								
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**33.0**	mg/L	1	10/16/2021 21:19	183831
Magnesium	NELAP	0.0500		**19.6**	mg/L	1	10/16/2021 21:19	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 14:30	183831
Potassium	NELAP	0.100		**2.86**	mg/L	1	10/16/2021 21:19	183831
Sodium	NELAP	0.0500		**12.7**	mg/L	1	10/16/2021 21:19	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/18/2021 17:44	183830
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/16/2021 9:10	183830
Barium	NELAP	0.0010		**0.0538**	mg/L	5	10/16/2021 9:10	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:10	183830
Boron	NELAP	0.0250		**0.0482**	mg/L	5	10/16/2021 9:10	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:10	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 9:10	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:10	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-001
Client Sample ID: K-G-1
Matrix: GROUNDWATER
Collection Date: 10/07/2021 7:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 9:10	183830
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:10	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 9:10	183830
Manganese	NELAP	0.0020		**0.0077**	mg/L	5	10/18/2021 17:44	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 9:10	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:10	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:07	183831
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/16/2021 0:07	183831
Barium	NELAP	0.0010		**0.0683**	mg/L	5	10/16/2021 0:07	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:05	183831
Boron	NELAP	0.0250		**0.0472**	mg/L	5	10/14/2021 4:05	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:07	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 4:05	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:05	183831
Iron	NELAP	0.0250		**0.211**	mg/L	5	10/14/2021 4:05	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:07	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 4:05	183831
Manganese	NELAP	0.0020		**0.0793**	mg/L	5	10/14/2021 4:05	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 0:07	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:07	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:01	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 12:54	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-002
Client Sample ID: K-G-2M
Matrix: GROUNDWATER
Collection Date: 10/07/2021 8:13

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 17:57	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 22:27	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.19**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 10:10	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:06	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:28	R301164
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**116**	mg/L	1	10/08/2021 11:53	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:53	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**174**	mg/L	1	10/13/2021 14:34	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.0**	mg/L	1	10/08/2021 23:50	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:26	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 22:28	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.0**	mg/L	1	10/14/2021 21:33	183830
Magnesium	NELAP	0.0500		**17.2**	mg/L	1	10/14/2021 21:33	183830
Potassium	NELAP	0.100		**2.55**	mg/L	1	10/14/2021 21:33	183830
Sodium	NELAP	0.0500		**11.2**	mg/L	1	10/14/2021 21:33	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.8**	mg/L	1	10/16/2021 21:23	183831
Magnesium	NELAP	0.0500		**18.8**	mg/L	1	10/16/2021 21:23	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 14:34	183831
Potassium	NELAP	0.100		**2.82**	mg/L	1	10/16/2021 21:23	183831
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/16/2021 21:23	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0041**	mg/L	5	10/18/2021 17:58	183830
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/16/2021 9:33	183830
Barium	NELAP	0.0010		**0.0535**	mg/L	5	10/16/2021 9:33	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:33	183830
Boron	NELAP	0.0250		**0.0509**	mg/L	5	10/16/2021 9:33	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:33	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 9:33	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:33	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 9:33	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-002
Client Sample ID: K-G-2M
Matrix: GROUNDWATER
Collection Date: 10/07/2021 8:13

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:33	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 9:33	183830
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 17:58	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 9:33	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 9:33	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:39	183831
Arsenic	NELAP	0.0010		**0.0027**	mg/L	5	10/16/2021 0:39	183831
Barium	NELAP	0.0010		**0.0672**	mg/L	5	10/16/2021 0:39	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:13	183831
Boron	NELAP	0.0250		**0.0432**	mg/L	5	10/14/2021 4:13	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:39	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 4:13	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:13	183831
Iron	NELAP	0.0250		**0.220**	mg/L	5	10/14/2021 4:13	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:39	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 4:13	183831
Manganese	NELAP	0.0020		**0.0786**	mg/L	5	10/14/2021 4:13	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 0:39	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:39	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:05	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:03	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-003 **Client Sample ID:** K-G-2D

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 8:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 17:59	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 22:35	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**1.6**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.075**	mg/L	1	10/19/2021 10:12	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:08	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:29	R301164
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**115**	mg/L	1	10/08/2021 11:59	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 11:59	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**178**	mg/L	1	10/13/2021 14:34	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.2**	mg/L	1	10/08/2021 23:56	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:28	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 22:36	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.2**	mg/L	1	10/14/2021 21:37	183830
Magnesium	NELAP	0.0500		**17.2**	mg/L	1	10/14/2021 21:37	183830
Potassium	NELAP	0.100		**2.54**	mg/L	1	10/14/2021 21:37	183830
Sodium	NELAP	0.0500		**11.0**	mg/L	1	10/14/2021 21:37	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**33.9**	mg/L	1	10/16/2021 21:27	183831
Magnesium	NELAP	0.0500		**19.8**	mg/L	1	10/16/2021 21:27	183831
Phosphorus	NELAP	0.100		**0.148**	mg/L	1	10/19/2021 14:38	183831
Potassium	NELAP	0.100		**3.06**	mg/L	1	10/16/2021 21:27	183831
Sodium	NELAP	0.0500		**12.6**	mg/L	1	10/16/2021 21:27	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 17:31	183830
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/16/2021 10:26	183830
Barium	NELAP	0.0010		**0.0529**	mg/L	5	10/16/2021 10:26	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:26	183830
Boron	NELAP	0.0250		**0.0481**	mg/L	5	10/16/2021 10:26	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:26	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:26	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:26	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 10:26	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-003
Client Sample ID: K-G-2D
Matrix: GROUNDWATER
Collection Date: 10/07/2021 8:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:26	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 10:26	183830
Manganese	NELAP	0.0020		**0.0261**	mg/L	5	10/18/2021 18:23	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:26	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:26	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:46	183831
Arsenic	NELAP	0.0010		**0.0034**	mg/L	5	10/16/2021 0:46	183831
Barium	NELAP	0.0010		**0.0844**	mg/L	5	10/16/2021 0:46	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:20	183831
Boron	NELAP	0.0250		**0.0411**	mg/L	5	10/14/2021 4:20	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:46	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 4:20	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:20	183831
Iron	NELAP	0.0250		**1.64**	mg/L	5	10/14/2021 4:20	183831
Lead	NELAP	0.0010		**0.0011**	mg/L	5	10/16/2021 0:46	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 4:20	183831
Manganese	NELAP	0.0020		**0.225**	mg/L	5	10/14/2021 4:20	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 0:46	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:46	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:10	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:07	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-004 **Client Sample ID:** K-I-1

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 10:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 18:03	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 22:43	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.21**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 10:13	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:09	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:31	R301164
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**115**	mg/L	1	10/08/2021 12:04	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 12:04	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**162**	mg/L	1	10/13/2021 14:34	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/09/2021 0:02	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:30	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 22:44	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.0**	mg/L	1	10/14/2021 21:41	183830
Magnesium	NELAP	0.0500		**17.2**	mg/L	1	10/14/2021 21:41	183830
Potassium	NELAP	0.100		**2.55**	mg/L	1	10/14/2021 21:41	183830
Sodium	NELAP	0.0500		**11.1**	mg/L	1	10/14/2021 21:41	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**33.1**	mg/L	1	10/16/2021 21:30	183831
Magnesium	NELAP	0.0500		**19.6**	mg/L	1	10/16/2021 21:30	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 14:41	183831
Potassium	NELAP	0.100		**2.93**	mg/L	1	10/16/2021 21:30	183831
Sodium	NELAP	0.0500		**12.6**	mg/L	1	10/16/2021 21:30	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 17:35	183830
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/16/2021 10:34	183830
Barium	NELAP	0.0010		**0.0563**	mg/L	5	10/16/2021 10:34	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:34	183830
Boron	NELAP	0.0250		**0.0514**	mg/L	5	10/16/2021 10:34	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:34	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:34	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:34	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 10:34	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-004
Client Sample ID: K-I-1
Matrix: GROUNDWATER
Collection Date: 10/07/2021 10:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:34	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 10:34	183830
Manganese	NELAP	0.0020		**0.0131**	mg/L	5	10/18/2021 18:28	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:34	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:34	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:52	183831
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/16/2021 0:52	183831
Barium	NELAP	0.0010		**0.0692**	mg/L	5	10/16/2021 0:52	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:28	183831
Boron	NELAP	0.0250		**0.0386**	mg/L	5	10/14/2021 4:28	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:52	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 4:28	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:28	183831
Iron	NELAP	0.0250		**0.238**	mg/L	5	10/14/2021 4:28	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:52	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 4:28	183831
Manganese	NELAP	0.0020		**0.0887**	mg/L	5	10/14/2021 4:28	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 0:52	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:52	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:14	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:12	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-005 **Client Sample ID:** K-I-2M

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 10:28

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**0.125**	mg/L	1	10/08/2021 18:05	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 23:04	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.22**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.046**	mg/L	1	10/19/2021 10:15	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:10	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:46	R301221
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**115**	mg/L	1	10/08/2021 12:09	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**4**	mg/L	1	10/08/2021 12:09	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**166**	mg/L	1	10/13/2021 14:35	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/09/2021 0:09	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:36	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 23:05	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.0**	mg/L	1	10/14/2021 21:44	183830
Magnesium	NELAP	0.0500		**17.4**	mg/L	1	10/14/2021 21:44	183830
Potassium	NELAP	0.100		**2.54**	mg/L	1	10/14/2021 21:44	183830
Sodium	NELAP	0.0500		**11.0**	mg/L	1	10/14/2021 21:44	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**32.1**	mg/L	1	10/16/2021 21:48	183831
Magnesium	NELAP	0.0500		**19.1**	mg/L	1	10/16/2021 21:48	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 15:33	183831
Potassium	NELAP	0.100		**2.80**	mg/L	1	10/16/2021 21:48	183831
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/16/2021 21:48	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 17:38	183830
Arsenic	NELAP	0.0010		**0.0022**	mg/L	5	10/16/2021 10:42	183830
Barium	NELAP	0.0010		**0.0534**	mg/L	5	10/16/2021 10:42	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:42	183830
Boron	NELAP	0.0250		**0.0450**	mg/L	5	10/16/2021 10:42	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:42	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:42	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:42	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 10:42	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-005
Client Sample ID: K-I-2M
Matrix: GROUNDWATER
Collection Date: 10/07/2021 10:28

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:42	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 10:42	183830
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 18:32	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:42	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:42	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:59	183831
Arsenic	NELAP	0.0010		**0.0023**	mg/L	5	10/16/2021 0:59	183831
Barium	NELAP	0.0010		**0.0687**	mg/L	5	10/16/2021 0:59	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:36	183831
Boron	NELAP	0.0250		**0.0389**	mg/L	5	10/14/2021 4:36	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:59	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 4:36	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:36	183831
Iron	NELAP	0.0250		**0.261**	mg/L	5	10/14/2021 4:36	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:59	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 4:36	183831
Manganese	NELAP	0.0020		**0.0850**	mg/L	5	10/14/2021 4:36	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 0:59	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 0:59	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:19	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:16	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-006 **Client Sample ID:** K-I-2D

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 10:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 18:10	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 23:12	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.26**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.043**	mg/L	1	10/19/2021 10:16	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:12	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05		**< 0.05**	mg/L	1	10/13/2021 14:49	R301221
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**119**	mg/L	1	10/08/2021 12:15	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 12:15	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**164**	mg/L	1	10/13/2021 14:35	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.0**	mg/L	1	10/09/2021 0:15	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:37	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 23:13	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.2**	mg/L	1	10/14/2021 21:48	183830
Magnesium	NELAP	0.0500		**17.2**	mg/L	1	10/14/2021 21:48	183830
Potassium	NELAP	0.100		**2.53**	mg/L	1	10/14/2021 21:48	183830
Sodium	NELAP	0.0500		**11.0**	mg/L	1	10/14/2021 21:48	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**31.2**	mg/L	1	10/16/2021 21:52	183831
Magnesium	NELAP	0.0500		**18.8**	mg/L	1	10/16/2021 21:52	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 15:37	183831
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/16/2021 21:52	183831
Sodium	NELAP	0.0500		**12.1**	mg/L	1	10/16/2021 21:52	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 17:41	183830
Arsenic	NELAP	0.0010		**0.0020**	mg/L	5	10/16/2021 10:49	183830
Barium	NELAP	0.0010		**0.0534**	mg/L	5	10/16/2021 10:49	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:49	183830
Boron	NELAP	0.0250		**0.0484**	mg/L	5	10/16/2021 10:49	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:49	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:49	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:49	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 10:49	183830
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:49	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-006
Client Sample ID: K-I-2D
Matrix: GROUNDWATER
Collection Date: 10/07/2021 10:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 10:49	183830
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 18:37	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:49	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:49	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:05	183831
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/16/2021 1:05	183831
Barium	NELAP	0.0010		**0.0688**	mg/L	5	10/16/2021 1:05	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:43	183831
Boron	NELAP	0.0250		**0.0389**	mg/L	5	10/14/2021 4:43	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:05	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 4:43	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 4:43	183831
Iron	NELAP	0.0250		**0.306**	mg/L	5	10/14/2021 4:43	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:05	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 4:43	183831
Manganese	NELAP	0.0020		**0.0876**	mg/L	5	10/14/2021 4:43	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 1:05	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:05	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:28	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:21	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-007 **Client Sample ID:** K-H-1

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 11:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 18:12	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 23:20	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.23**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.043**	mg/L	1	10/19/2021 10:17	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:13	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:51	R301221
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**118**	mg/L	1	10/08/2021 12:21	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 12:21	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**172**	mg/L	1	10/13/2021 14:35	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/09/2021 0:22	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.35**	mg/L	1	10/08/2021 11:39	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 23:21	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**30.4**	mg/L	1	10/14/2021 22:10	183830
Magnesium	NELAP	0.0500		**18.2**	mg/L	1	10/14/2021 22:10	183830
Potassium	NELAP	0.100		**2.64**	mg/L	1	10/14/2021 22:10	183830
Sodium	NELAP	0.0500		**11.6**	mg/L	1	10/14/2021 22:10	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**32.6**	mg/L	1	10/16/2021 21:56	183831
Magnesium	NELAP	0.0500		**19.4**	mg/L	1	10/16/2021 21:56	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 15:41	183831
Potassium	NELAP	0.100		**2.86**	mg/L	1	10/16/2021 21:56	183831
Sodium	NELAP	0.0500		**12.5**	mg/L	1	10/16/2021 21:56	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 17:44	183830
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/16/2021 10:57	183830
Barium	NELAP	0.0010		**0.0539**	mg/L	5	10/16/2021 10:57	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:57	183830
Boron	NELAP	0.0250		**0.0481**	mg/L	5	10/16/2021 10:57	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:57	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:57	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:57	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 10:57	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-007
Client Sample ID: K-H-1
Matrix: GROUNDWATER
Collection Date: 10/07/2021 11:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:57	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 10:57	183830
Manganese	NELAP	0.0020		**0.0041**	mg/L	5	10/18/2021 18:42	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 10:57	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 10:57	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:12	183831
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/16/2021 1:12	183831
Barium	NELAP	0.0010		**0.0676**	mg/L	5	10/16/2021 1:12	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 5:29	183831
Boron	NELAP	0.0250		**0.0370**	mg/L	5	10/14/2021 5:29	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:12	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 5:29	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 5:29	183831
Iron	NELAP	0.0250		**0.275**	mg/L	5	10/14/2021 5:29	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:12	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 5:29	183831
Manganese	NELAP	0.0020		**0.0839**	mg/L	5	10/14/2021 5:29	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 1:12	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:12	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:32	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:30	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-008 **Client Sample ID:** K-H-2M

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 11:22

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 18:14	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 23:28	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.25**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 10:18	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:15	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:54	R301221
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**111**	mg/L	1	10/08/2021 12:27	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**5**	mg/L	1	10/08/2021 12:27	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**176**	mg/L	1	10/13/2021 14:36	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.1**	mg/L	1	10/09/2021 0:28	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:41	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**21**	mg/L	1	10/18/2021 23:29	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100		**29.1**	mg/L	1	10/14/2021 22:14	183830
Magnesium	NELAP	0.0500		**17.2**	mg/L	1	10/14/2021 22:14	183830
Potassium	NELAP	0.100		**2.54**	mg/L	1	10/14/2021 22:14	183830
Sodium	NELAP	0.0500		**11.0**	mg/L	1	10/14/2021 22:14	183830
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100		**32.0**	mg/L	1	10/16/2021 21:59	183831
Magnesium	NELAP	0.0500		**19.0**	mg/L	1	10/16/2021 21:59	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/19/2021 15:44	183831
Potassium	NELAP	0.100		**2.81**	mg/L	1	10/16/2021 21:59	183831
Sodium	NELAP	0.0500		**12.3**	mg/L	1	10/16/2021 21:59	183831
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/19/2021 17:48	183830
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/16/2021 11:05	183830
Barium	NELAP	0.0010		**0.0538**	mg/L	5	10/16/2021 11:05	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:05	183830
Boron	NELAP	0.0250		**0.0432**	mg/L	5	10/16/2021 11:05	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:05	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 11:05	183830
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:05	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 11:05	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-008
Client Sample ID: K-H-2M
Matrix: GROUNDWATER
Collection Date: 10/07/2021 11:22

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:05	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 11:05	183830
Manganese	NELAP	0.0020		**< 0.0020**	mg/L	5	10/18/2021 18:47	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 11:05	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:05	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:18	183831
Arsenic	NELAP	0.0010		**0.0026**	mg/L	5	10/16/2021 1:18	183831
Barium	NELAP	0.0010		**0.0680**	mg/L	5	10/16/2021 1:18	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 5:37	183831
Boron	NELAP	0.0250		**0.0353**	mg/L	5	10/14/2021 5:37	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:18	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 5:37	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 5:37	183831
Iron	NELAP	0.0250		**0.284**	mg/L	5	10/14/2021 5:37	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:18	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 5:37	183831
Manganese	NELAP	0.0020		**0.0852**	mg/L	5	10/14/2021 5:37	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 1:18	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:18	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:37	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:35	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Lab ID: 21100474-009 **Client Sample ID:** K-H-2D

Matrix: GROUNDWATER **Collection Date:** 10/07/2021 11:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**< 0.050**	mg/L	1	10/08/2021 18:29	R301083
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	10		**31**	mg/L	1	10/18/2021 23:36	R301396
FERRIC IRON, BY CALCULATION								
Ferric Iron	*	0.020		**0.21**	mg/L	1	10/19/2021 9:28	R301429
SM-3500-FE D, LABORATORY ANALYZED								
Lab Ferrous Iron	*	0.020		**0.032**	mg/L	1	10/19/2021 10:21	R301429
SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)								
Lab Ferrous Iron	*	0.020		**< 0.020**	mg/L	1	10/08/2021 14:18	R301035
STANDARD METHODS 4500-S D (TOTAL) 2000								
Sulfide, Total - Colorimetric	NELAP	0.05	S	**< 0.05**	mg/L	1	10/13/2021 14:56	R301221
Matrix spike did not recover within control limits due to matrix interference.								
STANDARD METHODS 2320 B (TOTAL) 1997, 2011								
Alkalinity, Bicarbonate (as CaCO3)	NELAP	0		**118**	mg/L	1	10/08/2021 12:33	R301043
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Carbonate (as CaCO3)	NELAP	0		**0**	mg/L	1	10/08/2021 12:33	R301043
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		**176**	mg/L	1	10/13/2021 14:36	R301256
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	1.0		**4.3**	mg/L	1	10/08/2021 16:04	R301074
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.36**	mg/L	1	10/08/2021 11:43	R300986
SW-846 9251 (TOTAL)								
Chloride	NELAP	1		**20**	mg/L	1	10/18/2021 23:37	R301397
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Calcium	NELAP	0.100	S	**29.0**	mg/L	1	10/14/2021 22:17	183830
Magnesium	NELAP	0.0500		**17.4**	mg/L	1	10/14/2021 22:17	183830
Potassium	NELAP	0.100		**2.55**	mg/L	1	10/14/2021 22:17	183830
Sodium	NELAP	0.0500		**12.0**	mg/L	1	10/16/2021 20:13	183830
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.								
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Calcium	NELAP	0.100	S	**31.6**	mg/L	1	10/16/2021 22:03	183831
Magnesium	NELAP	0.0500	S	**18.7**	mg/L	1	10/16/2021 22:03	183831
Phosphorus	NELAP	0.100		**< 0.100**	mg/L	1	10/20/2021 11:17	183831
Potassium	NELAP	0.100		**2.79**	mg/L	1	10/16/2021 22:03	183831
Sodium	NELAP	0.0500		**12.2**	mg/L	1	10/16/2021 22:03	183831
Matrix spike control limits for Ca and Mg are not applicable due to high sample/spike ratio.								
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		**0.0024**	mg/L	5	10/19/2021 18:14	183830
Arsenic	NELAP	0.0010		**0.0021**	mg/L	5	10/16/2021 11:12	183830
Barium	NELAP	0.0010		**0.0527**	mg/L	5	10/16/2021 11:12	183830
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:12	183830
Boron	NELAP	0.0250		**0.0511**	mg/L	5	10/16/2021 11:12	183830
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:12	183830
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 11:12	183830

Client: Golder Associates, Inc
Work Order: 21100474
Client Project: Kincaid SW
Report Date: 12-Nov-21
Lab ID: 21100474-009
Client Sample ID: K-H-2D
Matrix: GROUNDWATER
Collection Date: 10/07/2021 11:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:12	183830
Iron	NELAP	0.0250		**< 0.0250**	mg/L	5	10/16/2021 11:12	183830
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:12	183830
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/16/2021 11:12	183830
Manganese	NELAP	0.0020		**0.0027**	mg/L	5	10/18/2021 18:52	183830
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 11:12	183830
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 11:12	183830
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:25	183831
Arsenic	NELAP	0.0010		**0.0025**	mg/L	5	10/16/2021 1:25	183831
Barium	NELAP	0.0010		**0.0681**	mg/L	5	10/16/2021 1:25	183831
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 5:44	183831
Boron	NELAP	0.0250		**0.0365**	mg/L	5	10/14/2021 5:44	183831
Cadmium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:25	183831
Chromium	NELAP	0.0015		**< 0.0015**	mg/L	5	10/14/2021 5:44	183831
Cobalt	NELAP	0.0010		**< 0.0010**	mg/L	5	10/14/2021 5:44	183831
Iron	NELAP	0.0250		**0.245**	mg/L	5	10/14/2021 5:44	183831
Lead	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:25	183831
Lithium	*	0.0030		**< 0.0030**	mg/L	5	10/14/2021 5:44	183831
Manganese	NELAP	0.0020		**0.0841**	mg/L	5	10/14/2021 5:44	183831
Molybdenum	NELAP	0.0015		**< 0.0015**	mg/L	5	10/16/2021 1:25	183831
Selenium	NELAP	0.0010		**< 0.0010**	mg/L	5	10/16/2021 1:25	183831
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:46	183875
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	10/13/2021 13:39	183875
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
Radium-228	*	0		**See Attached**	pci/L	1	10/29/2021 0:00	R302202
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385
Subcontracted Analysis	*	0		**See Attached**		1	11/05/2021 0:00	R302385

Client: Golder Associates, Inc
Client Project: Kincaid SW

Work Order: 21100474
Report Date: 12-Nov-21

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
21100474-001	K-G-1	Groundwater	9	10/07/2021 7:50
21100474-002	K-G-2M	Groundwater	9	10/07/2021 8:13
21100474-003	K-G-2D	Groundwater	9	10/07/2021 8:25
21100474-004	K-I-1	Groundwater	9	10/07/2021 10:10
21100474-005	K-I-2M	Groundwater	9	10/07/2021 10:28
21100474-006	K-I-2D	Groundwater	9	10/07/2021 10:41
21100474-007	K-H-1	Groundwater	9	10/07/2021 11:01
21100474-008	K-H-2M	Groundwater	9	10/07/2021 11:22
21100474-009	K-H-2D	Groundwater	9	10/07/2021 11:42

Client: Golder Associates, Inc

Work Order: 21100474

Client Project: Kincaid SW

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100474-001A	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:47
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:47
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:34
	SW-846 9214 (Total)				10/08/2021 11:25
21100474-001B	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 17:55
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 22:19
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:00
	SW-846 9251 (Total)				10/18/2021 22:20
21100474-001C	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-001D	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:19
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 14:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 4:05
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 0:07
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 12:54
21100474-001E	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 21:22
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/16/2021 19:48
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 9:10
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 17:44
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:01
21100474-001F	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:26
21100474-001G	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	SW-846 9060				10/08/2021 23:11
21100474-001H	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:09
21100474-001I	K-G-1	10/07/2021 7:50	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:05
21100474-002A	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:53
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:53
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:34
	SW-846 9214 (Total)				10/08/2021 11:26
21100474-002B	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 17:57
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 22:27
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:03
	SW-846 9251 (Total)				10/18/2021 22:28
21100474-002C	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-002D	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:23
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 14:34
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 4:13
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 0:39
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:03
21100474-002E	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 21:33
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 9:33
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 17:58
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:05
21100474-002F	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:28
21100474-002G	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	SW-846 9060				10/08/2021 23:50
21100474-002H	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:10
21100474-002I	K-G-2M	10/07/2021 8:13	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:06
21100474-003A	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 11:59
	Standard Methods 2320 B 1997, 2011				10/08/2021 11:59

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:34
	SW-846 9214 (Total)				10/08/2021 11:28
21100474-003B	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 17:59
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 22:35
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:03
	SW-846 9251 (Total)				10/18/2021 22:36
21100474-003C	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-003D	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:27
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 14:38
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 4:20
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 0:46
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:07
21100474-003E	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 21:37
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 10:26
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:23
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 17:31
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:10
21100474-003F	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:29
21100474-003G	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	SW-846 9060				10/08/2021 23:56
21100474-003H	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:12
21100474-003I	K-G-2D	10/07/2021 8:25	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:08
21100474-004A	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 12:04
	Standard Methods 2320 B 1997, 2011				10/08/2021 12:04
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:34

Client: Golder Associates, Inc

Work Order: 21100474

Client Project: Kincaid SW

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 9214 (Total)				10/08/2021 11:30
21100474-004B	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 18:03
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 22:43
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:04
	SW-846 9251 (Total)				10/18/2021 22:44
21100474-004C	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-004D	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:30
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 14:41
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 4:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 0:52
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:12
21100474-004E	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 21:41
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 10:34
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:28
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 17:35
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:14
21100474-004F	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:31
21100474-004G	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	SW-846 9060				10/09/2021 0:02
21100474-004H	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:13
21100474-004I	K-I-1	10/07/2021 10:10	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:09
21100474-005A	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 12:09
	Standard Methods 2320 B 1997, 2011				10/08/2021 12:09
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:35
	SW-846 9214 (Total)				10/08/2021 11:36

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
21100474-005B	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 18:05
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 23:04
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:05
	SW-846 9251 (Total)				10/18/2021 23:05
21100474-005C	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-005D	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:48
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 15:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 4:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 0:59
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:16
21100474-005E	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 21:44
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 10:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:32
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 17:38
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:19
21100474-005F	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:46
21100474-005G	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	SW-846 9060				10/09/2021 0:09
21100474-005H	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:15
21100474-005I	K-I-2M	10/07/2021 10:28	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:10
21100474-006A	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 12:15
	Standard Methods 2320 B 1997, 2011				10/08/2021 12:15
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:35
	SW-846 9214 (Total)				10/08/2021 11:37
21100474-006B	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		

Client: Golder Associates, Inc

Work Order: 21100474

Client Project: Kincaid SW

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	EPA 600 353.2 R2.0 (Total)				10/08/2021 18:10
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 23:12
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:06
	SW-846 9251 (Total)				10/18/2021 23:13
21100474-006C	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-006D	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:52
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 15:37
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 4:43
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 1:05
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:21
21100474-006E	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 21:48
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 10:49
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:37
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 17:41
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:28
21100474-006F	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:49
21100474-006G	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	SW-846 9060				10/09/2021 0:15
21100474-006H	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:16
21100474-006I	K-I-2D	10/07/2021 10:41	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:12
21100474-007A	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 12:21
	Standard Methods 2320 B 1997, 2011				10/08/2021 12:21
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:35
	SW-846 9214 (Total)				10/08/2021 11:39
21100474-007B	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 18:12

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 23:20
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:06
	SW-846 9251 (Total)				10/18/2021 23:21
21100474-007C	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-007D	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:56
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 15:41
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 5:29
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 1:12
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:30
21100474-007E	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 22:10
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 10:57
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 17:44
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:32
21100474-007F	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:51
21100474-007G	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	SW-846 9060				10/09/2021 0:22
21100474-007H	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:17
21100474-007I	K-H-1	10/07/2021 11:01	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:13
21100474-008A	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 12:27
	Standard Methods 2320 B 1997, 2011				10/08/2021 12:27
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:36
	SW-846 9214 (Total)				10/08/2021 11:41
21100474-008B	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 18:14
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 23:28

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:06
	SW-846 9251 (Total)				10/18/2021 23:29
21100474-008C	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-008D	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 21:59
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/19/2021 15:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 5:37
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 1:18
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:35
21100474-008E	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 22:14
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 11:05
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:47
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 17:48
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:37
21100474-008F	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:54
21100474-008G	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	SW-846 9060				10/09/2021 0:28
21100474-008H	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:18
21100474-008I	K-H-2M	10/07/2021 11:22	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:15
21100474-009A	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	Standard Methods 2320 B (Total) 1997, 2011				10/08/2021 12:33
	Standard Methods 2320 B 1997, 2011				10/08/2021 12:33
	Standard Methods 2540 C (Total) 1997, 2011				10/13/2021 14:36
	SW-846 9214 (Total)				10/08/2021 11:43
21100474-009B	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	EPA 600 353.2 R2.0 (Total)				10/08/2021 18:29
	EPA 600 375.2 Rev 2.0 1993 (Total)				10/18/2021 23:36
	Standard Methods 4500-NO2 B (Total) 2000, 2011				10/08/2021 20:08

Client: Golder Associates, Inc

Work Order: 21100474

Client Project: Kincaid SW

Report Date: 12-Nov-21

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
	SW-846 9251 (Total)				10/18/2021 23:37
21100474-009C	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	EPA 903.0/904.0, Radium 226/228				10/29/2021 0:00
21100474-009D	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/16/2021 22:03
	SW-846 3005A, 6010B, Metals by ICP (Total)			10/12/2021 10:11	10/20/2021 11:17
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/14/2021 5:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/12/2021 10:11	10/16/2021 1:25
	SW-846 7470A (Total)			10/12/2021 20:31	10/13/2021 13:39
21100474-009E	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	See Attached for Subcontracting Analysis				11/05/2021 0:00
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/14/2021 22:17
	SW-846 3005A, 6010B, Metals by ICP (Dissolved)			10/12/2021 10:10	10/16/2021 20:13
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/16/2021 11:12
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/18/2021 18:52
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			10/12/2021 10:10	10/19/2021 18:14
	SW-846 7470A (Dissolved)			10/12/2021 20:31	10/13/2021 13:46
21100474-009F	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	Standard Methods 4500-S D (Total) 2000				10/13/2021 14:56
21100474-009G	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	SW-846 9060				10/08/2021 16:04
21100474-009H	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	Ferric Iron, by calculation				10/19/2021 9:28
	SM-3500-Fe D, Laboratory Analyzed				10/19/2021 10:21
21100474-009I	K-H-2D	10/07/2021 11:42	10/07/2021 15:00		
	SM-3500-Fe D, Laboratory Analyzed (Dissolved)				10/08/2021 14:18

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

EPA 600 353.2 R2.0 (TOTAL)

Batch R301083 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**< 0.050**	0.0090	0	0	-100	100	10/08/2021

Batch R301083 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.502**	0.5000	0	100.4	90	110	10/08/2021

Batch R301083 **SampType:** MS Units **mg/L**
SampID: 21100474-009BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.259**	0.2500	0.01170	98.8	90	110	10/08/2021

Batch R301083 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100474-009BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)		0.050		**0.271**	0.2500	0.01170	103.8	0.2588	4.68	10/08/2021

EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R301396 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**< 10**	6.140	0	0	-100	100	10/18/2021

Batch R301396 **SampType:** MBLK Units **mg/L**
SampID: MBLK TCLP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	*	10		**< 10**	7.620	0	0	-100	100	10/18/2021

Batch R301396 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**20**	20.00	0	100.5	90	110	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R301396 **SampType:** MS Units **mg/L**

SampID: 21100474-009BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		**49**	20.00	30.64	93.4	90	110	10/18/2021

Batch R301396 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 21100474-009BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		10		**50**	20.00	30.64	95.8	49.31	0.99	10/18/2021

SM-3500-FE D, LABORATORY ANALYZED

Batch R301429 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**< 0.020**	0.0080	0	0	-100	100	10/19/2021

Batch R301429 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.49**	0.5000	0	97.6	90	110	10/19/2021

Batch R301429 **SampType:** MS Units **mg/L**

SampID: 21100474-009HMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.28**	0.2500	0.03200	98.4	85	115	10/19/2021

Batch R301429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100474-009HMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.29**	0.2500	0.03200	104.0	0.2780	4.91	10/19/2021

SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)

Batch R301035 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**< 0.020**	0.0080	0	0	-100	100	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SM-3500-FE D, LABORATORY ANALYZED (DISSOLVED)

Batch R301035 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.47**	0.5000	0	94.6	90	110	10/08/2021

Batch R301035 **SampType:** MS Units **mg/L**
SampID: 21100474-009IMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.26**	0.2500	0.01000	98.4	85	115	10/08/2021

Batch R301035 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100474-009IMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab Ferrous Iron	*	0.020		**0.27**	0.2500	0.01000	104.4	0.2560	5.69	10/08/2021

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301164 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**< 0.05**	0.0080	0	0	-100	100	10/12/2021

Batch R301164 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.06**	0.0670	0	92.5	90	110	10/12/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100474-001FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.01600	83.6	85	115	10/13/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100474-002FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.01600	83.6	85	115	10/13/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100474-003FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.05**	0.0670	0.02200	44.8	85	115	10/13/2021

Batch R301164 **SampType:** MS Units **mg/L**
SampID: 21100474-004FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.01600	77.6	85	115	10/13/2021

Batch R301221 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**< 0.05**	0.0080	0	0	-100	100	10/13/2021

Batch R301221 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.07**	0.0670	0	100.0	90	110	10/13/2021

Batch R301221 **SampType:** MS Units **mg/L**
SampID: 21100474-005FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02100	74.6	85	115	10/13/2021

Batch R301221 **SampType:** MS Units **mg/L**
SampID: 21100474-006FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05		**0.08**	0.0670	0.01900	89.6	85	115	10/13/2021

Batch R301221 **SampType:** MS Units **mg/L**
SampID: 21100474-007FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.01900	77.6	85	115	10/13/2021

Batch R301221 **SampType:** MS Units **mg/L**
SampID: 21100474-008FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.02100	71.6	85	115	10/13/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

STANDARD METHODS 4500-S D (TOTAL) 2000

Batch R301221 **SampType:** MS Units **mg/L**
SampID: 21100474-009FMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.01900	77.6	85	115	10/13/2021

Batch R301221 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100474-009FMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfide, Total - Colorimetric		0.05	S	**0.07**	0.0670	0.01900	74.6	0.07100	2.86	10/13/2021

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R301256 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/13/2021
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/13/2021
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/13/2021

Batch R301256 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**912**	1000	0	91.2	90	110	10/13/2021
Total Dissolved Solids		20		**964**	1000	0	96.4	90	110	10/13/2021
Total Dissolved Solids		20		**1010**	1000	0	100.8	90	110	10/13/2021

Batch R301256 **SampType:** DUP Units **mg/L** RPD Limit **5**
SampID: 21100474-009ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**168**				176.0	4.65	10/13/2021

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R301049 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		**< 0.05**	0.0250	0	0	-100	100	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

STANDARD METHODS 4500-NO2 B (TOTAL) 2000, 2011

Batch R301049 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.25		**1.52**	1.520	0	100.3	90	110	10/08/2021

Batch R301049 **SampType:** MS Units **mg/L**
SampID: 21100474-009BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		**0.52**	0.5000	0	105.0	85	115	10/08/2021

Batch R301049 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100474-009BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrite (as N)		0.05		**0.50**	0.5000	0	99.6	0.5250	5.28	10/08/2021

SW-846 9060

Batch R301074 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		**< 1.0**	0.4500	0	0	-100	100	10/08/2021

Batch R301074 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		4.0		**16.6**	16.50	0	100.8	90	110	10/08/2021

Batch R301074 **SampType:** MS Units **mg/L**
SampID: 21100474-009GMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.0**	5.000	4.260	95.8	85	115	10/08/2021

Batch R301074 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 21100474-009GMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Organic Carbon (TOC)		1.0		**9.2**	5.000	4.260	98.0	9.050	1.21	10/08/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 9214 (TOTAL)

Batch R300986 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**< 0.10**	0.0370	0	0	-100	100	10/07/2021

Batch R300986 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**0.99**	1.000	0	98.8	90	110	10/07/2021

Batch R300986 **SampType:** MS Units **mg/L**
SampID: 21100474-009AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.49**	2.000	0.3570	106.8	75	125	10/08/2021

Batch R300986 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 21100474-009AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.48**	2.000	0.3570	106.2	2.494	0.52	10/08/2021

SW-846 9251 (TOTAL)

Batch R301397 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**< 1**	0.5000	0	0	-100	100	10/18/2021

Batch R301397 **SampType:** MBLK Units **mg/L**
SampID: MBLK TCLP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	*	1		**< 1**	0.5000	0	0	-100	100	10/18/2021

Batch R301397 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**20**	20.00	0	101.9	90	110	10/18/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 9251 (TOTAL)

Batch R301397 **SampType:** MS Units **mg/L**

SampID: 21100474-009BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		**39**	20.00	20.35	92.6	85	115	10/18/2021

Batch R301397 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100474-009BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		1		**38**	20.00	20.35	90.7	38.87	0.98	10/18/2021

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 183830 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183830

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/14/2021
Magnesium		0.0500		**< 0.0500**	0.0055	0	0	-100	100	10/14/2021
Potassium		0.100		**< 0.100**	0.0400	0	0	-100	100	10/14/2021
Sodium		0.0500		**< 0.0500**	0.0180	0	0	-100	100	10/14/2021

Batch 183830 **SampType:** LCS Units **mg/L**

SampID: LCS-183830

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**2.31**	2.500	0	92.4	85	115	10/14/2021
Magnesium		0.0500		**2.36**	2.500	0	94.4	85	115	10/14/2021
Potassium		0.100		**2.25**	2.500	0	90.0	85	115	10/14/2021
Sodium		0.0500		**2.16**	2.500	0	86.6	85	115	10/14/2021

Batch 183830 **SampType:** MS Units **mg/L**

SampID: 21100474-001EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	**30.9**	2.500	30.88	-0.4	75	125	10/14/2021
Magnesium		0.0500	S	**19.3**	2.500	18.43	36.0	75	125	10/14/2021
Potassium		0.100		**4.78**	2.500	2.665	84.6	75	125	10/14/2021
Sodium		0.0500		**14.0**	2.500	11.72	92.8	75	125	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)

Batch 183830 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100474-001EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	**30.6**	2.500	30.88	-10.8	30.87	0.85	10/14/2021
Magnesium		0.0500	S	**19.2**	2.500	18.43	31.2	19.33	0.62	10/14/2021
Potassium		0.100		**4.78**	2.500	2.665	84.8	4.781	0.06	10/14/2021
Sodium		0.0500		**14.0**	2.500	11.72	92.0	14.04	0.14	10/16/2021

Batch 183830 **SampType:** MS Units **mg/L**

SampID: 21100474-009EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	**30.8**	2.500	29.05	70.8	75	125	10/14/2021
Magnesium		0.0500		**19.3**	2.500	17.35	79.6	75	125	10/14/2021
Potassium		0.100		**4.78**	2.500	2.548	89.4	75	125	10/14/2021
Sodium		0.0500		**13.9**	2.500	11.97	76.4	75	125	10/16/2021

Batch 183830 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100474-009EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	**30.6**	2.500	29.05	62.0	30.82	0.72	10/14/2021
Magnesium		0.0500		**19.3**	2.500	17.35	79.2	19.34	0.05	10/14/2021
Potassium		0.100		**4.76**	2.500	2.548	88.4	4.782	0.52	10/14/2021
Sodium		0.0500		**14.1**	2.500	11.97	84.0	13.88	1.36	10/16/2021

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 183831 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183831

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/16/2021
Magnesium		0.0500		**< 0.0500**	0.0055	0	0	-100	100	10/16/2021
Phosphorus		0.100		**< 0.100**	0.0259	0	0	-100	100	10/19/2021
Potassium		0.100		**< 0.100**	0.0400	0	0	-100	100	10/16/2021
Sodium		0.0500		**< 0.0500**	0.0180	0	0	-100	100	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 183831 **SampType:** LCS Units **mg/L**

SampID: LCS-183831

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**2.63**	2.500	0	105.2	85	115	10/16/2021
Magnesium		0.0500		**2.72**	2.500	0	108.8	85	115	10/16/2021
Phosphorus		0.100		**0.987**	1.000	0	98.7	85	115	10/19/2021
Potassium		0.100		**2.51**	2.500	0	100.4	85	115	10/16/2021
Sodium		0.0500		**2.42**	2.500	0	96.8	85	115	10/16/2021

Batch 183831 **SampType:** MS Units **mg/L**

SampID: 21100474-009DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	**35.4**	2.500	31.57	153.2	75	125	10/16/2021
Magnesium		0.0500	S	**22.0**	2.500	18.66	135.6	75	125	10/16/2021
Phosphorus		0.100		**1.10**	1.000	0.03670	105.9	75	125	10/20/2021
Potassium		0.100		**5.47**	2.500	2.787	107.4	75	125	10/16/2021
Sodium		0.0500		**15.0**	2.500	12.17	111.2	75	125	10/16/2021

Batch 183831 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100474-009DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	**35.0**	2.500	31.57	139.2	35.40	0.99	10/16/2021
Magnesium		0.0500	S	**21.9**	2.500	18.66	131.2	22.05	0.50	10/16/2021
Phosphorus		0.100		**1.04**	1.000	0.03670	100.3	1.096	5.24	10/20/2021
Potassium		0.100		**5.46**	2.500	2.787	106.7	5.471	0.29	10/16/2021
Sodium		0.0500		**14.8**	2.500	12.17	106.0	14.95	0.87	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183830 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183830

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/18/2021
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/16/2021
Barium		0.0010		**< 0.0010**	0.0007	0	0	-100	100	10/16/2021
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/16/2021
Boron		0.0250		**< 0.0250**	0.0093	0	0	-100	100	10/16/2021
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/16/2021
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	10/16/2021
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/16/2021
Iron		0.0250		**< 0.0250**	0.0115	0	0	-100	100	10/16/2021
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/16/2021
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/16/2021
Manganese		0.0020		**< 0.0020**	0.0008	0	0	-100	100	10/18/2021
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/16/2021
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/16/2021

Batch 183830 **SampType:** LCS Units **mg/L**

SampID: LCS-183830

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.480**	0.5000	0	95.9	80	120	10/18/2021
Arsenic		0.0010		**0.477**	0.5000	0	95.4	80	120	10/16/2021
Barium		0.0010		**1.98**	2.000	0	99.2	80	120	10/16/2021
Beryllium		0.0010		**0.0476**	0.0500	0	95.2	80	120	10/16/2021
Boron		0.0250		**0.480**	0.5000	0	96.1	80	120	10/16/2021
Cadmium		0.0010		**0.0457**	0.0500	0	91.5	80	120	10/16/2021
Chromium		0.0015		**0.187**	0.2000	0	93.4	80	120	10/16/2021
Cobalt		0.0010		**0.479**	0.5000	0	95.8	80	120	10/16/2021
Iron		0.0250		**1.79**	2.000	0	89.7	80	120	10/16/2021
Lead		0.0010		**0.459**	0.5000	0	91.7	80	120	10/16/2021
Lithium	*	0.0030		**0.496**	0.5000	0	99.1	80	120	10/16/2021
Manganese		0.0020		**0.496**	0.5000	0	99.2	80	120	10/18/2021
Molybdenum		0.0015		**0.478**	0.5000	0	95.6	80	120	10/16/2021
Selenium		0.0010		**0.440**	0.5000	0	88.1	80	120	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183830 **SampType:** MS Units **mg/L**

SampID: 21100474-001EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.482**	0.5000	0	96.3	75	125	10/18/2021
Arsenic		0.0010		**0.486**	0.5000	0.002140	96.8	75	125	10/16/2021
Barium		0.0010		**2.05**	2.000	0.05376	99.8	75	125	10/16/2021
Beryllium		0.0010		**0.0486**	0.0500	0	97.1	75	125	10/16/2021
Boron		0.0250		**0.533**	0.5000	0.04819	96.9	75	125	10/16/2021
Cadmium		0.0010		**0.0458**	0.0500	0	91.6	75	125	10/16/2021
Chromium		0.0015		**0.187**	0.2000	0	93.4	75	125	10/16/2021
Cobalt		0.0010		**0.477**	0.5000	0	95.3	75	125	10/16/2021
Iron		0.0250		**1.82**	2.000	0	91.1	75	125	10/16/2021
Lead		0.0010		**0.477**	0.5000	0	95.4	75	125	10/16/2021
Lithium	*	0.0030		**0.495**	0.5000	0	98.9	75	125	10/16/2021
Manganese		0.0020		**0.499**	0.5000	0.007737	98.3	75	125	10/18/2021
Molybdenum		0.0015		**0.476**	0.5000	0.0008432	95.0	75	125	10/16/2021
Selenium		0.0010		**0.447**	0.5000	0	89.4	75	125	10/16/2021

Batch 183830 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100474-001EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.482**	0.5000	0	96.5	0.4815	0.17	10/18/2021
Arsenic		0.0010		**0.480**	0.5000	0.002140	95.5	0.4859	1.30	10/16/2021
Barium		0.0010		**2.00**	2.000	0.05376	97.5	2.051	2.35	10/16/2021
Beryllium		0.0010		**0.0469**	0.0500	0	93.8	0.04857	3.55	10/16/2021
Boron		0.0250		**0.544**	0.5000	0.04819	99.2	0.5329	2.09	10/16/2021
Cadmium		0.0010		**0.0445**	0.0500	0	88.9	0.04582	2.99	10/16/2021
Chromium		0.0015		**0.181**	0.2000	0	90.7	0.1869	3.00	10/16/2021
Cobalt		0.0010		**0.464**	0.5000	0	92.8	0.4765	2.67	10/16/2021
Iron		0.0250		**1.89**	2.000	0	94.3	1.821	3.47	10/16/2021
Lead		0.0010		**0.466**	0.5000	0	93.2	0.4772	2.35	10/16/2021
Lithium	*	0.0030		**0.487**	0.5000	0	97.5	0.4946	1.46	10/16/2021
Manganese		0.0020		**0.493**	0.5000	0.007737	97.1	0.4991	1.23	10/18/2021
Molybdenum		0.0015		**0.472**	0.5000	0.0008432	94.3	0.4760	0.80	10/16/2021
Selenium		0.0010		**0.441**	0.5000	0	88.3	0.4469	1.27	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 183830 **SampType:** MS Units **mg/L**

SampID: 21100474-009EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.478**	0.5000	0.002429	95.2	75	125	10/19/2021
Arsenic		0.0010		**0.482**	0.5000	0.002084	96.0	75	125	10/16/2021
Barium		0.0010		**2.02**	2.000	0.05275	98.2	75	125	10/16/2021
Beryllium		0.0010		**0.0467**	0.0500	0	93.4	75	125	10/16/2021
Boron		0.0250		**0.527**	0.5000	0.05108	95.1	75	125	10/16/2021
Cadmium		0.0010		**0.0444**	0.0500	0	88.7	75	125	10/16/2021
Chromium		0.0015		**0.183**	0.2000	0	91.4	75	125	10/16/2021
Cobalt		0.0010		**0.468**	0.5000	0	93.7	75	125	10/16/2021
Iron		0.0250		**1.82**	2.000	0	91.0	75	125	10/16/2021
Lead		0.0010		**0.473**	0.5000	0	94.6	75	125	10/16/2021
Lithium	*	0.0030		**0.481**	0.5000	0	96.2	75	125	10/16/2021
Manganese		0.0020		**0.490**	0.5000	0.002708	97.5	75	125	10/18/2021
Molybdenum		0.0015		**0.476**	0.5000	0	95.2	75	125	10/16/2021
Selenium		0.0010		**0.448**	0.5000	0	89.7	75	125	10/16/2021

Batch 183830 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100474-009EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.479**	0.5000	0.002429	95.2	0.4782	0.09	10/19/2021
Arsenic		0.0010		**0.480**	0.5000	0.002084	95.6	0.4821	0.43	10/16/2021
Barium		0.0010		**2.04**	2.000	0.05275	99.2	2.016	1.05	10/16/2021
Beryllium		0.0010		**0.0469**	0.0500	0	93.7	0.04668	0.38	10/16/2021
Boron		0.0250		**0.516**	0.5000	0.05108	92.9	0.5267	2.12	10/16/2021
Cadmium		0.0010		**0.0447**	0.0500	0	89.4	0.04436	0.82	10/16/2021
Chromium		0.0015		**0.183**	0.2000	0	91.7	0.1828	0.28	10/16/2021
Cobalt		0.0010		**0.469**	0.5000	0	93.8	0.4685	0.16	10/16/2021
Iron		0.0250		**1.95**	2.000	0	97.7	1.819	7.17	10/16/2021
Lead		0.0010		**0.472**	0.5000	0	94.3	0.4728	0.25	10/16/2021
Lithium	*	0.0030		**0.479**	0.5000	0	95.7	0.4810	0.52	10/16/2021
Manganese		0.0020		**0.492**	0.5000	0.002708	97.8	0.4901	0.29	10/18/2021
Molybdenum		0.0015		**0.475**	0.5000	0	94.9	0.4759	0.26	10/16/2021
Selenium		0.0010		**0.447**	0.5000	0	89.3	0.4485	0.41	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 183831 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183831

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/14/2021
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/14/2021
Barium		0.0010		**< 0.0010**	0.0007	0	0	-100	100	10/14/2021
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/14/2021
Boron		0.0250		**< 0.0250**	0.0093	0	0	-100	100	10/14/2021
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/14/2021
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	10/14/2021
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/14/2021
Iron		0.0250		**< 0.0250**	0.0115	0	0	-100	100	10/14/2021
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/15/2021
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/14/2021
Manganese		0.0020		**< 0.0020**	0.0008	0	0	-100	100	10/14/2021
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/14/2021
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/14/2021

Batch 183831 **SampType:** LCS Units **mg/L**

SampID: LCS-183831

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.513**	0.5000	0	102.5	80	120	10/15/2021
Arsenic		0.0010		**0.517**	0.5000	0	103.3	80	120	10/15/2021
Barium		0.0010		**2.16**	2.000	0	108.1	80	120	10/15/2021
Beryllium		0.0010		**0.0458**	0.0500	0	91.5	80	120	10/14/2021
Boron		0.0250		**0.456**	0.5000	0	91.2	80	120	10/14/2021
Cadmium		0.0010		**0.0490**	0.0500	0	98.1	80	120	10/15/2021
Chromium		0.0015		**0.192**	0.2000	0	95.9	80	120	10/14/2021
Cobalt		0.0010		**0.487**	0.5000	0	97.4	80	120	10/14/2021
Iron		0.0250		**1.83**	2.000	0	91.3	80	120	10/14/2021
Lead		0.0010		**0.513**	0.5000	0	102.6	80	120	10/15/2021
Lithium	*	0.0030		**0.470**	0.5000	0	94.0	80	120	10/14/2021
Manganese		0.0020		**0.494**	0.5000	0	98.8	80	120	10/14/2021
Molybdenum		0.0015		**0.490**	0.5000	0	97.9	80	120	10/15/2021
Selenium		0.0010		**0.502**	0.5000	0	100.4	80	120	10/15/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 183831 **SampType:** MS Units **mg/L**

SampID: 21100474-009DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**0.518**	0.5000	0	103.6	75	125	10/16/2021
Arsenic		0.0010		**0.525**	0.5000	0.002523	104.6	75	125	10/16/2021
Barium		0.0010		**2.23**	2.000	0.06808	108.3	75	125	10/16/2021
Beryllium		0.0010		**0.0459**	0.0500	0	91.7	75	125	10/14/2021
Boron		0.0250		**0.484**	0.5000	0.03650	89.5	75	125	10/14/2021
Cadmium		0.0010		**0.0490**	0.0500	0	97.9	75	125	10/16/2021
Chromium		0.0015		**0.195**	0.2000	0	97.4	75	125	10/14/2021
Cobalt		0.0010		**0.484**	0.5000	0.0001342	96.8	75	125	10/14/2021
Iron		0.0250		**2.25**	2.000	0.2450	100.4	75	125	10/14/2021
Lead		0.0010		**0.524**	0.5000	0	104.8	75	125	10/16/2021
Lithium	*	0.0030		**0.463**	0.5000	0	92.5	75	125	10/14/2021
Manganese		0.0020		**0.580**	0.5000	0.08407	99.1	75	125	10/14/2021
Molybdenum		0.0015		**0.503**	0.5000	0.0006163	100.5	75	125	10/16/2021
Selenium		0.0010		**0.504**	0.5000	0	100.8	75	125	10/16/2021

Batch 183831 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 21100474-009DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**0.525**	0.5000	0	105.0	0.5181	1.27	10/16/2021
Arsenic		0.0010		**0.525**	0.5000	0.002523	104.4	0.5253	0.15	10/16/2021
Barium		0.0010		**2.25**	2.000	0.06808	109.2	2.235	0.78	10/16/2021
Beryllium		0.0010		**0.0451**	0.0500	0	90.2	0.04587	1.68	10/14/2021
Boron		0.0250		**0.486**	0.5000	0.03650	89.9	0.4839	0.43	10/14/2021
Cadmium		0.0010		**0.0495**	0.0500	0	99.0	0.04897	1.12	10/16/2021
Chromium		0.0015		**0.190**	0.2000	0	95.2	0.1948	2.27	10/14/2021
Cobalt		0.0010		**0.482**	0.5000	0.0001342	96.4	0.4841	0.44	10/14/2021
Iron		0.0250		**2.19**	2.000	0.2450	97.2	2.252	2.90	10/14/2021
Lead		0.0010		**0.520**	0.5000	0	104.0	0.5240	0.76	10/16/2021
Lithium	*	0.0030		**0.457**	0.5000	0	91.5	0.4626	1.15	10/14/2021
Manganese		0.0020		**0.574**	0.5000	0.08407	97.9	0.5795	1.00	10/14/2021
Molybdenum		0.0015		**0.511**	0.5000	0.0006163	102.0	0.5032	1.44	10/16/2021
Selenium		0.0010		**0.502**	0.5000	0	100.4	0.5042	0.41	10/16/2021

Client: Golder Associates, Inc **Work Order:** 21100474

Client Project: Kincaid SW **Report Date:** 12-Nov-21

SW-846 7470A (DISSOLVED)

Batch 183875 **SampType:** MS Units **mg/L**

SampID: 21100474-009EMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00519**	0.0050	0	103.8	75	125	10/13/2021

Batch 183875 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100474-009EMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00512**	0.0050	0	102.4	0.005192	1.36	10/13/2021

SW-846 7470A (TOTAL)

Batch 183875 **SampType:** MBLK Units **mg/L**

SampID: MBLK-183875

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**< 0.00020**	0.0001	0	0	-100	100	10/13/2021

Batch 183875 **SampType:** LCS Units **mg/L**

SampID: LCS-183875

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00513**	0.0050	0	102.7	85	115	10/13/2021

Batch 183875 **SampType:** MS Units **mg/L**

SampID: 21100474-009DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00503**	0.0050	0	100.5	75	125	10/13/2021

Batch 183875 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 21100474-009DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00508**	0.0050	0	101.6	0.005025	1.13	10/13/2021

Receiving Check List

http://www.teklabinc.com/

Client: Golder Associates, Inc
Client Project: Kincaid SW

Work Order: 21100474
Report Date: 12-Nov-21

Carrier: Employee

Received By: PWR

Completed by: Mary E. Kemp
On: 08-Oct-21
Mary E. Kemp

Reviewed by: Marvin L. Darling II
On: 08-Oct-21
Marvin L. Darling

Pages to follow: Chain of custody 2 Extra pages included 35

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 7.4
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

pH strip #77492/75846. - PR/MKemp - 10/8/2021 9:11:11 AM

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 21100474

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	Golder Associates, Inc
Address:	13515 Barrett Parkway Drive, Suite 260
City / State / Zip	Ballwin, MO 63021
Contact:	Jeffrey Ingram
Phone:	(314) 984-8800
E-Mail:	Jeffrey_Ingram@golder.com
Fax:	

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 7.4 °C LTG# 1

Preserved in: [ ] LAB [X] FIELD 77492 75846 PR 10/8/21

FOR LAB USE ONLY

Lab Notes

Per Jeffrey Ingram, ~~K-MS-1~~ K-MS-1, K-MSD-1 are ms/msd

Client Comments: TE mgk 10/8/21

Total Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo P K Se Na Tl — f0 K-H-2D

Dissolved Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo K Se Na Tl — mgk 10/8/21

Field: pH, DO, ORP, Conductivity, Temp. and Turbidity

Are these samples known to be involved in litigation? If yes, a surcharge will apply [ ] Yes [ ] No

Are these samples known to be hazardous? [ ] Yes [ ] No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. [ ] Yes [ ] No

Project Name/Number: Kincaid SW

Sample Collector's Name: Eric Schneider

Results Requested: [ ] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other ____ [ ] 3 Day (50% Surcharge)

Billing Instructions:

MATRIX: Aqueous, Drinking Water, Soil, Sludge, Special Waste, Groundwater

and Type of Containers: UNPRES, HNO3, NaOH, H2SO4, HCL, MeOH, NaHSO4, OTHER

INDICATE ANALYSIS REQUESTED: Bicarbonate, Carbonate, Chloride, Dissolved Metals, Ferric Iron, Ferrous Iron, Fluoride, Nitrate, SUB Ra226/228, Sulfate, Sulfide, TDS, TDC, Total Metals

Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	Matrix	Analysis
21100474 001	K-G-1	10/7/2021 0750	2	4		1	2		1		Groundwater	All
002	K-G-2M	0813										
003	K-G-2D	0825										
004	K-I-1	1010										
005	K-I-2M	1028										
006	K-I-2D	1041										
007	K-H-1	1101										
008	K-H-2M	1122										
009	K-H-2D	1142										
010	K-MS-1	1142										

TE mgk 10/8/21 Relinquished By	Date/Time	Received By	Date/Time
[redacted]	10/7/21 1500	Patrick Kelly	10/7/21 1500

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 67929

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 21100474

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	Golder Associates, Inc
Address:	13515 Barrett Parkway Drive, Suite 260
City / State / Zip	Ballwin, MO 63021
Contact:	Jeffrey Ingram
Phone:	(314) 984-8800
E-Mail:	Jeffrey_Ingram@golder.com
Fax:	

Samples on: [X] ICE [ ] BLUE ICE [ ] NO ICE 7.4 °C LTG# 1

Preserved in: [ ] LAB [ ] FIELD 77492 75846

FOR LAB USE ONLY

Lab Notes PR 10-8-21

Are these samples known to be involved in litigation? If yes, a surcharge will apply [ ] Yes [ ] No

Are these samples known to be hazardous? [ ] Yes [ ] No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. [ ] Yes [ ] No

Client Comments:

Total Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo P K Se Na Tl

Dissolved Metals: Sb As Ba Be Bo Cd Ca Cr Co Fe Pb Li Mg Mn Hg Mo K Se Na Tl

Field: pH, DO, ORP, Conductivity, Temp. and Turbidity

Project Name/Number: Kincaid SW

Sample Collector's Name:

Results Requested: [ ] Standard [ ] 1-2 Day (100% Surcharge) [ ] Other ____ [ ] 3 Day (50% Surcharge)

Billing Instructions:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Bicarbonate	Carbonate	Chloride	Dissolved Metals	Ferric Iron	Ferrous Iron	Fluoride	Nitrate	SUB Ra226/228	Sulfate	Sulfide	TDS	TOC	Total Metals
21100474-011	K-MSD-1	10/7/21 1142	2	2		1	1		1							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
009	TE MEK 10/8/21																													

Relinquished By	Date/Time	Received By	Date/Time
[signature]	10/7/2021 1500	[signature]	10/7/21 1500

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 67929

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 11/08/2021

Report # 221102389

Project 21100474

Samples Collected 10/7/21

Deliver To	*Additional Recipients*
Elizabeth Hurley Teklab, Inc 5445 Horseshoe Lake Road Collinsville, IL 62234 618-344-1004	NONE

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 221102389

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: Teklab Inc **Report:** 221102389

Pace Analytical Gulf Coast received and analyzed the sample(s) listed
on the Report Sample Summary page of this report. Receipt of the sample(s) is documented
by the attached chain of custody. This applies only to the sample(s) listed in this report.
No sample integrity or quality control exceptions were identified unless noted below.

PROJECT MANAGER COMMENTS

Project Manager Comments - There was insufficient volume available to perform MS/MSD analyses for sample 21100474-009
(Ruth Welsh(Do Not 11/04/2021 13:19)

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22110238901	21100474-001	Water	10/07/21 07:50	10/20/21 10:05
22110238902	21100474-002	Water	10/07/21 08:13	10/20/21 10:05
22110238903	21100474-003	Water	10/07/21 08:25	10/20/21 10:05
22110238904	21100474-004	Water	10/07/21 10:10	10/20/21 10:05
22110238905	21100474-005	Water	10/07/21 10:28	10/20/21 10:05
22110238906	21100474-006	Water	10/07/21 10:41	10/20/21 10:05
22110238907	21100474-007	Water	10/07/21 11:01	10/20/21 10:05
22110238908	21100474-008	Water	10/07/21 11:22	10/20/21 10:05
22110238909	21100474-009	Water	10/07/21 11:42	10/20/21 10:05

Detect Summary

No analytes were detected for analyses performed by Pace Gulf Coast.

Sample Results

21100474-001

Collect Date	10/07/2021 07:50	**Lab ID**	22110238901
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 19:59	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 20:48	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100474-002

Collect Date	10/07/2021 08:13	**Lab ID**	22110238902
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:03	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 20:52	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100474-003

Collect Date	10/07/2021 08:25	**Lab ID**	22110238903
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:06	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 20:55	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100474-004

Collect Date	10/07/2021 10:10	**Lab ID**	22110238904
Receive Date	10/20/2021 10:05	**Matrix**	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:10	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 20:59	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100474-005

Collect Date 10/07/2021 10:28 **Lab ID** 22110238905
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:13	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 21:02	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100474-006

Collect Date 10/07/2021 10:41 **Lab ID** 22110238906
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:24	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 21:06	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100474-007

Collect Date 10/07/2021 11:01 **Lab ID** 22110238907
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:27	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 21:16	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

21100474-008

Collect Date 10/07/2021 11:22 **Lab ID** 22110238908
Receive Date 10/20/2021 10:05 **Matrix** Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:31	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 21:20	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Sample Results

21100474-009				
	Collect Date	10/07/2021 11:42	Lab ID	22110238909
	Receive Date	10/20/2021 10:05	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/05/21 05:15	724638	EPA 3010A	1	11/05/21 20:34	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B Dissolved

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
11/04/21 17:35	724646	EPA 3005A Dissolved	1	11/05/21 21:23	725918	LWZ	

CAS#	Parameter	Result	LOQ	Units
7440-28-0	Thallium	ND	1.00	ug/L

Inorganics QC Summary

Analytical Batch	Client ID	MB724638		LCS724638				LCSD724638				
725918	Lab ID	2260422		2260423				2267716				
Prep Batch	Sample Type	MB		LCS				LCSD				
724638	Prep Date	11/05/21 05:15		11/05/21 05:15				11/05/21 05:15				
Prep Method	Analysis Date	11/05/21 19:35		11/05/21 19:38				11/05/21 19:42				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Thallium	7440-28-0	ND	1.00	50.0	49.9	100	80 - 120	50.0	49.5	99	1	20

Analytical Batch	Client ID	MB724646		LCS724646				LCSD724646				
725918	Lab ID	2260441		2260442				2266914				
Prep Batch	Sample Type	MB		LCS				LCSD				
724646	Prep Date	11/04/21 17:35		11/04/21 17:35				11/04/21 17:35				
Prep Method	Analysis Date	11/05/21 20:38		11/05/21 20:41				11/05/21 20:45				
EPA 3005A Dissolved	Matrix	Water		Water				Water				
EPA 6020B Dissolved		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Thallium	7440-28-0	ND	1.00	50.0	49.6	99	80 - 120	50.0	48.7	97	2	20

Pg ___ of ___

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☐ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: | Sampler: Client | QC Level: 3

Comments: **Please Issue reports and invoices via email only**
Please analyze for TI by SW-846 3005A, 6020A, Metals by ICPMS on your standard turn around time. Dissolved fraction marked with "D" on label. Batch QC is required for all analyses requested.

Project# 21100474

Contact: Elizabeth A. Hurley | Email: ehurley@teklabinc.com
Requested Due Date: STD TAT | Billing/PO: 32007 | Phone: (618) 344-1004 ext 33

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	TI	Dissolved TI	MS/MSD										
	21100474-001	10/7/2021 7:50:00 AM	HNO3	Groundwater	✓	✓											1
	21100474-002	10/7/2021 8:13:00 AM	HNO3	Groundwater	✓	✓											2
	21100474-003	10/7/2021 8:25:00 AM	HNO3	Groundwater	✓	✓											3
	21100474-004	10/7/2021 10:10:00 AM	HNO3	Groundwater	✓	✓											4
	21100474-005	10/7/2021 10:28:00 AM	HNO3	Groundwater	✓	✓											5
	21100474-006	10/7/2021 10:41:00 AM	HNO3	Groundwater	✓	✓											6
	21100474-007	10/7/2021 11:01:00 AM	HNO3	Groundwater	✓	✓											7
	21100474-008	10/7/2021 11:22:00 AM	HNO3	Groundwater	✓	✓											8
	21100474-009	10/7/2021 11:42:00 AM	HNO3	Groundwater	✓	✓	✓										9,10,11
			HNO3	Groundwater													
			HNO3	Groundwater													

*Relinquished By	Date/Time	Received By	Date/Time
Mary Kemp	10/19/21 1800		
FedEx	10/20/21 1005		10/20/21 1005

2105 E38
5300 5201 6610

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper autho
Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TN

Client ID: 5233 - Teklab Inc
SDG: 221102389
PM: RWe

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP 221102389	
Client **PM** RWe 5233 - Teklab Inc	**Transport Method** FEDEX
Profile Number 290458	**Received By** McCune, Dodie N.
Line Item(s) 15 - Tl - 6020, total & Diss	**Receive Date(s)** 10/20/21

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E34	Temp °C
530052016610		21.5

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

November 03, 2021

Ms. Elizabeth Hurley
Teklab Inc.
5445 Horseshoe Lake Road
Collinsville, IL 62234

RE: Project: 21100474
Pace Project No.: 30446071

Dear Ms. Hurley:

Enclosed are the analytical results for sample(s) received by the laboratory on October 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

David A. Pichette
david.pichette@pacelabs.com
(724)850-5617
Project Manager

Enclosures

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CERTIFICATIONS

Project: 21100474
Pace Project No.: 30446071

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: 21100474
Pace Project No.: 30446071

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30446071001	**21100474-001**	Water	10/07/21 07:50	10/14/21 09:30
30446071002	**21100474-002**	Water	10/07/21 08:13	10/14/21 09:30
30446071003	**21100474-003**	Water	10/07/21 08:25	10/14/21 09:30
30446071004	**21100474-004**	Water	10/07/21 10:10	10/14/21 09:30
30446071005	**21100474-005**	Water	10/07/21 10:28	10/14/21 09:30
30446071006	**21100474-006**	Water	10/07/21 10:41	10/14/21 09:30
30446071007	**21100474-007**	Water	10/07/21 11:01	10/14/21 09:30
30446071008	**21100474-008**	Water	10/07/21 11:22	10/14/21 09:30
30446071009	**21100474-009**	Water	10/07/21 11:42	10/14/21 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 21100474
Pace Project No.: 30446071

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30446071001	**21100474-001**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071002	**21100474-002**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071003	**21100474-003**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071004	**21100474-004**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071005	**21100474-005**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071006	**21100474-006**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071007	**21100474-007**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071008	**21100474-008**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
30446071009	**21100474-009**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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PROJECT NARRATIVE

Project: 21100474
Pace Project No.: 30446071

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Teklab Inc.
Date: November 03, 2021

General Information:
9 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 21100474
Pace Project No.: 30446071

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Teklab Inc.
Date: November 03, 2021

General Information:
9 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-001 **Lab ID: 30446071001** Collected: 10/07/21 07:50 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.247 ± 0.454 (1.03) C:NA T:91%**	pCi/L	11/03/21 14:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.326 ± 0.610 (1.34) C:68% T:80%**	pCi/L	10/29/21 17:34	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-002 **Lab ID: 30446071002** Collected: 10/07/21 08:13 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.275 (0.444) C:NA T:89%**	pCi/L	11/03/21 14:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.651 ± 0.550 (1.10) C:70% T:85%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-003 **Lab ID: 30446071003** Collected: 10/07/21 08:25 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0651 ± 0.460 (0.917) C:NA T:97%**	pCi/L	11/03/21 14:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.16 ± 0.705 (1.29) C:69% T:70%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-004 **Lab ID: 30446071004** Collected: 10/07/21 10:10 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.286 ± 0.338 (0.532) C:NA T:92%**	pCi/L	11/03/21 14:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.432 ± 0.532 (1.13) C:69% T:83%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-005 **Lab ID: 30446071005** Collected: 10/07/21 10:28 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0641 ± 0.487 (1.02) C:NA T:86%**	pCi/L	11/03/21 14:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.243 ± 0.600 (1.43) C:71% T:81%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-006 **Lab ID: 30446071006** Collected: 10/07/21 10:41 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.337 ± 0.314 (0.413) C:NA T:96%**	pCi/L	11/03/21 14:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.183 ± 0.544 (1.22) C:71% T:86%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-007 **Lab ID: 30446071007** Collected: 10/07/21 11:01 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.108 ± 0.261 (0.503) C:NA T:99%**	pCi/L	11/03/21 14:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.656 ± 0.752 (1.59) C:67% T:76%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-008 **Lab ID: 30446071008** Collected: 10/07/21 11:22 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.129 ± 0.309 (0.773) C:NA T:82%**	pCi/L	11/03/21 14:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.192 ± 0.539 (1.21) C:70% T:80%**	pCi/L	10/29/21 17:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

Sample: 21100474-009 **Lab ID: 30446071009** Collected: 10/07/21 11:42 Received: 10/14/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.410 (0.889) C:NA T:86%**	pCi/L	11/03/21 14:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.392 ± 0.542 (1.16) C:68% T:81%**	pCi/L	10/29/21 17:34	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

QC Batch: 469205
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30446071001, 30446071002, 30446071003, 30446071004, 30446071005, 30446071006, 30446071007, 30446071008, 30446071009

METHOD BLANK: 2265820 Matrix: Water
Associated Lab Samples: 30446071001, 30446071002, 30446071003, 30446071004, 30446071005, 30446071006, 30446071007, 30446071008, 30446071009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0847 ± 0.311 (0.597) C:NA T:97%	pCi/L	11/03/21 14:10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 21100474
Pace Project No.: 30446071

QC Batch: 469206
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30446071001, 30446071002, 30446071003, 30446071004, 30446071005, 30446071006, 30446071007, 30446071008, 30446071009

METHOD BLANK: 2265822 Matrix: Water
Associated Lab Samples: 30446071001, 30446071002, 30446071003, 30446071004, 30446071005, 30446071006, 30446071007, 30446071008, 30446071009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.181 ± 0.276 (0.597) C:71% T:94%	pCi/L	10/29/21 14:28	

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QUALIFIERS

Project: 21100474
Pace Project No.: 30446071

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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WO# : 30446071

Pg

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (6'

30446071

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: | Sampler: Client | QC Level: 3

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 22/228 per method EPA 903.0/904.0 on your
standard turn around time.
Batch QC is required for all analyses requested.

Project# 21100474

Contact: Emily E. Hayer | Email: ehayer@teklabinc.com
Requested Due Date: 10-15 day TAT | Billing/PO: 31938

Any changes to analysis/methods must be approved by Teklab, Inc.

Phone: (618) 344-1004 ext 44

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Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Ra226/228	MS/MSD										
001	21100474-001	10/7/21 0750	HNO3	Groundwater	✓											
002	21100474-002	10/7/21 0813	HNO3	Groundwater	✓											
003	21100474-003	10/7/21 0825	HNO3	Groundwater	✓											
004	21100474-004	10/7/21 1010	HNO3	Groundwater	✓											
	21100474-005	10/7/21 1028	HNO3	Groundwater	✓											
	21100474-006	10/7/21 1041	HNO3	Groundwater	✓											
	21100474-007	10/7/21 1101	HNO3	Groundwater	✓											
	21100474-008	10/7/21 1122	HNO3	Groundwater	✓											
	21100474-009	10/7/21 1142	HNO3	Groundwater	✓	✓										
			HNO3	Groundwater												
			HNO3	Groundwater												

*Relinquished By	Date/Time	Received By	Date/Time
		[signature]	10/11/21 0900

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Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: TekLab Project # 30446071

WO#: 30446071
PM: DAP Due Date: 11/04/21
CLIENT: TEKLAB

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label _____
LIMS Login

Tracking #: 5300 5201 5739/5717/5706

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used — Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 100411 / Date and Initials of person examining contents: AR 10/15/21
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:		X		3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT		X		5. Volume not received for -005 through -009
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:		X		
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	X			16.
All containers meet method preservation requirements.	X			Initial when completed: AR Date/time of preservation:
				Lot # of added preservative:
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:			X	18.
Trip Blank Custody Seals Present			X	
Rad Samples Screened < 0.5 mrem/hr	X			Initial when completed: AR Date: 10/15/21 Survey Meter SN: 1503

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

30446071

David Pichette

From: Elizabeth A. Hurley <EHurley@TekLabInc.com>
Sent: Friday, October 15, 2021 1:54 PM
To: David Pichette
Subject: Teklab CoCs
Attachments: 21100448SUBCOC.pdf; 21100474SUBCOC.pdf

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Have a great day!

Elizabeth Hurley
Director of Customer Service

Teklab, Inc.
5445 Horseshoe Lake Road
Collinsville, IL 62234
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Cell: (618) 791-8119
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APPENDIX F
Geochemical Conceptual Site Model

GEOCHEMICAL CONCEPTUAL SITE MODEL

KINCAID ASH POND

Submitted to:

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234 W. Florida Street
Fifth floor
Milwaukee, WI 53204

Submitted by:

Life Cycle Geo, LLC
729 Main Street
Longmont, Colorado 80501

23RAM01-1
May 8, 2024

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1.0 EXECUTIVE SUMMARY

This report documents the geochemical conceptual site model (GCSM) describing the conditions of the groundwater in the vicinity of the Kincaid (KIN) Ash Pond (AP). A GCSM describes the geochemical processes that contribute to mobilization and attenuation of constituents in the environment. This report describes the GCSM for parameters that have exceeded the GWPS in AP groundwater and which will be addressed in the corrective action plan. The exceedances observed at the AP occur in the upper aquifer (UA) and potential migration pathway (PMP) and include boron, sulfate, and total dissolved solids (TDS).

The CCR materials are the primary source of constituent loading to the CCR porewater. Over an extended period (e.g., months to years), the CCR porewater (i.e., water contained within the interstitial pore spaces of the CCR that can be sampled by low-flow groundwater sampling methods) reaches equilibrium with the CCR materials. The porewater is therefore representative of the mobile phase constituents capable of migrating into the underlying materials and potentially downgradient in groundwater. The AP CCR porewater is therefore the primary vector of sulfate and boron *available* to the shallow groundwater and is considered as the primary source term for environmental investigation.

Boron and sulfate are assessed as indicators of influence from the CCR materials. Where observed in shallow groundwater at concentrations above the groundwater protection standard, concentrations of boron and sulfate are indicative of impacts by CCR porewater. The uneven distribution of sulfate in the shallow UA/PMP groundwater is attributed to the observed chemical heterogeneity in the AP porewater and physical or chemical heterogeneity along the groundwater flow path.

Geochemical attenuation of constituents in groundwater is a function of groundwater pH, redox potential, availability of adsorbent, and presence of competing ions, among other factors. Groundwater pH exerts a major control on constituent mobility and reflects a neutral and generally stable condition in the range of 6 to 7.5 S.U. independent of location, lithology, or exceedance status. The stability of pH in groundwater is an indication that groundwater is well buffered, likely due to the widespread presence of carbonate minerals in the aquifer solids which buffer pH within this range. Neutral groundwater pH is generally favorable to attenuation of constituents in groundwater, such that it promotes the precipitation of the mineral phases that adsorb constituents from the aqueous phase. Groundwater pH additionally controls the tendency of various constituents to adsorb to the mineral surface. CCR porewater pH is generally similar to groundwater pH.

The oxidation and reduction potential (redox potential) of groundwater exerts another major control on constituent mobility in groundwater. Specifically, in the context of CCR, the iron hydroxide minerals that facilitate attenuation of many constituents, including boron and sulfate, tend towards dissolution under anoxic conditions (also known as reducing, or low oxygen). These same iron hydroxide minerals tend towards precipitation under oxic conditions. Porewater ORP is generally reducing, while background groundwater ORP is more oxidized. Exceedance wells oscillate between reducing and oxidizing conditions. It appears that the groundwater measured at the exceedance wells is under some influence of the reducing condition from the CCR porewater, which may in turn have implications for the stability of attenuating mineral phases under the pre-closure condition.

Characterization data from the aquifer solids is considered to understand the reactive mineral fractions present in the aquifer solids and the binding mechanisms that control the partitioning of constituents between the solid and aqueous phases. The key finding from the aquifer solids assessment is that adsorptive minerals are present in the aquifer solids and have currently bound both boron and sulfate within the reactive fraction of the solid matrix. The inference follows that some degree of attenuation of the exceedance constituents by the aquifer solids has occurred in the past, most notably through adsorption to both iron and aluminum hydroxide minerals. The future condition of related attenuation is reserved for subsequent assessment and predictions related to the closure condition and corrective action.

2.0 INTRODUCTION

This report documents the development of a geochemical conceptual site model (GCSM) to describe conditions at the Kincaid (KIN) Ash Pond (AP), which is part of the Kincaid Power Plant (KPP). The GCSM was prepared in support of an evaluation of the nature and extent (N&E) of exceedances of constituents of concern (COCs) above the groundwater protection standards (GWPS) at the AP. This document has been prepared as an attachment to the KIN AP N&E Report (Ramboll, 2024). Boron, sulfate, and total dissolved solids (TDS) are the constituents with exceedances above the GWPS at the KIN AP. Exceedances were observed at compliance monitoring wells MW-12, MW-20S, MW-28, and MW-32 during the second quarter 2023 sampling event completed under 35 IAC §845.

The following exceedances were identified in the uppermost aquifer (UA) hydrostratigraphic unit (HSU):

- Boron (MW-12 and MW-28)
- Sulfate (MW-28 and MW-32)
- TDS (MW-28)

The following additional exceedances were identified in the potential migration pathway (PMP):

- Sulfate (MW-7S, MW-20S)
- Boron (MW-7S)

2.1 SITE OVERVIEW

A thorough overview of site characteristics are presented in KIN AP N&E Report (Ramboll, 2024). Briefly, the KPP is located in Christan County, Illinois. The KIN AP is bordered to the northwest by Sangchris Lake, to the west by an intake flume, to the south by the KPP and the discharge flume, and to the north and east by Sangchris Lake State Park. The AP is an unlined 172-acre surface impoundment that began operations in 1964 and primarily contains bottom ash, boiler slag, and minor quantities of other materials. The AP primarily contains bottom ash and boiler slag, and other minor materials, including water and wastewater treatment solids, excavation spoils, and dredge spoils.

Full descriptions of site geology and hydrogeology are available in the Hydrogeologic Site Characterization Report (Ramboll, 2021a). In addition to the CCR present at the AP, there are three principal layers of unlithified material present above the bedrock, which are categorized into the hydrostratigraphic units

(HSUs), including: the upper semi-confining unit (USCU), the UA, the lower confining unit (LCU) and the bedrock confining unit (BCU). The USCU consists of low permeability clays with some silt and minor sand. Discontinuous sand lenses within the USCU are considered the PMP. The UA is a thin, moderately permeable sand, silty sand, and clayey gravel. The LCU is a dense gray till, and the BCU is interbedded shale and limestone. Exceedance wells MW-28, MW-12, and MW-32 are screened in the UA, while MW-7S and MW-20S are screened in the PMP.

A groundwater monitoring network was proposed in accordance with I.A.C Title 35 Section 845.630 to monitor groundwater quality that passes the waste boundary as part of the Operating Permit Application to Illinois Environmental Protection Agency (IEPA) for the AP. The proposed groundwater monitoring network is described in the Groundwater Monitoring Plan (Ramboll 2021a). Groundwater flow in the UA is radial away from the pond (Figure 2-1). A detailed discussion of the hydrogeology of the Site is presented in KIN AP N&E Report (Ramboll, 2024).

3.0 CONSTITUENT TRANSPORT AND FATE

The three exceedance parameters at KIN AP are sulfate, TDS, and boron. Sulfate is the dominant form of oxidized sulfur (S(VI)) in the environment and is present as a divalent oxyanion at pH values greater than 2 S.U (Stumm and Morgan, 1996). Under reducing conditions, sulfate in groundwater can be reduced to elemental sulfur (S(0)) or sulfide (S(-II)). Sulfur species in groundwater may sorb onto positively charged sites on solid metal oxide phases, most commonly iron and manganese oxides (Brown et al., 1999). The extent and strength of sorption to metal oxide surfaces depends on pH, ionic strength, size, and charge of the dissolved constituent, and available sorbing surface area. Sulfate can also form insoluble to low solubility complexes such as barite ($BaSO_4$) and gypsum ($CaCO_4$), while reduced sulfur readily precipitates as metal sulfide. Generally, reduced sulfur is less mobile in groundwater than sulfate.

TDS represents the sum of the dissolved constituent mass in the water. The majority of individual constituent contributions to TDS typically include the major ions (calcium, sodium, magnesium, potassium, chloride, sulfate, and carbonate). Sulfate is found to be the major component of the measured TDS at MW-28 (i.e., sulfate represents approximately 50% of the total dissolved mass measured from MW-28) and is the primary driver of the TDS exceedance. As such, sulfate is used as a proxy for TDS in this analysis.

Boron is primarily present in groundwater as boric acid (H_3BO_3) or borate ($B[OH]_4^-$) (Bolan et al. 2023). Boron speciation is pH dependent, with the charged $B(OH)_4^-$ being more dominant at higher pH. This species is more likely to sorb onto positively charged sites on solid metal oxide phases, most commonly aluminum and iron oxides (Bolan et al. 2023). Boron sorbs best to amorphous aluminum or iron phases (Goldberg and Glaubig, 1985). Boron adsorption is pH dependent, with maximum sorption occurring between pH 7 and 8 S.U. and dropping off at progressively higher or lower pH (Goldberg and Glaubig, 1985). Boron is not subject to oxidation-reduction reactions (Lemarchand et al. 2015; Bolan et al. 2023).

4.0 SOLIDS CHARACTERIZATION

4.1 METHODS

Aquifer solids were collected in 2021 to support development of the GCSM. Attachment 1 details CCR and aquifer solids boring locations and collection methodology. Both CCR and aquifer solid borings were located adjacent to monitoring wells at depths corresponding to screened intervals. Table 4-1 summarizes boring identifiers, collection depth, associated monitoring well names, and methods of analysis. Two samples were collected at up-gradient location MW-2, both within the UA (Figure 4-1), and are assessed as the background endmembers. Aquifer solids were collected from the UA, USCU, and PMP from exceedance locations and non-exceedance locations. Aquifer solids were sampled at exceedance locations MW-7S, MW-12, MW-28, and MW-32 and generally coincide with the screened intervals.

Bulk solid characterization included cation exchange capacity (CEC) and X-ray fluorescence (XRF). The CEC describes the capacity of a soil to exchange positively charged ions, aiding in understanding aquifer capacity for undergoing ion exchange reactions. The CEC is dependent on organic matter, types and quantity of clay materials, and metal oxides. Twelve samples were analyzed for CEC by SiREM in Guelph, Ontario in 2021, including one sample of CCR. XRF analysis is a test that measures the fluorescent X-rays emitted from a sample excited by a primary X-ray source to quantify the relative proportions of major elements in a sample. Results from XRF analysis are reported as oxides due to the borate fusion preparation method used. This data is presented as weight percent of individual elements based on electron properties.

Mineralogy was determined through X-ray diffraction (XRD) and TESCAN Integrated Mineral Analysis (TIMA). The XRD results quantify crystalline minerals phases with Rietveld refinement offering increased precision in quantification calculations. Identifying mineral phases aids in understanding attenuation mechanisms and aquifer capacity. TIMA identifies amorphous and crystalline mineral phases using a combination of energy dispersive X-ray silicon drift detectors and backscattered electron and secondary electron detectors.

Organic carbon is measured directly with total organic carbon (TOC) analysis and inferred indirectly through loss-on-ignition (LOI). LOI was quantified in conjunction with XRD and describes the combustible portion of the solid material and is interpreted to represent the proportion of organic matter in the solids. This test involves heating a sample at a high temperature, combusting volatile compounds. TOC was measured alongside total metals and was measured via persulfate-ultraviolet oxidation after an acid digestion step. TOC is an important component of aquifer solids. It has the capacity to undergo ion exchange and plays an important role in microbially mediated oxidation-reduction (redox) reactions, which is known to influence mobilization or immobilization of contaminants.

Total metals are a measure of bulk concentration and are useful as a measure of metal content within a solid sample. It does not, however, provide meaningful information on the extent to which a metal may or may not be released from the solid. Total metal results for boron and sulfate are presented to aid understanding of bulk condition. Refer to the SEP results for understanding of metal binding mechanisms

and to infer conditions that may lead to the mobilization of a given fraction of the total metal from the solid phase.

For the sequential extraction procedure (SEP) test, a fraction of the total metal content is isolated from a solid sample based on the metal association with different operationally defined fractions of the solid. Initial extractions target loosely bound metals, representing the proportion that is more likely to become mobile under near-surface environmental conditions. Subsequent steps progressively extract metals associated with more recalcitrant fractions of the soil. This method allows for a nuanced understanding of metal partitioning with various phases in the soils, aiding interpretation of conditions that may contribute to metal attenuation or release.

The SEP analyses conducted in 2021 and 2023 followed two different methodologies. The 2021 samples were analyzed by Eurofins Test America (Eurofins; Knoxville, Tennessee), whereas the 2023 samples were analyzed by SGS (Burnaby, British Columbia, Canada). Eurofins uses a seven-step extraction procedure (Attachment **1**), while SGS uses a six-step procedure (Attachment **2**). The extractions performed for the two test methods generally target a similar set of soil fractions, though variations in extraction conditions and reagents may lead to differences in absolute values. Other differences can result from sample heterogeneity and alterations due to sample storage conditions, particularly for the samples analyzed in 2023. Despite these differences, the trends and relative distribution patterns from both tests can still be informative. Results are presented for extracted iron (2021 and 2023), manganese (2021 and 2023), aluminum (2021 and 2023), boron (2023), and sulfur (2023). Boron and sulfur are included as the constituents of interest. Iron, manganese, and aluminum are presented due to their relevance for interpreting geochemical conditions and because they form the basis of the dominant adsorbent minerals in the aquifer matrix (iron, manganese, and aluminum hydroxides).

4.2 RESULTS

This section describes results of bulk characterization (CEC, Table 4-2; XRF, Table 4-3), mineralogical analysis (XRD, Table 4-4; TIMA, Table 4-5), organic carbon (TOC and LOI, Table 4-6), and SEP analysis and total metals (Table 4-7, Table 4-8, and Figure 4-2) for CCR (Section 4.2.1) and aquifer solids (Section 4.2.2).

4.2.1 CCR

The CCR sample collected in August 2021 from XPW03 was subjected to the analytical testing previously described (Section 4.1). The CCR sample had a CEC of 3.76 meg/100g (Table 4-2), a LOI of 1.04%, and a TOC of 0.99% (Table 4-6). Both LOI and CEC are lower than observed in aquifer solids. Total iron (82,000 to 130,000 mg/kg) and aluminum (80,000 to 110,000 mg/kg) concentrations are higher than those observed within the aquifer solids while total manganese (330 to 620 mg/kg) is similar to manganese found within the aquifer solids (Table 4-7). Total metals analyzed by SGS are generally higher than those analyzed by Eurofins.

The mineralogical analysis (Table 4-4a) revealed the CCR material reflects high proportions of diopside (23%), hematite (15%), albite (19%), and magnetite (19%) and relatively low percentage of quartz (5.8%). No carbonates were identified in the CCR material sampled.

Results of the SEP analysis are presented in Table 4-7. Most of the iron, manganese, and aluminum was detected in the residual fraction, followed by the acid sulfide fraction, indicating iron is not likely to become mobilized from the CCR solids.

4.2.2 Aquifer Solids

Results of the aquifer solids characterization are described below in order of bulk characterization, mineralogy, and SEP.

4.2.2.1 Bulk Characterization

Results of the CEC and XRF bulk characterization are presented in Table 4-2 and Table 4-3 and are summarized as follows:

- CEC: Aquifer solid CEC ranges from 16.9 meq/100g in K-SB-07 (10.0-15.0) to 127 meq/100g K-SB-03 (19.0-20.0). Samples with lower CEC tend to have higher proportions of quartz, while samples with higher CEC tend to have higher proportions of carbonate minerals.

- XRF: The dominant species in the XRF analysis was silicon (SiO_2) with aluminum (Al_2O_3) as the next most abundant species. In addition, calcium (CaO) and magnesium (MgO), common carbonate components, are present in all samples. Similarly, iron (Fe_2O_3) is present in all samples indicating the presence of iron-bearing minerals in the aquifer solids.

4.2.2.2 Mineralogical Analysis

Results of the XRD and TIMA analyses are presented in Tables 4-4 and 4-5, respectively, and summarized as follows:

- XRD: Quartz is the predominant mineral in all samples (44.4 to 64.2%) with the next most abundant minerals being albite (6.5 to 14.6%) and muscovite (5.7-11.6%). Carbonate minerals are present in high abundance on site, though the distribution varies spatially. Overall carbonate abundance ranges from 20.6 to 31% in samples to the north and northwest of the KIN AP (i.e., location XX), while carbonates to the southwest range from 0 to 3% (i.e., location YY). Carbonate abundance in upgradient location K-SB-02 ranges from 9 to 13%. For most locations, dolomite is the predominant carbonate mineral present, with other phases including calcite, ankerite, rhodochrosite, and siderite. Carbonate minerals buffer groundwater pH through dissolution and precipitation around an equilibrium point between approximately 6.5 and 8.0 S.U. (depending on the carbonate mineral), except for siderite, which additionally contains iron and does not contribute to pH buffering. Dissolution of siderite may, however, contribute additional iron to the system for adsorption reactions. Trace amounts of the crystalline iron minerals pyrite and magnetite were additionally identified by XRD. Pyrite is a reduced iron sulfide mineral that contributes acidity to

groundwater as it oxidizes, and magnetite is an iron oxide mineral that may contribute to adsorption and attenuation of dissolved constituents (though to much less extent than ferrihydrite). The presence of both pyrite (FeS_2) and magnetite (Fe_3O_4) in the aquifer matrix is evidence of a dynamic iron equilibrium, whereby iron is cycling between the oxidized (magnetite) and reduced (pyrite) forms. Ferrihydrite ($Fe[OH]_3$) is an amorphous precursor to magnetite that forms when dissolved iron first precipitates. Ferrihydrite is not able to be identified by XRD because it is not a crystalline mineral. It is, however, inferred to be present based on the dynamic iron equilibrium and the SEP results, discussed further in Section 4.2.2.4. Ferrihydrite is a particularly effective adsorbent due to its electrochemical properties and the disordered nature of the elemental arrangement, which leads to a high reactive surface area available for interaction with dissolved constituents in groundwater.

- TIMA: TIMA analysis indicate that quartz is the dominant mineral (53 to 66%) with moderate amounts of mixed clay/mica species (6 to 32%) and plagioclase (7 to 9%). Carbonate proportions ranged from below detectable limits to 23.6%, depending on sample location. These results are generally consistent with the XRD results.

4.2.2.3 Organic Carbon

Results of the LOI and TOC are presented in Table 4-6 and summarized as follows:

- TOC: The TOC content ranges from non-detect (<0.025) in K-SB-08 and K-SB-02 to 1.4% in K-SB-08, indicating low concentrations of organic carbon within the aquifer solids.

- LOI: The LOI values range from 4.3% to 16% in the aquifer solids. High LOI values relative to TOC indicate that another phase is being picked up in the LOI results that is not attributed to organic carbon. This additional mass may be attributed to water loss from within the sample structure, water loss from hydrated minerals, or loss of carbon dioxide from carbonate.

4.2.2.4 SEP Analysis

Figure 4-2 shows the concentrations of iron, manganese, aluminum, sulfate, and boron in each SEP fraction as well as the proportion each fraction represents out of the summed SEP results for samples analyzed in 2021 (Figure 4-2a) and 2023 (Figure 4-2b) (results tabulated in Table 4-7). As noted, the 2023 SEP method was different than that used in 2021 (Table 4-8). However, the extractions generally represent similar fractions between the two methods, with the exception of the sulfide fraction, which is not represented with the methodology followed in 2023 and is considered to be reflected in the residual fraction.

The mass of iron associated with the metal hydroxide and non-crystalline minerals fractions is measured as a representation of the molar mass of crystalline or amorphous iron hydroxide mineralization that is a key contributor to aquifer sorption capacity (further discussed in Section 5.0). Constituent mass associated with those same fractions is often considered as being sorbed to or coprecipitated with the hydroxide fraction. The acid/sulfide, organic, and residual fractions are the most recalcitrant fractions of the solid sample and

generally indicate constituent mass that is not likely to be mobilized from the aquifer under typical environmental conditions.

Major findings are summarized as follows:

- Iron: The highest total mass of iron (36,000 mg/kg) is found to be associated with background UA sample K-SB-02 located to the south of the AP. In all samples, the majority of iron (>50%) is bound into the more recalcitrant fractions (acid/sulfide and residual). Iron bound into these fractions is generally unavailable for attenuation via sorption. However, the metal hydroxide fraction measured in 2021 contains approximately 20-40% of the remaining iron, which would be available for sorption reactions. Only a small portion was identified with iron and manganese oxide fraction (approximately 7 to 21%) in 2023. This apparent shift in iron from the oxide fraction into the residual fraction over time may be attributed to aging of the soils during the archive period or sample variability.

- Manganese: The distribution of manganese within the SEP extractions is interpreted similarly to iron. The highest total mass of manganese is found in association with background UA sample K-SB-02. Manganese is distributed primarily among the carbonate fraction (1 to 71%), iron and manganese oxide fraction (8 to 68%), and the residual fraction (7 to 45%) with proportions varying across samples. The association of manganese with the more reactive phases suggests it is largely available to participate in redox and sorption reactions, contributing to overall attenuation capacity.

- Aluminum: Aluminum is associated predominantly with the acid/sulfide and residual fractions (89 to 99%) with small proportions in the metal hydroxide fraction (0.8 to 11%). This distribution indicates aluminum is only partially available to participate in redox and sorption reactions.

- Boron: Boron was only measured in 2023 and was generally detected in all fractions in each of the samples. The highest total boron concentration was observed at K-SB-07S, an area with high aqueous boron. Proportions of boron in the sediments vary depending on location. Boron in background location K-SB-02 is primarily in the residual fraction (52 to 76%), with the remaining distributed across all other fractions. The other samples all have significant proportions of boron in the iron and manganese oxide fraction (24 to 38%) and residual fractions (16 to 36%). K-SB-28 also has a high proportion (23%) bound into the carbonate fraction. These data indicate that boron is associated with fractions that are closely related to redox conditions on site and constituents associated with these phases may be mobilized through mineral dissolution or other changes in the redox regime. Boron is also associated with the water-soluble fraction, exchangeable metals, and organic fractions in most samples, suggesting attenuation by these phases is possible.

- Total sulfur: Sulfur was only analyzed in 2023. Understanding sulfur distribution is valuable for understanding sulfate speciation and attenuation by the solid phase. In most samples, sulfur is found in every fraction except the organics fraction, with the majority of sulfur detected with the exchangeable fraction (31 to 85%). The exchangeable metals fraction is one of the least recalcitrant solid fractions, indicating this proportion of sulfur is likely loosely bound and relatively

mobile, likely in the form of sulfate. The exception to this is K-SB-28, which has the majority of sulfur in the organics fraction (50%).

4.3 SORPTION BATCH STUDIES

In August 2021, select aquifer solids and groundwater samples were submitted by WSP to SiREM laboratory to test the sorption behavior of boron and sulfate (Attachment **3**). Sorption studies pair groundwater with parameters above the GWPS with soils from upgradient background locations to evaluate both attenuation mechanisms and capacity of aquifer solids for sorption of contaminants. Groundwaters from MW-12S (PMP) and MW-28 (UA) were selected based on statistical evaluation of potential exceedances in 2021. While MW-12S does not have boron or sulfate exceedances as of the fourth quarter of 2023, this data is valuable for assessing attenuation in the PMP. Each groundwater-soil sample was spiked to achieve a target concentration of boron and sulfate. Samples were equilibrated over a 7-day period, with concentrations of target constituents analyzed on day zero and day seven. This was repeated for different soil-water ratios. Sorption was estimated by calculating the difference between initial (day 0) concentrations and final (day 7) concentrations. For both samples, there was no appreciable difference between initial concentrations of boron and final concentrations, regardless of the soil-water ratio. Sulfate results were more variable and demonstrated sorption to solids for some of the water samples evaluated. Calculated partition coefficients are reported in Attachment **3**.

While the batch studies largely confirm the conservative nature of both boron and sulfate, the SEP results presented in Section 4.2.2.4 demonstrate that boron and sulfate are sorbed to solids collected from downgradient of the AP, indicating some degree of attenuation by the aquifer solids has occurred. Subsequent evaluation associated with a Corrective Action Plan will assess the sorption behavior of both boron and sulfate under return to background conditions, where it is anticipated that geochemical conditions will shift from the present condition, thereby influencing adsorption behavior under dynamic conditions not reflected by the sorption batch studies.

5.0 AQUEOUS GEOCHEMISTRY

The KIN porewater and groundwater data discussed in this section are presented in Table 5-1. Data were collected from 2013 to 2023. Over time, different parameters have been collected at different frequencies at various wells due to the regulatory history of the unit. This geochemical characterization focuses on background wells, exceedance wells, wells nested with or in the immediate vicinity of exceedance wells, and porewater wells.

5.1 EXCEEDANCE PARAMETERS AND CCR CONSTITUENTS

Boron, sulfate, and TDS are the exceedance parameters for the KIN AP. Figure 5-1 shows timeseries of boron, sulfate, and TDS collected from porewater and groundwater locations. Boron concentrations in the porewater range from 0.5 to 4.2 mg/L and background groundwater concentrations range from 0.05 to 0.35 mg/L. Boron exceedances are found in groundwater wells to the northwest of the AP (MW-7S, MW-12, and

MW-28; Figure 2-1). Boron concentrations in MW-7S and MW-28 are generally higher than porewater concentrations, with the highest boron concentrations in compliance well groundwater found in MW-28. Compliance wells MW-6, MW-29, and MW-12S are also northwest of the AP and have boron concentrations elevated above background, though these wells do not have statistical exceedances. Boron concentrations are also elevated above background in MW-20S and MW-32, both of which have sulfate exceedances. Boron in MW-32 is relatively stable with time, and concentrations in MW-20S exhibit an increasing trend from 2021 through 2023 (0.06 to 2.19 mg/L).

Sulfate concentrations in the porewater range from 29 to 1,110 mg/L with the highest concentrations found in XPW03. Sulfate in background wells range from 80 to 178 mg/L. Sulfate is elevated in exceedance wells MW-7S, MW-20S, MW-28, and MW-32, with highest concentrations observed in MW-28. Similar to boron, sulfate concentrations are increasing over time in MW-20S (243 to 519 mg/L). Sulfate is also elevated above background in exceedance well MW-12, though concentrations are not statistical exceedances of the sulfate GWPS.

Groundwater well MW-28 is the only location with a TDS exceedance, with concentrations similar to those found in XPW03 (Table 5-1). Background groundwater has a TDS concentration of 292 to 596 mg/L. Groundwater wells MW-7S, MW-12, MW-32, and MW-20S also have elevated TDS concentrations, though concentrations are not statistical exceedances of the TDS GWPS. Groundwater well MW-20S also exhibits increasing concentrations of TDS from 2021 through 2023. Sulfate is the primary driver of TDS and is thus used as a proxy for TDS in the following analysis (Figure 5-2).

5.2 MAJOR ION DISTRIBUTION

Piper diagrams are a useful way to classify water samples based on major ion chemistry. The diagrams include separate ternary anion and cation proportion plots and a central diamond plot for classifying combined cation/anion predominance for overall classification. Piper diagrams account for major ion proportionality, but do not account for actual concentrations nor trace element chemistry. Figure 5-3 shows the Piper diagram for the AP with data from June 2013 through November 2023. The Piper diagram for the AP reveals the groundwater to have consistent cation proportions with almost equal distributions of calcium and magnesium. Porewater is more variable with XPW01 and XPW04 showing similar cation proportions to the groundwater, while XPW02 is more calcium dominated and XPW03 has a higher proportion of potassium (Figure 5-3). The anion concentrations show consistently low chloride proportions for all samples, though there is more variability in bicarbonate and sulfate proportions. The majority of groundwater shows bicarbonate as the dominant anion. Exceedance wells and porewater reflect higher proportions of sulfate.

5.3 PH AND REDOX CONDITIONS

Groundwater pH and the oxidation-reduction (redox) potential of the groundwater exert dominant controls on the solubility, fate, and transport of many constituents in the groundwater. These so-called master variables govern the chemical interaction of dissolved phase constituents (mobile phase) with the solid

matrix (immobile phase) and mineral precipitation/dissolution. This section provides a description of the measured pH and redox conditions for both groundwater and CCR porewater. The geochemical controls on constituent release and attenuation of boron and sulfate are discussed further in Section 6.0.

Groundwater pH is neutral and generally stable within the range of 6 to 7.5 S.U. independent of location, lithology, or exceedance status. This stable and neutral pH indicates groundwater is well buffered against change in pH, likely due to the widespread presence of carbonate minerals in the aquifer solids which buffer pH within this range (Section 4.2.2). Porewater pH in XPW02, XPW03, and XPW04 is similar to groundwater, though pH in XPW01 is somewhat higher than groundwater pH. The pond water sample (AP1) has a more alkaline pH between 8.0 and 8.5 S.U.

Groundwater redox conditions are evaluated based on field measured oxidation-reduction potential (ORP) (Figure 5-4) as well as laboratory analytical measurements of redox-sensitive constituents such as dissolved and total manganese. Groundwater ORP represents the average electrical potential of an aqueous solution and is relied upon as a field measure of redox condition. Porewater ORP is generally more reducing, while background groundwater ORP is generally more oxidizing. Exceedance wells oscillate between reducing and oxidizing conditions, with no clear temporal pattern. While there is a large amount of variability in the ORP dataset, in general, it appears that the groundwater measured at the exceedance wells is under some influence of the reducing condition from the CCR porewater, which may in turn have implications for the stability of attenuating mineral phases (discussed further in Section 6.2).

Evaluation of redox sensitive parameters and redox couples such as dissolved manganese and total manganese in combination with ORP provide a more complete understanding of redox conditions within the aquifer. Dissolved manganese will generally be in the form of Mn(II) in natural groundwaters, a reduced form of manganese. Total manganese is a measure of all the manganese in solution, including dissolved manganese. At the KIN AP, total manganese and dissolved manganese are generally the same concentration throughout the aquifer, suggesting the majority of manganese is present in the dissolved form (Table 5-1). This indicates mildly reducing conditions either locally or some distance upgradient within the aquifer.

5.4 POURBAIX DIAGRAM

Pourbaix diagrams show possible thermodynamically stable phases at equilibrium conditions across pH values and redox potentials. Figure 5-5 shows samples collected in 2023 plotted on a Pourbaix diagram for iron phases. This diagram focuses on the equilibrium iron phases, rather than crystalline phases, that control active iron cycling in the system. The ORP was converted to Eh by adding a correction factor of 200 mV to measured field data. The groundwater samples plot around the equilibrium line of dissolved iron (Fe^{++}) and solid-phase iron hydroxide ($Fe[OH]_3$), indicating dynamic redox conditions and iron cycling across the site. In general, locations in the upgradient and unimpacted areas of the site plot within the $Fe(OH)_3$ field that indicates stability of solid-phase iron (background samples plot in the $Fe[OH]_3$ stability field), whereas the downgradient locations reflecting exceedances of sulfate and/or boron plot largely within the Fe^{++} field that indicates iron is likely present in the dissolved phase. This is supported by measured total iron concentrations that are generally higher downgradient of the unit than upgradient. Total iron concentrations are largely below detectable levels at MW-1, and concentrations are more variable at MW-

2. Total iron is much more elevated at MW-12, for example (ranging from 1.87 to 6.95 mg/L), which is consistent with plotting of the MW-12 samples within the Fe^{++} field in Figure 5-5. This suggests that over time, as conditions return to background, solid phase iron will become more dominant (similar to that observed for background), which will result in increased adsorption capacity through ferrihydrite precipitation.

5.5 SUPPORTING STATISTICAL ANALYSIS AND CORRELATIONS

5.5.1 Principal Components analysis

Groundwater chemistry data are multivariate datasets by nature given the high number of parameters observed per sampling location and within a given timeframe. With such a large number of variables, advanced statistical analysis of multivariate groundwater data can provide important insights into spatial, temporal, and chemical relationships influencing constituent distribution and compliance in groundwater. The multivariate technique Principal Component Analysis (PCA) is used to interrogate the groundwater chemistry around the exceedance wells. PCA is a multivariate technique that reduces dataset dimensionality to its principal, independent components thereby revealing the inner structure of the dataset. Multivariate techniques such as PCA are valuable because they identify variables that are highly dependent on each other and reduce the multivariate data dimensionality to reduce this redundant information. This reveals inner structures in the data that might otherwise be obscured by these dependencies. In the case of groundwater data, these structures might include groups of related variables, chemical evolution through time, or spatial locations with similar chemical signatures.

The PCA includes both compliance wells and other monitoring wells and spans sampling events from 2017 through 2023. All samples and analytes with a high percentage (≥40%) of missing data or data below a method detection limit (MDL) were removed from the analysis, except for lithium and molybdenum. These parameters were included as detected concentrations exhibited multiple orders of magnitude variance, which was deemed meaningful. Any data reported as below the MDL were converted to half the MDL. This allows for assessment of analytes that are typically non-detect in background groundwater but are elevated in porewater and impacted groundwaters). This preserves variance of important parameters, such as boron, across the site and allows for improved interpretation of the site geochemistry. Eight samples with turbidity >100 NTU (nephelometric turbidity unit) were removed from the dataset to mitigate the influence of suspended solids. The removal of such a low number of samples compared to the overall dataset is unlikely to bias the final result. The final dataset contains 12 measured analytes (including the hydrogen ion (H+), which represents acidity in groundwater and is proportional to pH), 1,620 measurements from 135 individual samples at 15 wells (4 CCR, 9 UA, 2 PMP) and a pond location. All data were standardized by mean centering and scaling to standard deviation prior to performing PCA analysis. PCA results are presented on a biplot in Figure 5-6, which depicts the sample population plotted on two axes, each representing a principal component. The principal components are created from a linear combination of the original variables in the dataset and variance in the data. Principal component 1 (PC1) and principal component 2 (PC2) are represented on the x and y axis and explain 31% and 30% of the statistical variance in the water quality dataset, respectively. Constituent variables are expressed as vectors. The grouping of

samples relative to the component vectors is useful for providing immediate insight into geochemical relationships among groups of variables and samples. The biplot exhibits the following key features:

- The PCA shows chemical distinctions between the porewater, background locations, and the exceedance locations. Porewater dominates the upper half of the plot and is closely associated with fluoride, potassium, molybdenum, and lithium. Individual porewater locations plot in close proximity with only minor overlap between locations.
- Background wells plot at the lower left edge of the plot between the barium and chloride vectors. Background well MW-2 plots near some porewater samples due to somewhat elevated fluoride concentrations at this location (0.42 to 0.55). Fluoride concentrations in MW-2 are similar to porewater fluoride (0.31 to 0.84).
- Non-exceedance groundwater data is generally between background and exceedance data with a strong association with background data.
- Exceedance locations are strongly associated with the calcium, magnesium, and alkalinity vectors.
- All exceedance locations are distinctly separate from most non-exceedance groundwater locations and all plot relatively close to one another with the exception of exceedance well MW-28, which plots in a distinct cluster between the calcium and boron vectors.

Observations from the PCA support and align with observed chemical signatures and site interpretation.

6.0 GEOCHEMICAL CONCEPTUAL SITE MODEL

6.1 SOURCE AND MOBILIZATION MECHANISMS

The CCR materials are the primary source of constituent loading to the CCR porewater. Over an extended period (e.g., months to years), the porewater reaches equilibrium with the CCR materials, signifying the constituents within the porewater are representative of the mobile phase capable of migrating to downgradient groundwater. This conclusion is drawn from the prolonged interaction between the CCR solids and the porewater, allowing for the transfer of soluble constituents like sulfate and boron into the porewater. The AP CCR porewater is therefore the primary vector of sulfate and boron *available* to the shallow groundwater and is considered as the primary source term for environmental investigation.

Both boron and sulfate are common CCR indicator parameters and are observed in shallow groundwater at some locations at concentrations indicative of impacts by porewater. The uneven distribution of boron and sulfate in the groundwater is attributed to be a function of the observed chemical heterogeneity in the AP porewater and physical heterogeneity along the groundwater flow path. The mobilization mechanism is advective transport from the CCR porewater source into the underlying groundwater.

6.2 POTENTIAL/LIKELY ATTENUATION MECHANISMS

Boron and sulfate are generally regarded as conservative CCR constituents under most environmental conditions; however, downgradient of the KIN AP, several attenuation mechanisms are inferred to be active

or influential within the groundwater based on the available data and observed geochemical conditions. The specific attenuation mechanisms for the exceedance parameters are as follows:

Sulfate/TDS[1]

- Adsorption – Sulfate is known to sorb to iron and manganese oxide mineralization in the solid phase (Kitadai, 2018; He, 1996; Geelhoed, 1997). A relatively small amount of sulfur is observed from the 2023 SEP results in association with the iron and manganese oxide phases and is interpreted to represent adsorbed sulfate on the mineral surfaces. This mechanism is likely to be limited under current conditions, given the mildly reducing conditions within the aquifer resulting from influence from porewater, which tends to limit the stability of the hydroxide phases such as ferrihydrite. The batch studies largely confirmed the conservative nature of sulfate, whereas the SEP results demonstrate that sulfate is sorbed to solids collected from downgradient of the AP, indicating some degree of attenuation by the aquifer solids has occurred. It is anticipated that geochemical conditions will shift from the present condition in response to source control and unit closure, thereby influencing adsorption behavior under dynamic conditions not reflected by the sorption batch studies. Evaluation of longer-term changes in adsorption behavior under a "return to background" scenario will be addressed in subsequent evaluation associated with a Corrective Action Plan.

- Ion exchange – Ion exchange is the weakest attenuation mechanism of those observed for sulfate and while it is not regarded to be sufficient for long-term attenuation, it is included as one of several geochemical mechanisms that influences sulfate distribution in the groundwater. This inclusion is based on the sulfur concentrations measured in substantial proportion in association with the exchangeable fractions from the 2023 SEP analysis.

Boron

- Adsorption – Boron is known to sorb to aluminum and iron hydroxide mineralization in the solid phase (Goldberg, S. and Glaubig R., 1985). Roughly 30% of the solid phase boron measured from the 2023 SEP results is found to be associated with the iron and manganese oxide phases and is therefore interpreted to represent adsorbed boron on the mineral surfaces. This mechanism is likely to be the dominant attenuation mechanism for boron in at the KIN AP based on the available data and overall limited reactivity of the borate molecule. The batch studies largely confirmed the conservative nature of boron, whereas the SEP results demonstrate that boron is sorbed to solids collected from downgradient of the AP, indicating some degree of attenuation by the aquifer solids has occurred. It is anticipated that geochemical conditions will shift from the present condition in response to source control and unit closure, thereby influencing adsorption behavior under dynamic conditions not reflected by the sorption batch studies. Evaluation of longer-term changes in adsorption behavior under a "return to background" scenario will be addressed in subsequent evaluation associated with a Corrective Action Plan.

[1] TDS is dominated by sulfate, thus any mechanism that deceases sulfate concentration will also lower TDS.

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8.0 ACRONYMS AND ABBREVIATIONS

Alk	Total Alkalinity
Al	Aluminum
amsl	above mean sea level
AP	Ash Pond
As	Arsenic
B	Boron
Ba	Barium
BCU	Bedrock confining unit
Ca	Calcium
CCR	Coal combustion residual
CEC	Cation exchange capacity
CH4	Methane
Cl	Chloride
Fe	Iron
ft	feet
g	grams
GCSM	Geochemical conceptual site model
GWPS	Groundwater Protection Standard
H+	Hydrogen ion, represents acidity in groundwater
K	Potassium
KIN	Kincaid
KPP	Kincaid Power Plant
Li	Lithium
LOI	Loss-on-ignition
meq	milliequivalents
Mg	Magnesium
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
Mn	Manganese
Mo	Molybdenum
mV	millivolts
Na	Sodium
NTU	Nephelometric turbidity unit
ORP	Oxidation reduction potential
PCA	Principal components analysis
pCi/L	picocuries per liter
PMP	Potential Migration Pathway
Ramboll	Ramboll Americas Engineering Solutions, Inc.
Redox	Oxidation-Reduction
SEP	Sequential extraction procedure

Si	Silica
SO4	Sulfate
TDS	Total Dissolved Solids
TIMA	Tescan Integrated Mineral Analyzer
TOC	Total organic carbon

FIGURES



GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

REGULATED UNIT (SUBJECT UNIT)

PROPERTY BOUNDARY

MONITORING WELL

Well ID

MW-1	MW-32
MW-6	MW-12S
MW-7	MW-29
MW-2	MW-20S
MW-4	MW-20
MW-11	XPW01
MW-12	XPW02
AP1	XPW03
MW-28	XPW04
MW-7S	

0 250 500 Feet

- Background
- UA Compliance
- UA Supplemental
- USCU Supplemental
- Exceedance
- Porewater
- Pond

Notes:
-Contours from June 12, 2023.
-Parenthesis indicates well not used in contouring
-Elevation contours shown in feet, North American Vertical Datum of 1988
-Figure adapted from Ramboll 2021

LIFECYCLEGEO

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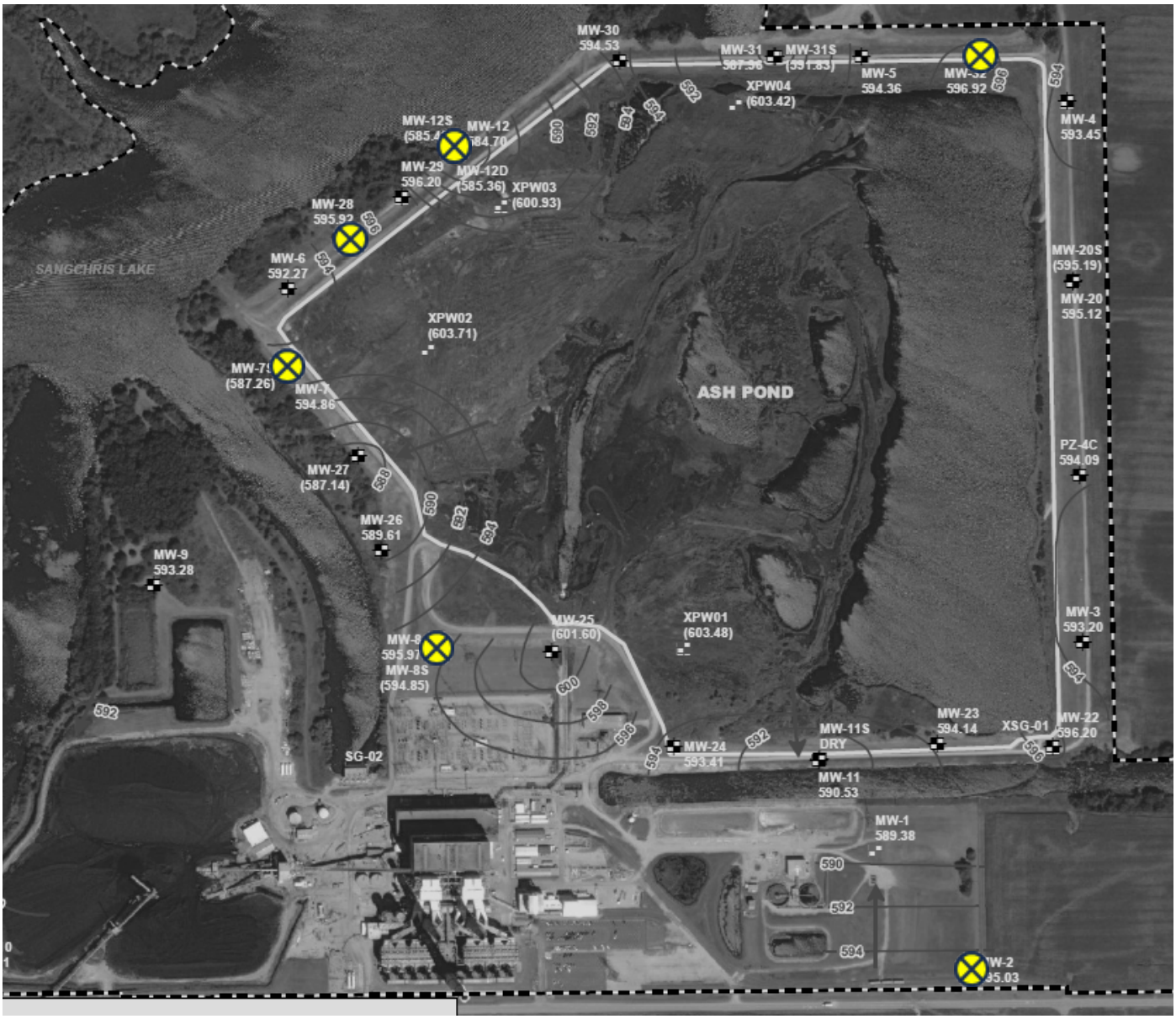
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Project Number: [23RAM01-1] Vistra CCR

Figure: 2-1

Client Name: Ramboll Americas Engineering Solutions, Inc.

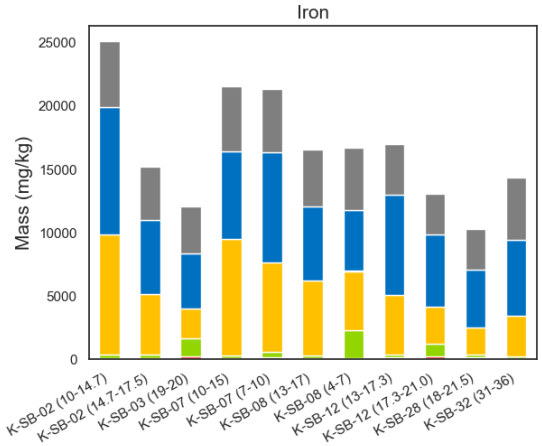
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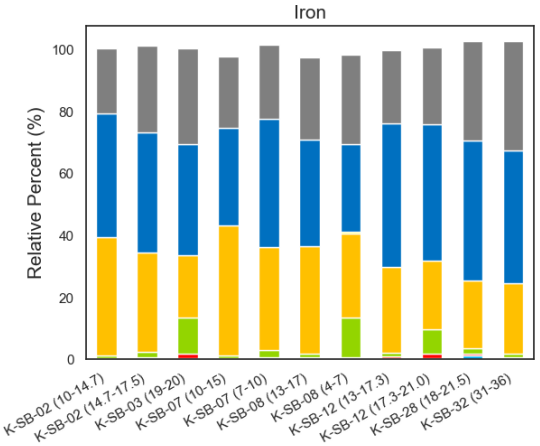


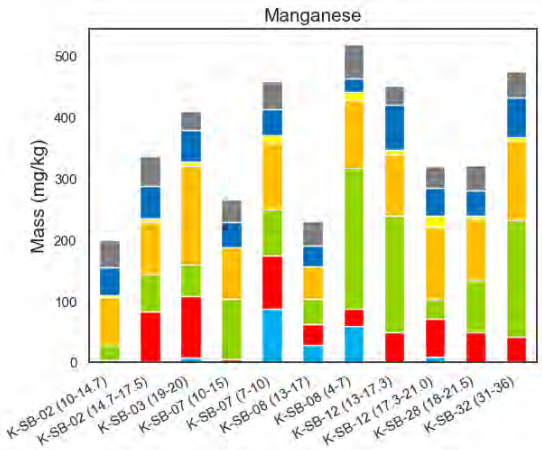
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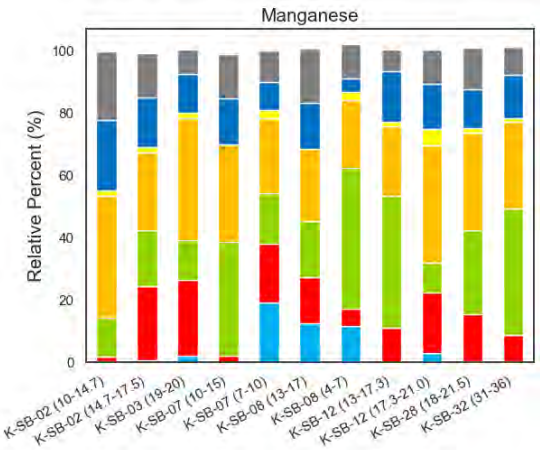
⊗ Soil boring locations

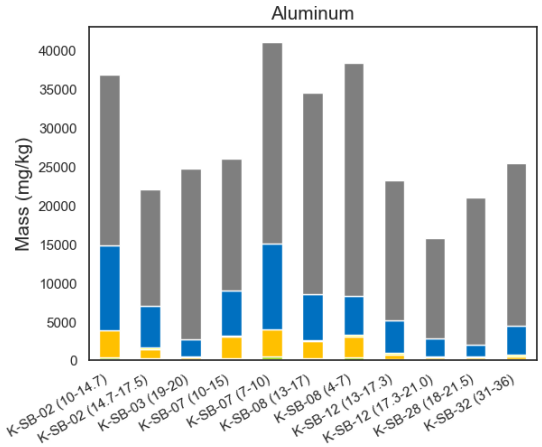
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	Client Name: Ramboll Americas Engineering Solutions, Inc.	Date: 12/04/2023	

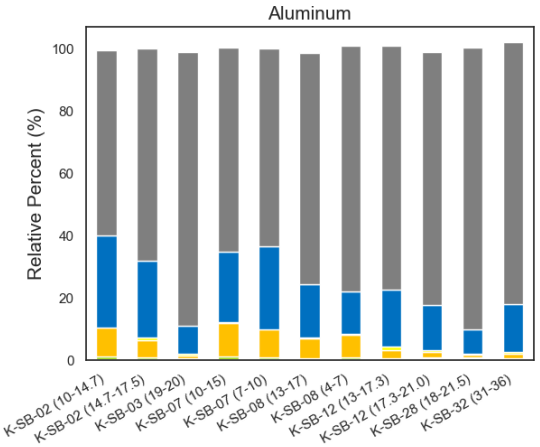




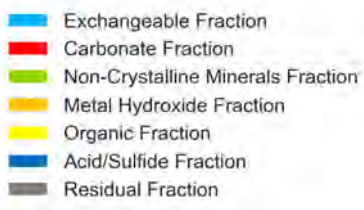








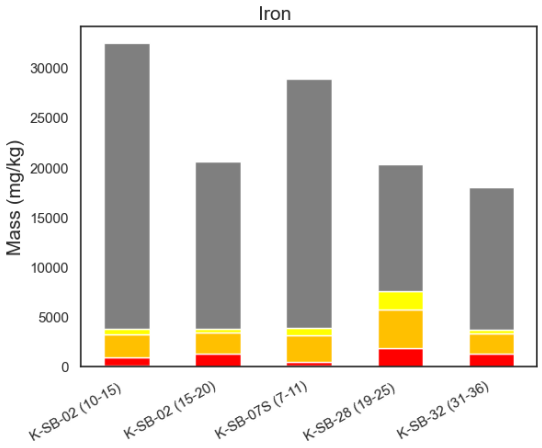
Notes:
-SEP results from Eurofins (2021) analysis.
-Non-detects are removed from the analysis.
-The percentages for each individual fraction may not sum to 100 due to results below the reporting limit and rounding.

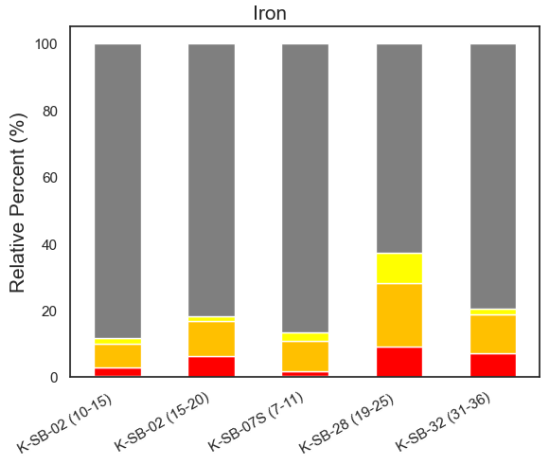


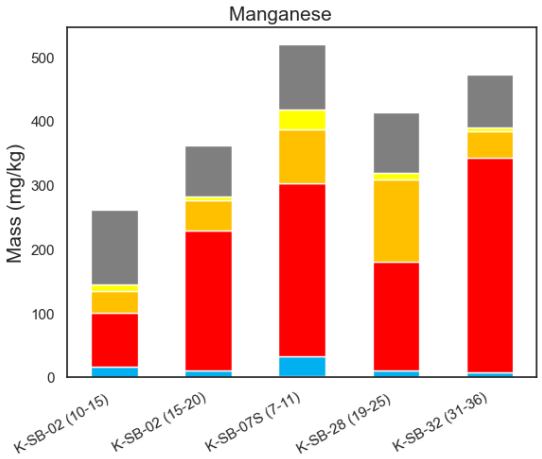
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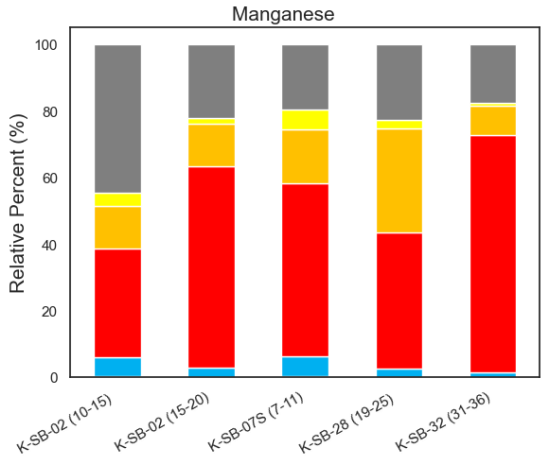
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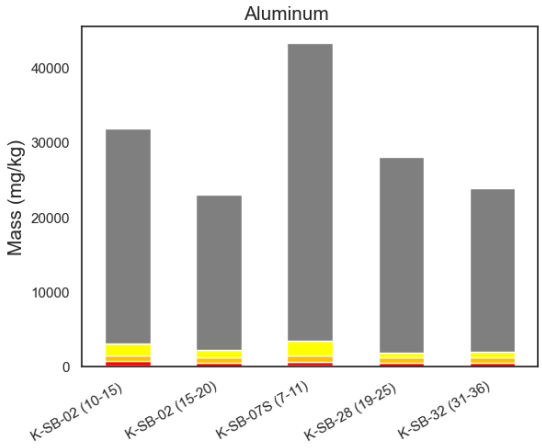
Project Name	Project Number	Figure
Edwards - Ash Pond Evaluation	[23RAM01-1] Vistra CCR	4-2a
Client Name	Date	
Ramboll Americas Engineering Solutions, Inc.	12/4/2023	

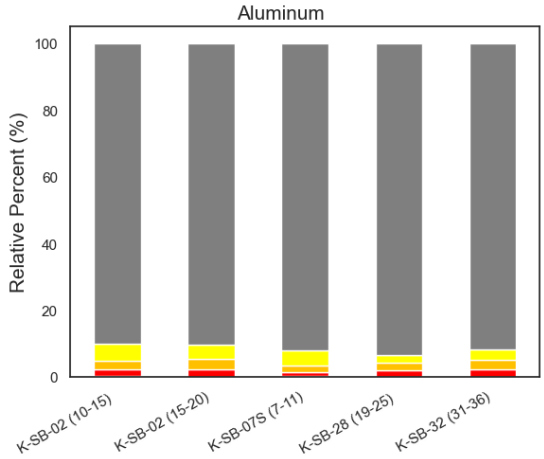


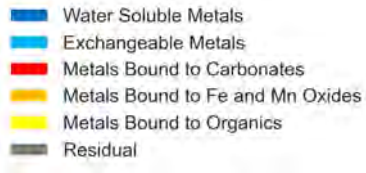








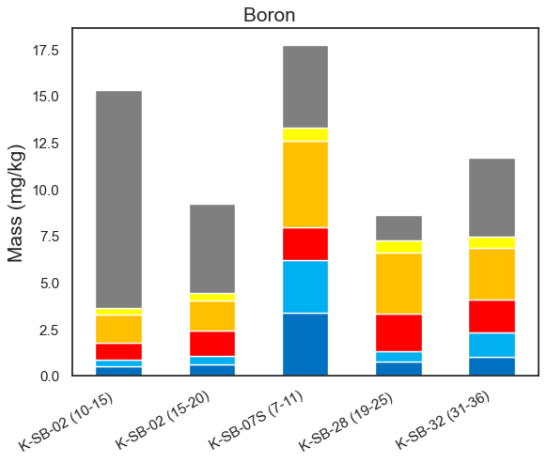


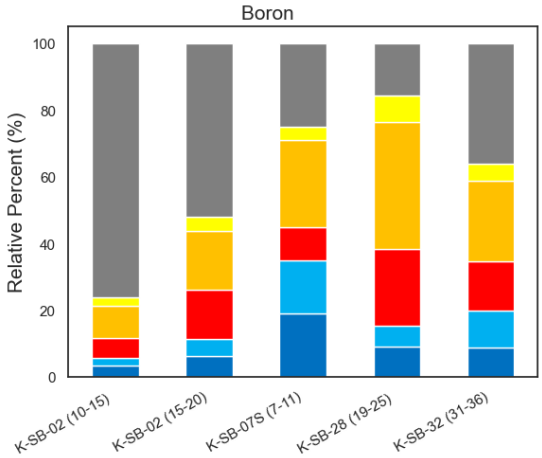


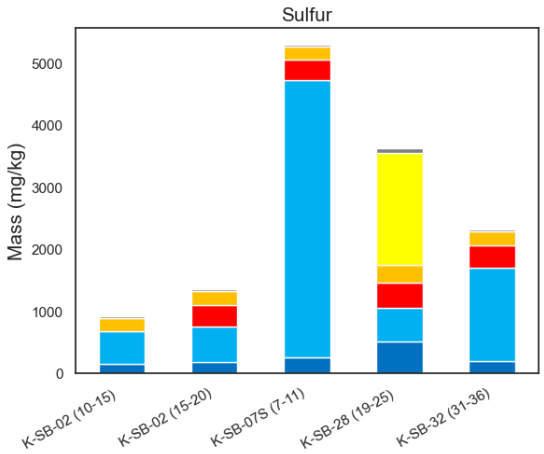
Notes:
-SEP results from SGS (2023) analysis.
-Non-detects are removed from the analysis.
-The percentages for each individual fraction may not sum to 100 due to results below the reporting limit and rounding.

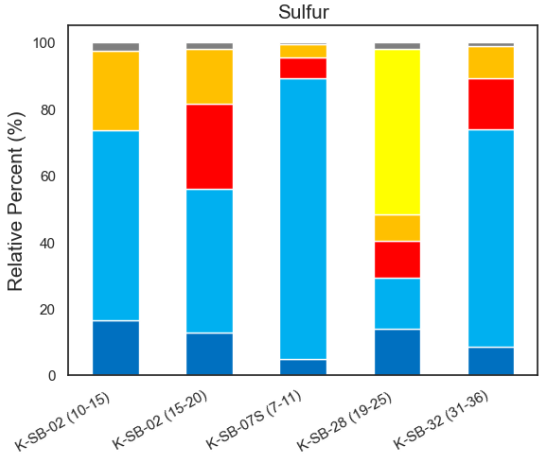
LIFECYCLEGEO

Title: Kincaid Ash Pond 2023 SEP Results			
Project Name: Kincaid- Ash Pond Evaluation		Project Number: [23RAM01-1] Vistra CCR	Figure: 4-2b
Client Name: Ramboll Americas Engineering Solutions, Inc.		Date: 12/05/2023	







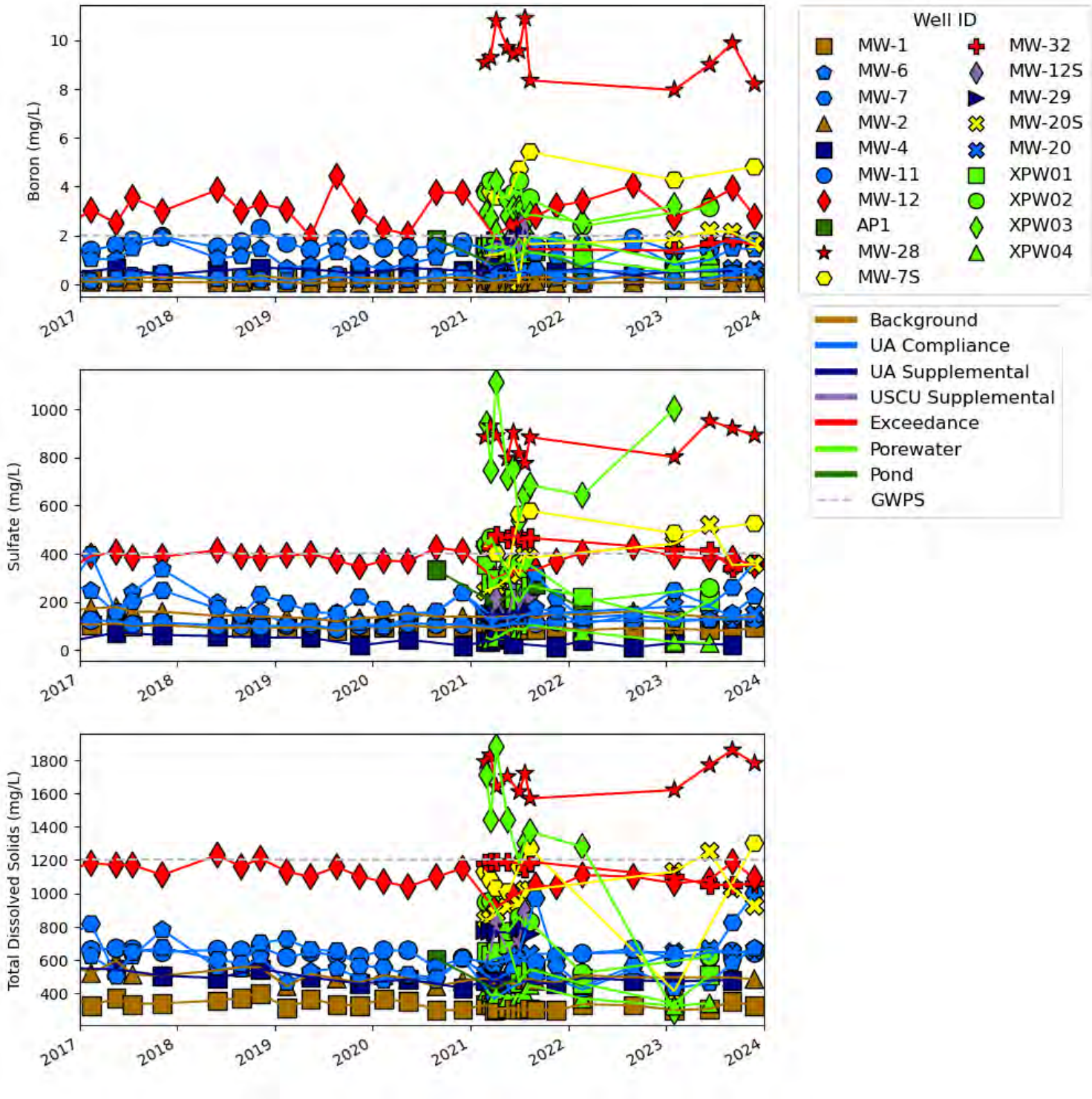


Notes:
-SEP results from SGS (2023) analysis.
-Non-detects are removed from the analysis.
-The percentages for each individual fraction may not sum to 100 due to results below the reporting limit and rounding.

SEP Fraction
- Water Soluble Metals
- Exchangeable Metals
- Metals Bound to Carbonates
- Metals Bound to Fe and Mn Oxides
- Metals Bound to Organics
- Residual

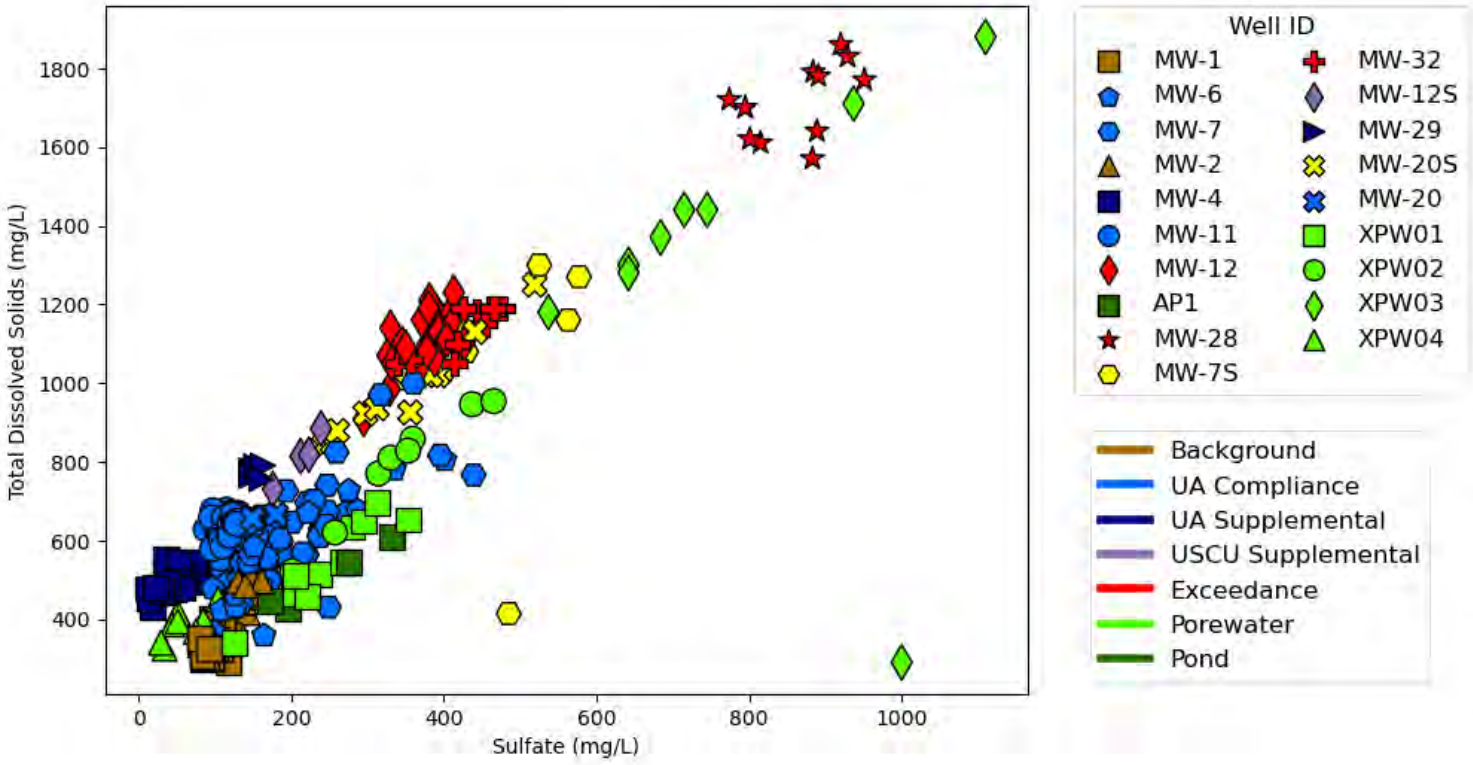
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Title: Kincaid Ash Pond 2023 SEP Results		
Project Name: Kincaid- Ash Pond Evaluation	Project Number: [23RAM01-1] Vistra CCR	Figure: 4-2b
Client Name: Ramboll Americas Engineering Solutions, Inc.	Date: 12/05/2023	



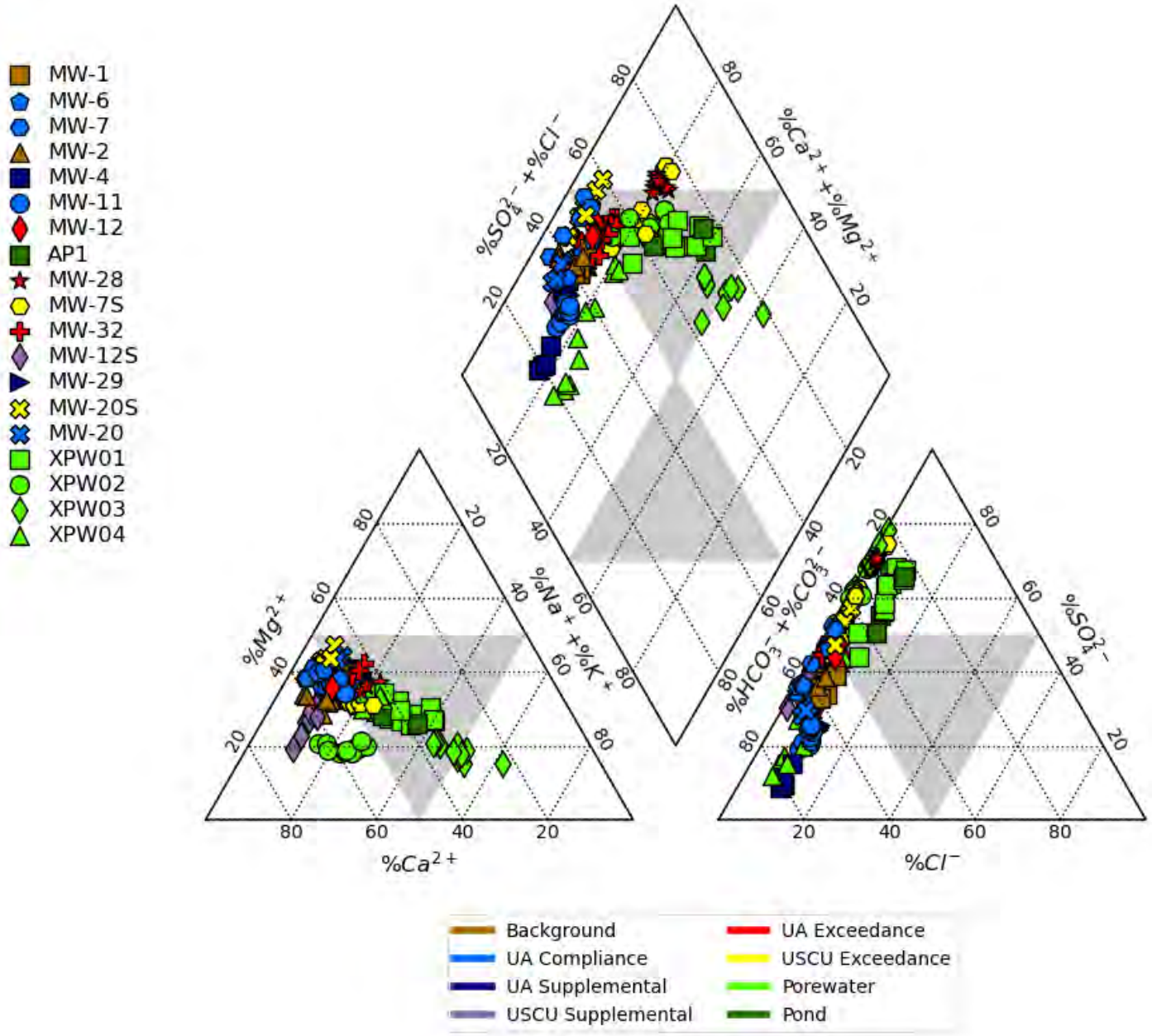
Notes:
-GWPS: Groundwater protection standard

LIFECYCLEGEO	Title: Kincaid Ash Pond Boron, Sulfate, and TDS Time Series		
	Project Name: Kincaid- Ash Pond Evaluation	Project Number: [23RAM01-1] Vistra CCR	Figure: 5-1
	Client Name: Ramboll Americas Engineering Solutions, Inc.	Date: 04/24/2024	



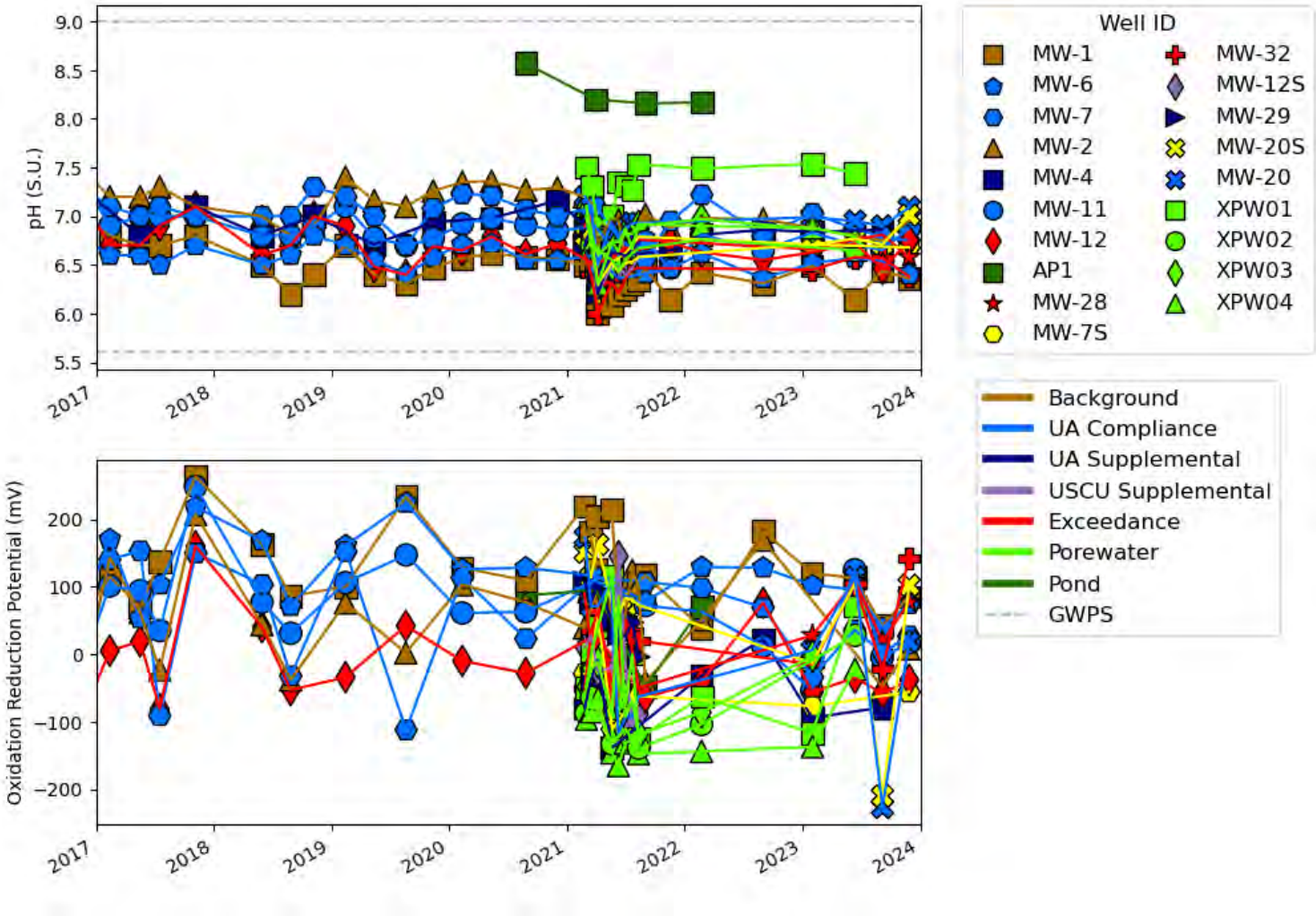
LIFECYCLEGEO

Title: Kincaid Ash Pond Total Dissolved Solids and Sulfate		
Project Name: Kincaid- Ash Pond Evaluation	Project Number: [23RAM01-1] Vistra CCR	Figure: 5-2
Client Name: Ramboll Americas Engineering Solutions, Inc.	Date: 04/24/2024	



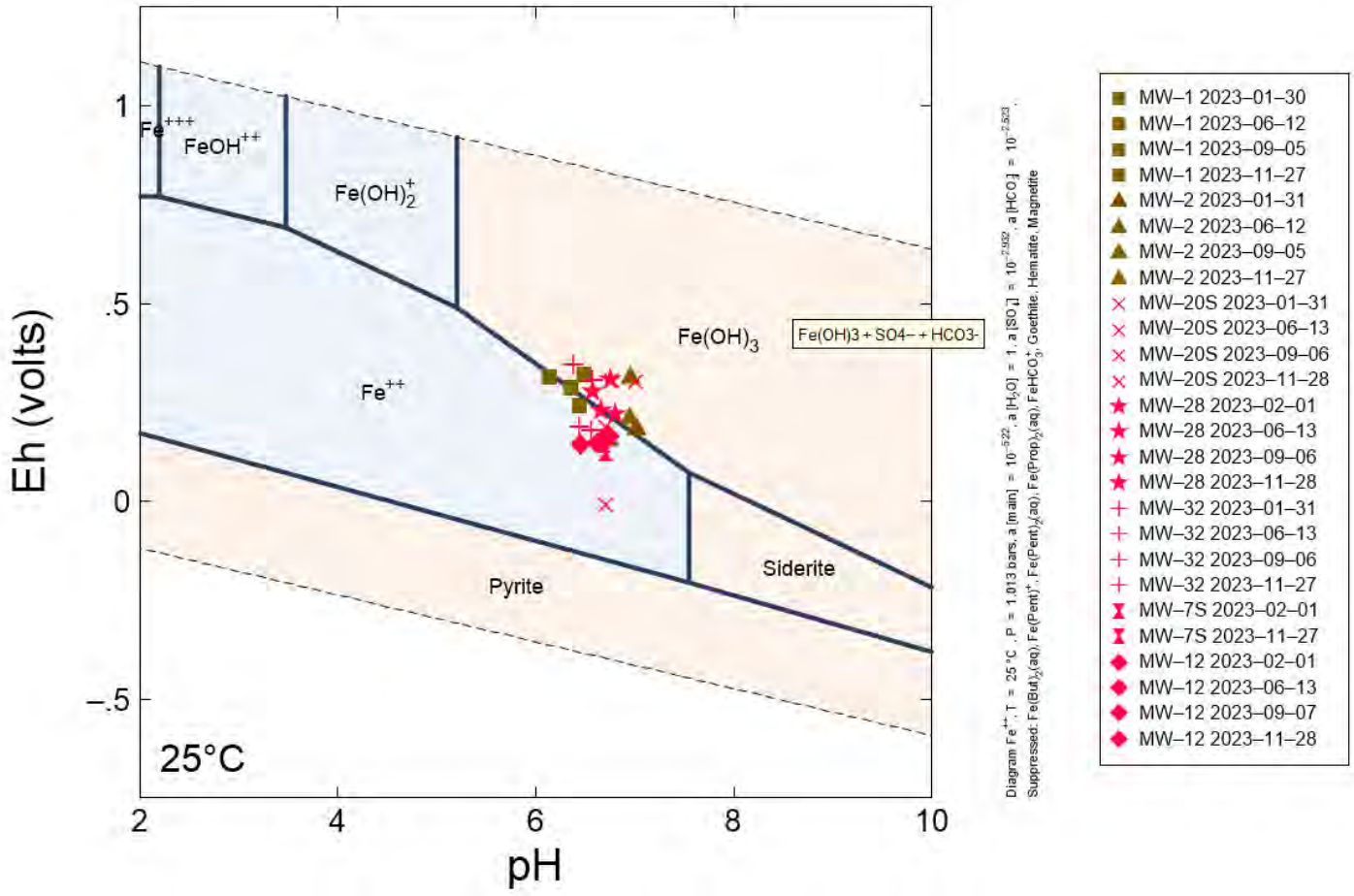
LIFECYCLEGEO

Title: Kincaid Ash Pond Piper Diagram			
Project Name: Kincaid- Ash Pond Evaluation		Project Number: [23RAM01-1] Vistra CCR	Figure: 5-3
Client Name: Ramboll Americas Engineering Solutions, Inc.		Date: 02/08/2024	



Notes:
-GWPS: Groundwater protection standard

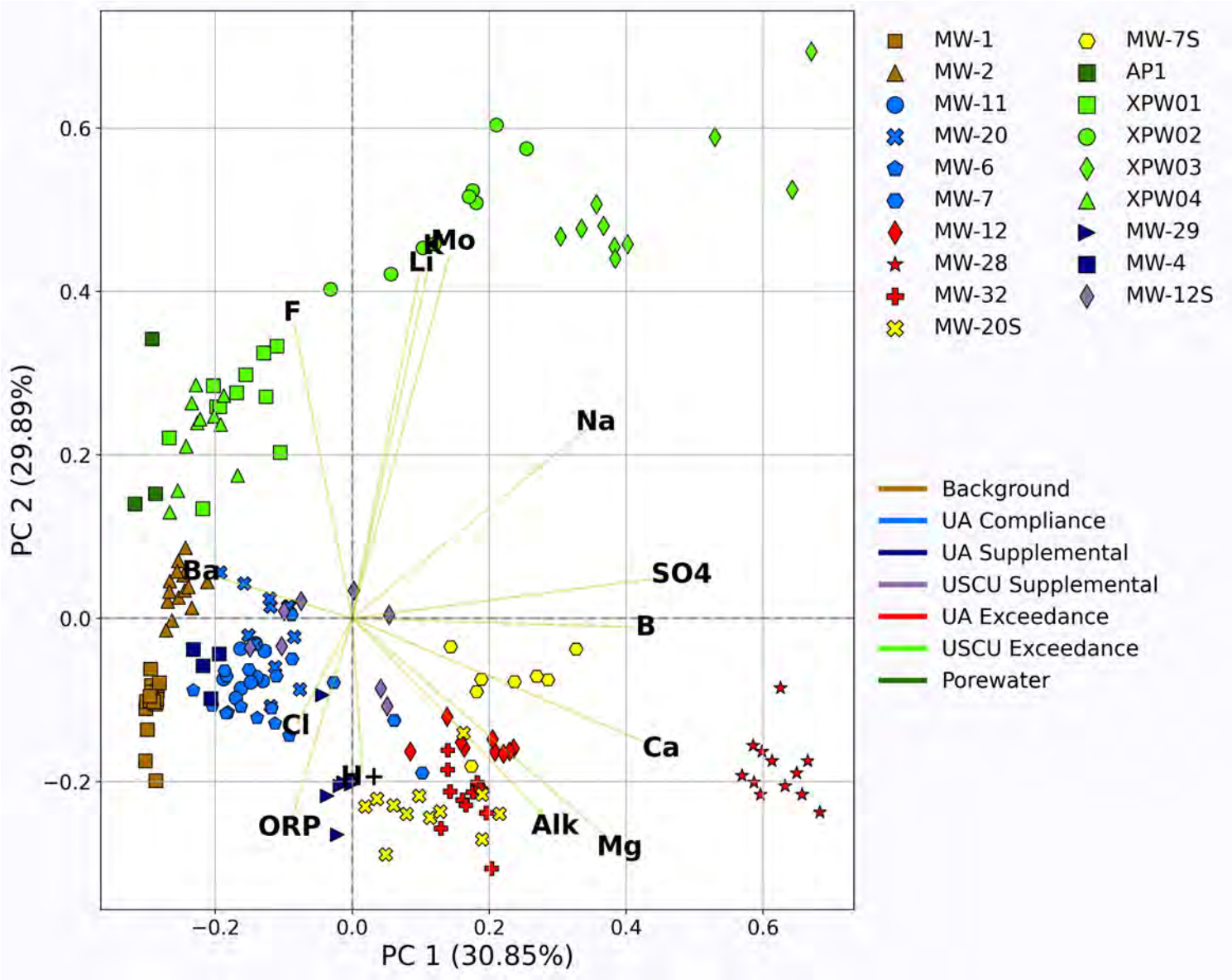
LIFECYCLEGEO	Title: Kincaid Ash Pond Oxidation Reduction Potential and pH Time Series		
	Project Name: Kincaid- Ash Pond Evaluation	Project Number: [23RAM01-1] Vistra CCR	Figure: 5-4
	Client Name: Ramboll Americas Engineering Solutions, Inc.	Date: 02/08/2024	



Notes:
-Data from 2023
-Temperature and activities calculated from site-specific conditions
-Brown indicate background wells, red indicate exceedance locations

LIFECYCLEGEO

Title: Kincaid Ash Pond Pourbaix Diagram			
Project Name: Kincaid- Ash Pond Evaluation		Project Number: [23RAM01-1] Vistra CCR	Figure: 5-5
Client Name: Ramboll Americas Engineering Solutions, Inc.		Date: 12/13/2023	



Notes:
-See abbreviation list for full analyte names.

LIFECYCLEGEO	Title: Kincaid Ash Pond Principal Component Analysis		
	Project Name: Kincaid- Ash Pond Evaluation	Project Number: [23RAM01-1] Vistra CCR	Figure: 5-6
	Client Name: Ramboll Americas Engineering Solutions, Inc.	Date: 04/24/2024	

TABLES

Table 4-1. Summary of Solid Samples

HSU	Location	Monitoring Well Name	Depth Range (ft bgs)	CEC	LOI	TOC	SEP	XRD	XRF	TIMA	Total Metals
UA	K-SB-02	MW-2	(10-14.7)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
USUC	K-SB-08	MW-8S	(4-7)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-08	MW-8S	(13-17)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
CCR	K-SB-XPW03	XPW03	(10-20)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-02	MW-2	(14.7-17.5)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-12	MW-12	(13-17.3)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-12	MW-12	(17.3-21.0)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-28	MW-28	(18-21.5)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
USCU	K-SB-07	MW-7S	(7-10)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-07	MW-7	(10-15)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-32	MW-32	(31-36)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-03	MW-32	(19-20)	2021 (SGS)	2021 (SGS)	2021 (SGS)	2021 (Eurofins)	2021 (SGS)	--	--	2021 (SGS)
UA	K-SB-02	MW-2	(10-15)	--	2023 (SGS)	--	--	2023 (SGS)	2023 (SGS)	2023 (SGS)	--
UA	K-SB-02	MW-2	(15-20)	--	2023 (SGS)	--	--	2023 (SGS)	2023 (SGS)	--	--
USCU	K-SB-07S	MW-7S	(7-11)	--	2023 (SGS)	--	--	2023 (SGS)	2023 (SGS)	2023 (SGS)	--
UA	K-SB-28	MW-28	(19-25)	--	2023 (SGS)	--	--	2023 (SGS)	2023 (SGS)	2023 (SGS)	--
UA	K-SB-32	MW-32	(31-36)	--	2023 (SGS)	--	--	2023 (SGS)	2023 (SGS)	--	--

Notes:

ft bgs = feet below ground surface

CEC = cation exchange capacity

LOI = loss on ignition

TOC = total organic carbon

SEP = sequential extraction procedure

XRD = X-ray diffraction

XRF = X-ray fluorescence

TIMA = TESCAN integrated mineral analysis

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

-- = no data

SGS, Eurofins = labs where analyses was performed

Table **4-2**. **CEC** Results

Sample ID	HSU	CEC Actual (meq/100g)
K-SB-02 (10.0-14.7)	UA	32.7
K-SB-02 (14.7-17.5)	UA	25.9
K-SB-12 (13.0-17.3)	UA	75.6
K-SB-12 (17.3-21.0)	UA	95.1
K-SB-28 (18.0-21.5)	UA	91.8
K-SB-07 (7.0-10.0)	USCU	25.4
K-SB-07 (10.0-15.0)	UA	16.9
K-SB-32 (31.0-36.0)	UA	104
K-SB-03 (19.0-20.0)	UA	127
K-SB-08 (4.0-7.0)	USCU	26.0
K-SB-08 (13.0-17.0)	UA	14.9
K-SB-XPW03 (10.0-20.0)	CCR	3.76

Notes:

CEC = cation exchange capacity

meq = milliequivalents

g = grams

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Table **4**-3. XRF Results

Mineral/Compound	K-SB-02 (10-15) (wt %) UA	K-SB-02 (15-20) (wt %) UA	K-SB-07S (7-11) (wt %) USCU	K-SB-28 (19-25) (wt %) UA	K-SB-32 (31-36) (wt %) UA
S	0.05	0.02	0.05	0.23	0.02
Cl	0.01	<0.01	<0.01	<0.01	0.01
Al2O3	8.62	6.46	11.15	6.65	5.96
CaO	2.02	5.93	0.79	10.03	7.96
Cr2O3	0.03	0.03	0.03	0.02	0.03
Fe2O3	3.63	2.69	3.85	2.80	2.40
K2O	2.00	1.68	1.91	1.94	1.88
MgO	1.68	3.02	0.95	5.22	3.77
Mn3O4	0.03	0.05	0.07	0.06	0.06
Na2O	0.69	0.70	0.78	0.67	0.59
P2O5	0.08	0.07	0.06	0.07	0.05
SiO2	74.24	68.85	73.63	56.98	65.38
TiO2	0.51	0.36	0.67	0.37	0.30
V2O5	<0.01	<0.01	0.02	0.01	0.01
Sum	93.64	89.93	93.98	85.43	88.51

Notes:

wt % = weight percent

UA = uppermost aquifer

USCU = upper semi-confining unit

Table **4-**4a. XRD results from 2021 Analysis

Well ID Depth (ft bgs)			K-SB-02 (10.0-14.7)	K-SB-02 (14.7-17.5)	K-SB-12 (13.0-17.3)	K-SB-12 (17.3-21.0)	K-SB-28 (18.0-21.5)	K-SB-07 (7.0-10.0)	K-SB-07 (10.0-15.0)
Sampled Aquifer Unit			UA	UA	UA	UA	UA	USCU	UA
Mineral/Compound	Formula	Mineral Type							
Quartz	SiO_2	Silicate	54.2	56.6	46.4	44.4	46.4	53.7	62.5
Orthoclase	$KAlSi_3O_8$	Silicate	7.9	5.8	5.6	5.5	6.2	6.6	7
Albite	$NaAlSi_3O_8$	Feldspar	8.8	10.8	8.1	7.3	6.6	13.2	9.6
Calcite	$CaCO_3$	Carbonate	2.6	1.3	3.8	5.9	4.9	0.4	0.4
Ankerite	$CaFe(CO_3)_2$	Carbonate	1.1	2.9	6.7	7	6	0.3	1.1
Dolomite	$CaMg(CO_3)_2$	Carbonate	8	4.7	12.7	13.7	16.3	0.2	0.8
Rhodochrosite	$MnCO_3$	Carbonate	0	0.1	0.2	0.1	0.1	0.2	0.1
Siderite	$FeCO_3$	Carbonate	0	0	0	0.3	0.1	0.2	0.1
Kaolinite	$Al_2Si_2O_5(OH)_4$	Clay	2.9	2.8	2.7	1.8	1.7	5.1	2.9
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	Phyllosilicate	4.1	3.5	2.9	2.3	2.3	6.2	4.8
Nontronite	$Fe_2(Al,Si)_4O_{10}(OH)_2Na_{0.3}(H_2O)_4$	Phyllosilicate	0.4	0.9	0	0	0	0	0
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$	Mica	7.4	8.7	9	9	7.6	11.6	9.3
Pyrite	FeS_2	Sulfide	0.2	0.1	0	0.2	0	0.1	0.1
Magnetite	Fe_3O_4	Oxide	0.2	0.2	0.4	0.1	0.2	1	0.2
Actinolite	$Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$	Amphibole	1.2	0.8	0.7	1.3	0.7	0.6	0.4
Diopside	$CaMgSi_2O_6$	Silicate	0.9	0.9	1	1.1	1	0.8	0.6
Hematite	Fe_2O_3	Oxide	--	--	--	--	--	--	--
Maghemite	γ-Fe_2O_3	Oxide	--	--	--	--	--	--	--
Total			100	100	100	100	100	100	100

Notes:

All results presented as weight percent (wt. %)

Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Table **4-**4a. XRD results from 2021 Analysis

Well ID Depth (ft bgs)			K-SB-32 (31.0-36.0)	K-SB-03 (19.0-20.0)	K-SB-08 (4.0-7.0)	K-SB-08 (13.0-17.0)	K-SB-XPW03 (10.0-20.0)
Sampled Aquifer Unit			UA	UA	USUC	UA	CCR
Mineral/Compound	Formula	Mineral Type					
Quartz	SiO_2	Silicate	50.3	48.4	53.9	62.6	5.8
Orthoclase	$KAlSi_3O_8$	Silicate	5.1	4.2	7.4	6.9	6.6
Albite	$NaAlSi_3O_8$	Feldspar	7	6.5	14.6	10.3	19.1
Calcite	$CaCO_3$	Carbonate	6.1	8.7	0.5	0.2	--
Ankerite	$CaFe(CO_3)_2$	Carbonate	3.4	4.5	1	0.9	--
Dolomite	$CaMg(CO_3)_2$	Carbonate	16	16.8	0.9	0.5	--
Rhodochrosite	$MnCO_3$	Carbonate	0.1	0.2	0.1	0.1	--
Siderite	$FeCO_3$	Carbonate	0.1	0.3	0	0.1	--
Kaolinite	$Al_2Si_2O_5(OH)_4$	Clay	1.7	1	4.2	3.3	--
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	Phyllosilicate	1.6	1.5	4.9	4.6	10.5
Nontronite	$Fe_2(Al,Si)_4O_{10}(OH)_2Na_{0.3}(H_2O)_4$	Phyllosilicate	0	0	0	0	--
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$	Mica	6.4	6.3	10.8	8.7	--
Pyrite	FeS_2	Sulfide	0.1	0	0.3	0.3	--
Magnetite	Fe_3O_4	Oxide	0.3	0.1	0.3	0.2	0.6
Actinolite	$Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$	Amphibole	0.7	0.7	0.3	0.3	--
Diopside	$CaMgSi_2O_6$	Silicate	1.1	0.9	0.7	1	23.4
Hematite	Fe_2O_3	Oxide	--	--	--	--	15.1
Maghemite	γ-Fe_2O_3	Oxide	--	--	--	--	19
Total			100	100	100	100	100

Notes:

All results presented as weight percent (wt. %)

Zero values indicate that the mineral was included in the refinement, but the calculated concent

Dashes indicate that the mineral was not identified by the analyst and not included in the refine

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity o

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Table **4-**4b. XRD Results from 2023 Analysis

Well ID Depth (ft bgs) Sampled Aquifer Unit			K-SB-02 (10-15) UA	K-SB-02 (15-20) UA	K-SB-07 S (7-11) USCU	K-SB-28 (19-25) UA	K-SB-32 (31-36) UA
Mineral/Compound	Formula	Mineral Type					
Quartz	SiO_2	Silicate	65.3	64.2	57.2	51.1	54.9
Albite	$NaAlSi_3O_8$	Feldspar	8.08	7.27	11.6	7.38	7.89
Orthoclase	$KAlSi_3O_8$	Silicate	7.79	5.48	7.6	3.71	4.01
Dolomite	$CaMg(CO_3)_2$	Carbonate	1.76	8.34	-	21.1	13.3
Ankerite	$CaFe(CO_3)_2$	Carbonate	0.940	2.44	-	1.82	2.61
Calcite	$CaCO_3$	Carbonate	-	2.26	-	4.71	4.75
Magnetite	Fe_3O_4	Oxide	0.53	0.76	0.56	0.32	0.21
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$	Mica	-	-	-	5.65	7.27
Biotite	$K(Mg,Fe)_3(AlSi_3O_{10})(OH)_2$	Mica	-	-	-	0.88	0.52
Illite	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$	Phyllosilicates	8.2	6.44	7.6	3.37	4.59
Montmorillonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$	Phyllosilicates	7.43	2.78	15.4	-	-
Total			100	100	100	100	100

Notes:

All results presented as weight percent (wt. %)

Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

UA = uppermost aquifer

USCU = upper semi-confining unit

Table 4-5. TIMA Results

Mineral	K-SB-02 (10.0-15.0) UA	K-SB-07S (7.0-11.0) USCU	K-SB-28 (19.0-25.0) UA
Quartz	66.1	52.7	53.6
Plagioclase	7.22	8.76	7.03
K-Feldspar	5.90	4.57	5.70
Mixed Clays/Micas	15.2	31.7	6.25
Chlorites	0.518	0.752	0.498
Other Silicates	1.00	0.735	1.38
Iron Oxides	0.103	0.058	0.712
Ti Fe Oxide	0.307	0.539	0.444
Other Oxides	0.045	0.079	0.041
Calcite	0.256	0.003	5.43
Dolomite	3.26	0.002	17.6
Ankerite	0.047	0.010	0.553
Sulphides	0.003	0.002	0.431
Sulphates/Phosphates	0.048	0.083	0.220
Other	0.038	0.034	0.158
Total	100	100	100

NOTES:

High-Resolution Mapping (THRM), was the selected scan mode. The THRM collects a Backscattered Electron signal and an X-ray spectrum at a set resolution (3 micrometer) to map the particles. It collects modal and textural information, such as liberation or exposure analysis of grains of interest

Due to the chemical properties of the iron carbonate mineral siderite, it will be indistinguishable from iron oxide using TIMA and, therefore, would be classified along with the iron oxides.

UA = uppermost aquifer

USCU = upper semi-confining unit

Table **4**-6. TOC and LOI Results

HSU	Location	Depth Range (ft bgs)	TOC (%)	LOI (%)
UA	K-SB-02	10.0-14.7	0.516	8.96
UA	K-SB-02	14.7-17.5	<0.025	8.35
UA	K-SB-12	13.0-17.3	0.234	13.3
UA	K-SB-12	17.3-21.0	0.975	14.4
UA	K-SB-28	18.0-21.5	0.587	14.5
USCU	K-SB-07	7.0-10.0	0.17	6.67
UA	K-SB-07	10.0-15.0	0.216	4.93
UA	K-SB-32	31.0-36.0	0.217	13.4
UA	K-SB-03	19.0-20.0	0.333	15.6
USUC	K-SB-08	4.0-7.0	1.42	8.46
UA	K-SB-08	13.0-17.0	<0.025	4.25
CCR	K-SB-XPW03	10.0-20.0	0.993	1.04

Notes:

%= percent

ft bgs = feet below ground surface

TOC = Total organic carbon

LOI = loss on ignition

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

< = less than detection limit

Table 4-7. SEP Results from 2021 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Iron		Manganese		Aluminum	
						Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)
UA	K-SB-02	(10-14.7)	Eurofins	2021	Exchangeable Fraction	49	0.2	1	0.3	45	0.1
UA	K-SB-02	(10-14.7)	Eurofins	2021	Carbonate Fraction	52	0.2	3	1.6	62	0.17
UA	K-SB-02	(10-14.7)	Eurofins	2021	Non-Crystalline Minerals Fraction	250	1.0	25	12.5	340	0.9
UA	K-SB-02	(10-14.7)	Eurofins	2021	Metal Hydroxide Fraction	9500	38.0	78	39.0	3400	9.2
UA	K-SB-02	(10-14.7)	Eurofins	2021	Organic Fraction	<55	NA	3.6	1.8	<29	NA
UA	K-SB-02	(10-14.7)	Eurofins	2021	Acid/Sulfide Fraction	10000	40.0	45	22.5	11000	29.7
UA	K-SB-02	(10-14.7)	Eurofins	2021	Residual Fraction	5200	20.8	44	22.0	22000	59.5
UA	K-SB-02	(10-14.7)	Eurofins	2021	Sum	25000	NA	200	NA	37000	NA
UA	K-SB-02	(10-14.7)	Eurofins	2021	Total/NA	36000	NA	480	NA	46000	NA
UA	K-SB-02	(10-14.7)	SGS	2021	Total	23000	NA	360	NA	47000	NA
USCU	K-SB-08	(4-7)	Eurofins	2021	Exchangeable Fraction	48	0.3	60	12	41	0.1
USCU	K-SB-08	(4-7)	Eurofins	2021	Carbonate Fraction	58	0.3	28	5.5	59	0.2
USCU	K-SB-08	(4-7)	Eurofins	2021	Non-Crystalline Minerals Fraction	2200	12.9	230	45.1	290	0.8
USCU	K-SB-08	(4-7)	Eurofins	2021	Metal Hydroxide Fraction	4600	27.1	110	21.6	2700	7.1
USCU	K-SB-08	(4-7)	Eurofins	2021	Organic Fraction	88.00	0.5	13	2.5	170	0.4
USCU	K-SB-08	(4-7)	Eurofins	2021	Acid/Sulfide Fraction	4800	28.2	23	4.5	5100	13.4
USCU	K-SB-08	(4-7)	Eurofins	2021	Residual Fraction	4900	28.8	55	10.8	30000	78.9
USCU	K-SB-08	(4-7)	Eurofins	2021	Sum	17000	NA	510	NA	38000	NA
USCU	K-SB-08	(4-7)	Eurofins	2021	Total/NA	16000	NA	400	NA	48000	NA
USCU	K-SB-08	(4-7)	SGS	2021	Total	25000	NA	630	NA	61000	NA
UA	K-SB-08	(13-17)	Eurofins	2021	Exchangeable Fraction	48	0.3	29.0	12.6	51.0	0.1
UA	K-SB-08	(13-17)	Eurofins	2021	Carbonate Fraction	62	0.4	34.0	14.8	70.0	0.2
UA	K-SB-08	(13-17)	Eurofins	2021	Non-Crystalline Minerals Fraction	220	1.3	41	17.8	160	0.5
UA	K-SB-08	(13-17)	Eurofins	2021	Metal Hydroxide Fraction	5900	34.7	53	23.0	2200	6.3
UA	K-SB-08	(13-17)	Eurofins	2021	Organic Fraction	<54	NA	<2.3	NA	140	0.4
UA	K-SB-08	(13-17)	Eurofins	2021	Acid/Sulfide Fraction	5800	34.1	34	14.8	5900	16.9
UA	K-SB-08	(13-17)	Eurofins	2021	Residual Fraction	4500	26.5	40	17.4	26000	74.3
UA	K-SB-08	(13-17)	Eurofins	2021	Sum	17000	NA	230	NA	35000	NA
UA	K-SB-08	(13-17)	Eurofins	2021	Total/NA	14000	NA	210	NA	40000	NA
UA	K-SB-08	(13-17)	SGS	2021	Total	23000	NA	290	NA	52000	NA

Table 4-7. SEP Results from 2021 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Iron		Manganese		Aluminum	
						Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Exchangeable Fraction	46	0.1	0.4	0.1	41.0	0.1
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Carbonate Fraction	76	0.1	1	0.3	88	0.15
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Non-Crystalline Minerals Fraction	1700	2.1	8	2.1	1900	3.2
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Metal Hydroxide Fraction	3600	4.4	24	6.2	3200	5.4
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Organic Fraction	<50	NA	<2.1	NA	70	0.1
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Acid/Sulfide Fraction	21000	25.9	110	28.2	27000	45.8
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Residual Fraction	55000	67.9	250	64.1	27000	45.8
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Sum	81000	NA	390	NA	59000	NA
CCR	K-SB-XPW03	(10-20)	Eurofins	2021	Total/NA	82000	NA	330	NA	80000	NA
CCR	K-SB-XPW03	(10-20)	SGS	2021	Total	130000	NA	620	NA	110000	NA
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Exchangeable Fraction	56	0.4	2.4	0.7	53.0	0.24
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Carbonate Fraction	53	0.4	81	23.8	61	0.3
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Non-Crystalline Minerals Fraction	270	1.8	60	17.6	120	0.5
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Metal Hydroxide Fraction	4800	32.0	85	25.0	1200	5.5
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Organic Fraction	<51	NA	6	1.9	200	0.9
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Acid/Sulfide Fraction	5800	38.7	54	15.9	5400	24.5
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Residual Fraction	4200	28.0	48	14.1	15000	68.2
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Sum	15000	NA	340	NA	22000	NA
UA	K-SB-02	(14.7-17.5)	Eurofins	2021	Total/NA	12000	NA	280	NA	24000	NA
UA	K-SB-02	(14.7-17.5)	SGS	2021	Total	22000	NA	340	NA	28000	NA
UA	K-SB-12	(13-17.3)	Eurofins	2021	Exchangeable Fraction	54	0.3	1	0.1	40	0.2
UA	K-SB-12	(13-17.3)	Eurofins	2021	Carbonate Fraction	92	0.5	49	10.9	64	0.3
UA	K-SB-12	(13-17.3)	Eurofins	2021	Non-Crystalline Minerals Fraction	210	1.2	190	42.2	62	0.3
UA	K-SB-12	(13-17.3)	Eurofins	2021	Metal Hydroxide Fraction	4700	27.6	100	22.2	610	2.7
UA	K-SB-12	(13-17.3)	Eurofins	2021	Organic Fraction	<51	NA	7.4	1.6	230	1.0
UA	K-SB-12	(13-17.3)	Eurofins	2021	Acid/Sulfide Fraction	7900	46.5	73	16.2	4200	18.3
UA	K-SB-12	(13-17.3)	Eurofins	2021	Residual Fraction	4000	23.5	31	6.9	18000	78.3
UA	K-SB-12	(13-17.3)	Eurofins	2021	Sum	17000	NA	450	NA	23000	NA
UA	K-SB-12	(13-17.3)	Eurofins	2021	Total/NA	13000	NA	360	NA	31000	NA
UA	K-SB-12	(13-17.3)	SGS	2021	Total	20000	NA	500	NA	21000	NA
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Exchangeable Fraction	45	0.3	9.3	2.9	41.0	0.3

Table 4-7. SEP Results from 2021 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Iron		Manganese		Aluminum	
						Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Carbonate Fraction	210	1.6	62	19.4	63	0.39
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Non-Crystalline Minerals Fraction	1000	7.7	31	9.7	45	0.3
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Metal Hydroxide Fraction	2900	22.3	120	37.5	280	1.8
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Organic Fraction	<49	NA	17	5.3	110	0.7
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Acid/Sulfide Fraction	5700	43.8	46	14.4	2300	14.4
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Residual Fraction	3200	24.6	35	10.9	13000	81.3
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Sum	13000	NA	320	NA	16000	NA
UA	K-SB-12	(17.3-21.0)	Eurofins	2021	Total/NA	11000	NA	310	NA	23000	NA
UA	K-SB-12	(17.3-21.0)	SGS	2021	Total	21000	NA	500	NA	42000	NA
UA	K-SB-28	(18-21.5)	Eurofins	2021	Exchangeable Fraction	120	1.2	1.2	0.4	130.0	0.6
UA	K-SB-28	(18-21.5)	Eurofins	2021	Carbonate Fraction	78	0.8	48	15.0	55	0.26
UA	K-SB-28	(18-21.5)	Eurofins	2021	Non-Crystalline Minerals Fraction	150	1.5	86	26.9	26	0.1
UA	K-SB-28	(18-21.5)	Eurofins	2021	Metal Hydroxide Fraction	2200	22.0	100	31.3	180	0.9
UA	K-SB-28	(18-21.5)	Eurofins	2021	Organic Fraction	<48	NA	5	1.5	76	0.4
UA	K-SB-28	(18-21.5)	Eurofins	2021	Acid/Sulfide Fraction	4500	45.0	40	12.5	1600	7.6
UA	K-SB-28	(18-21.5)	Eurofins	2021	Residual Fraction	3200	32.0	42	13.1	19000	90.5
UA	K-SB-28	(18-21.5)	Eurofins	2021	Sum	10000	NA	320	NA	21000	NA
UA	K-SB-28	(18-21.5)	Eurofins	2021	Total/NA	9100	NA	370	NA	14000	NA
UA	K-SB-28	(18-21.5)	SGS	2021	Total	19000	NA	480	NA	37000	NA
USCU	K-SB-07	(7-10)	Eurofins	2021	Exchangeable Fraction	57	0.3	88.0	19.1	51.0	0.1
USCU	K-SB-07	(7-10)	Eurofins	2021	Carbonate Fraction	79	0.4	87	18.9	72	0.18
USCU	K-SB-07	(7-10)	Eurofins	2021	Non-Crystalline Minerals Fraction	470	2.2	74	16.1	330	0.8
USCU	K-SB-07	(7-10)	Eurofins	2021	Metal Hydroxide Fraction	7000	33.3	110	23.9	3600	8.8
USCU	K-SB-07	(7-10)	Eurofins	2021	Organic Fraction	<54	NA	12	2.6	<29	NA
USCU	K-SB-07	(7-10)	Eurofins	2021	Acid/Sulfide Fraction	8700	41.4	42	9.1	11000	26.8
USCU	K-SB-07	(7-10)	Eurofins	2021	Residual Fraction	5000	23.8	46	10.0	26000	63.4
USCU	K-SB-07	(7-10)	Eurofins	2021	Sum	21000	NA	460	NA	41000	NA
USCU	K-SB-07	(7-10)	Eurofins	2021	Total/NA	22000	NA	400	NA	57000	NA
USCU	K-SB-07	(7-10)	SGS	2021	Total	27000	NA	490	NA	67000	NA

Table 4-7. SEP Results from 2021 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Iron		Manganese		Aluminum	
						Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)
UA	K-SB-07	(10-15)	Eurofins	2021	Exchangeable Fraction	48	0.2	0.5	0.2	40.0	0.2
UA	K-SB-07	(10-15)	Eurofins	2021	Carbonate Fraction	52	0.2	5	1.8	66	0.25
UA	K-SB-07	(10-15)	Eurofins	2021	Non-Crystalline Minerals Fraction	210	1.0	99	36.7	190	0.7
UA	K-SB-07	(10-15)	Eurofins	2021	Metal Hydroxide Fraction	9200	41.8	84	31.1	2800	10.8
UA	K-SB-07	(10-15)	Eurofins	2021	Organic Fraction	<53	NA	<2.2	NA	71	0.3
UA	K-SB-07	(10-15)	Eurofins	2021	Acid/Sulfide Fraction	6900	31.4	40	14.8	5900	22.7
UA	K-SB-07	(10-15)	Eurofins	2021	Residual Fraction	5100	23.2	38	14.1	17000	65.4
UA	K-SB-07	(10-15)	Eurofins	2021	Sum	22000	NA	270	NA	26000	NA
UA	K-SB-07	(10-15)	Eurofins	2021	Total/NA	19000	NA	230	NA	44000	NA
UA	K-SB-07	(10-15)	SGS	2021	Total	28000	NA	340	NA	54000	NA
UA	K-SB-32	(31-36)	Eurofins	2021	Exchangeable Fraction	52	0.4	1.4	0.3	43.0	0.2
UA	K-SB-32	(31-36)	Eurofins	2021	Carbonate Fraction	57	0.4	40	8.5	58	0.23
UA	K-SB-32	(31-36)	Eurofins	2021	Non-Crystalline Minerals Fraction	140	1.0	190	40.4	49	0.2
UA	K-SB-32	(31-36)	Eurofins	2021	Metal Hydroxide Fraction	3200	22.9	130	27.7	390	1.6
UA	K-SB-32	(31-36)	Eurofins	2021	Organic Fraction	<49	NA	6	1.2	150	0.6
UA	K-SB-32	(31-36)	Eurofins	2021	Acid/Sulfide Fraction	6000	42.9	65	13.8	3800	15.2
UA	K-SB-32	(31-36)	Eurofins	2021	Residual Fraction	4900	35.0	43	9.1	21000	84.0
UA	K-SB-32	(31-36)	Eurofins	2021	Sum	14000	NA	470	NA	25000	NA
UA	K-SB-32	(31-36)	Eurofins	2021	Total/NA	12000	NA	380	NA	33000	NA
UA	K-SB-32	(31-36)	SGS	2021	Total	17000	NA	420	NA	36000	NA
UA	K-SB-03	(19-20)	Eurofins	2021	Exchangeable Fraction	46	0.4	8.4	2.0	44.0	0.2
UA	K-SB-03	(19-20)	Eurofins	2021	Carbonate Fraction	190	1.6	100	24.4	63	0.25
UA	K-SB-03	(19-20)	Eurofins	2021	Non-Crystalline Minerals Fraction	1400	11.7	52	12.7	56	0.2
UA	K-SB-03	(19-20)	Eurofins	2021	Metal Hydroxide Fraction	2400	20.0	160	39.0	230	0.9
UA	K-SB-03	(19-20)	Eurofins	2021	Organic Fraction	<50	NA	8	1.8	160	0.6
UA	K-SB-03	(19-20)	Eurofins	2021	Acid/Sulfide Fraction	4300	35.8	51	12.4	2200	8.8
UA	K-SB-03	(19-20)	Eurofins	2021	Residual Fraction	3700	30.8	32	7.8	22000	88.0
UA	K-SB-03	(19-20)	Eurofins	2021	Sum	12000	NA	410	NA	25000	NA
UA	K-SB-03	(19-20)	Eurofins	2021	Total/NA	12000	NA	470	NA	15000	NA
UA	K-SB-03	(19-20)	SGS	2021	Total	15000	NA	500	NA	32000	NA

Notes:

Values below detection limits not included in percent of sum calculation or figures

NA = not applicable

< = below method detection limit

SEP = sequential extraction procedure

ft bgs = feet below ground surface

mg/kg = milligrams per kilogram

% = percent

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Total and Total/NA = total metals 2021 data analyzed by Eurofins and SGS. Full total metal analysis presented in Attachment 2

Percentages may not sum to 100 for each fraction due to results below the reporting limit and rounding

Table 4-8. SEP Results from 2023 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Iron		Manganese	
						Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)
UA	K-SB-02	(10-15)	SGS	2023	Water Soluble	52	0.2	0.4	0.2
UA	K-SB-02	(10-15)	SGS	2023	Exchangeable Metals	15	0.0	15	5.7
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Carbonates	830	2.5	85	31
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Fe and Mn Oxides	2400	7.3	33	12
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Organics	520	1.6	11	3.9
UA	K-SB-02	(10-15)	SGS	2023	Residual	29000	88	120	44
UA	K-SB-02	(10-15)	SGS	2023	Sum	33000	NA	270	NA
UA	K-SB-02	(15-20)	SGS	2023	Water Soluble	10	0.0	0.1	0.0
UA	K-SB-02	(15-20)	SGS	2023	Exchangeable Metals	6.4	0.0	10	2.9
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Carbonates	1300	6.2	220	61
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Fe and Mn Oxides	2100	10	46	13
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Organics	320	1.5	6.7	1.9
UA	K-SB-02	(15-20)	SGS	2023	Residual	17000	81	80	22
UA	K-SB-02	(15-20)	SGS	2023	Sum	21000	NA	360	NA
USCU	K-SB-07S	(7-11)	SGS	2023	Water Soluble	64	0.2	0.9	0.2
USCU	K-SB-07S	(7-11)	SGS	2023	Exchangeable Metals	10	0.0	31	6.0
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Carbonates	410	1.4	270	52
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Fe and Mn Oxides	2600	9.0	84	16
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Organics	740	2.6	30	5.8
USCU	K-SB-07S	(7-11)	SGS	2023	Residual	25000	86	100	19
USCU	K-SB-07S	(7-11)	SGS	2023	Sum	29000	NA	520	NA
UA	K-SB-28	(19-25)	SGS	2023	Water Soluble	0.6	0.0	0.1	0.0
UA	K-SB-28	(19-25)	SGS	2023	Exchangeable Metals	22	0.1	10	2.5
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Carbonates	1800	9.0	170	41
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Fe and Mn Oxides	3900	20	130	32
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Organics	1800	9.0	10	2.4
UA	K-SB-28	(19-25)	SGS	2023	Residual	13000	65	94	23
UA	K-SB-28	(19-25)	SGS	2023	Sum	20000	NA	410	NA

Notes:

Values below detection limits not included in percent of sum calculation or figures

NA = not applicable

< = below method detection limit

Table 4-8. SEP Results from 2023 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Aluminum		Boron	
						Concentration (mg/kg)	Percent of Sum (%)	Concentration (mg/kg)	Percent of Sum (%)
UA	K-SB-02	(10-15)	SGS	2023	Water Soluble	56	0.2	0.5	3.4
UA	K-SB-02	(10-15)	SGS	2023	Exchangeable Metals	26	0.1	0.4	2.3
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Carbonates	630	2.0	0.9	5.8
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Fe and Mn Oxides	800	2.5	1.5	9.8
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Organics	1600	5.0	0.4	2.5
UA	K-SB-02	(10-15)	SGS	2023	Residual	29000	91	12	76
UA	K-SB-02	(10-15)	SGS	2023	Sum	32000	NA	15	NA
UA	K-SB-02	(15-20)	SGS	2023	Water Soluble	14	0.1	0.6	6.3
UA	K-SB-02	(15-20)	SGS	2023	Exchangeable Metals	6.5	0.0	0.5	5.1
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Carbonates	530	2.3	1.4	15
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Fe and Mn Oxides	700	3.0	1.6	18
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Organics	960	4.2	0.4	4.3
UA	K-SB-02	(15-20)	SGS	2023	Residual	21000	91	4.8	52
UA	K-SB-02	(15-20)	SGS	2023	Sum	23000	NA	9.2	NA
USCU	K-SB-07S	(7-11)	SGS	2023	Water Soluble	76	0.2	3.4	19
USCU	K-SB-07S	(7-11)	SGS	2023	Exchangeable Metals	13	0.0	2.8	16
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Carbonates	530	1.2	1.7	9.8
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Fe and Mn Oxides	880	2.0	4.6	26
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Organics	1900	4.4	0.7	4.0
USCU	K-SB-07S	(7-11)	SGS	2023	Residual	40000	93	4.4	25
USCU	K-SB-07S	(7-11)	SGS	2023	Sum	43000	NA	18	NA
UA	K-SB-28	(19-25)	SGS	2023	Water Soluble	3.3	0.0	0.8	8.9
UA	K-SB-28	(19-25)	SGS	2023	Exchangeable Metals	14	0.1	0.5	6.3
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Carbonates	530	1.9	2.0	23
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Fe and Mn Oxides	630	2.3	3.3	38
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Organics	680	2.4	0.7	8.1
UA	K-SB-28	(19-25)	SGS	2023	Residual	26000	93	1.3	16
UA	K-SB-28	(19-25)	SGS	2023	Sum	28000	NA	8.6	NA

Notes:

Values below detection limits not included in percent of sum calculation or figures

NA = not applicable

< = below method detection limit

Table 4-8. SEP Results from 2023 Analysis

HSU	Location	Depth Range (ft bgs)	Analyst	Analysis Year	SEP Fraction	Sulfur	
						Concentration (mg/kg)	Percent of Sum (%)
UA	K-SB-02	(10-15)	SGS	2023	Water Soluble	150	16
UA	K-SB-02	(10-15)	SGS	2023	Exchangeable Metals	520	57
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Carbonates	<32	NA
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Fe and Mn Oxides	220	24
UA	K-SB-02	(10-15)	SGS	2023	Metals Bound to Organics	<34	NA
UA	K-SB-02	(10-15)	SGS	2023	Residual	24	2.7
UA	K-SB-02	(10-15)	SGS	2023	Sum	910	NA
UA	K-SB-02	(15-20)	SGS	2023	Water Soluble	170	13
UA	K-SB-02	(15-20)	SGS	2023	Exchangeable Metals	580	45
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Carbonates	350	27
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Fe and Mn Oxides	220	17
UA	K-SB-02	(15-20)	SGS	2023	Metals Bound to Organics	<36	NA
UA	K-SB-02	(15-20)	SGS	2023	Residual	26	2.0
UA	K-SB-02	(15-20)	SGS	2023	Sum	1300	NA
USCU	K-SB-07S	(7-11)	SGS	2023	Water Soluble	260	4.9
USCU	K-SB-07S	(7-11)	SGS	2023	Exchangeable Metals	4500	85
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Carbonates	320.0	6.0
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Fe and Mn Oxides	220	4.2
USCU	K-SB-07S	(7-11)	SGS	2023	Metals Bound to Organics	<35	NA
USCU	K-SB-07S	(7-11)	SGS	2023	Residual	23	0.4
USCU	K-SB-07S	(7-11)	SGS	2023	Sum	5300	NA
UA	K-SB-28	(19-25)	SGS	2023	Water Soluble	510	14
UA	K-SB-28	(19-25)	SGS	2023	Exchangeable Metals	550	15
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Carbonates	400.0	11
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Fe and Mn Oxides	290	8
UA	K-SB-28	(19-25)	SGS	2023	Metals Bound to Organics	1800	50
UA	K-SB-28	(19-25)	SGS	2023	Residual	67	1.9
UA	K-SB-28	(19-25)	SGS	2023	Sum	3600	NA

Notes:

Values below detection limits not included in percent of sum calculation or figures

NA = not applicable

< = below method detection limit

Table 4-8. SEP Results from 2023 Analysis

SEP = sequential extraction procedure
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
% = percent
HSU = hydrostratigraphic unit
CCR = coal combustion residual
UA = uppermost aquifer
USCU = upper semi-confining unit
Percentages may not sum to 100 for each fraction due to results below the reporting limit and rounding

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
AP1	8/26/2020	CCR	8.57	2.7	608	164	87
AP1	3/30/2021	CCR	8.2	2.2	426	155	95
AP1	9/1/2021	CCR	8.16	6	544	127	-48
AP1	2/23/2022	CCR	8.17	19	446	163	70
MW-1	6/1/2013	UA	6.3	--	--	--	--
MW-1	6/3/2013	UA	--	--	394	--	--
MW-1	12/1/2013	UA	6.6	--	--	--	--
MW-1	12/11/2013	UA	--	--	326	--	--
MW-1	6/11/2014	UA	6.5	--	378	--	--
MW-1	12/2/2014	UA	6.7	--	344	--	--
MW-1	6/3/2015	UA	--	--	--	--	--
MW-1	6/16/2015	UA	6.8	--	358	--	--
MW-1	12/15/2015	UA	6.6	<1.0	314	--	94
MW-1	2/29/2016	UA	6.6	<1.0	292	--	122
MW-1	5/16/2016	UA	6.9	<1.0	336	--	103
MW-1	8/22/2016	UA	6.8	1	358	--	136
MW-1	11/15/2016	UA	7	<1.0	390	--	51
MW-1	2/13/2017	UA	6.8	<1.0	326	--	115
MW-1	5/18/2017	UA	6.7	<1.0	370	--	69
MW-1	7/18/2017	UA	6.7	<1.0	334	178	137
MW-1	11/6/2017	UA	6.8	4.5	340	--	263
MW-1	5/31/2018	UA	6.5	<1.0	356	--	163
MW-1	8/28/2018	UA	6.2	2.5	374	--	86
MW-1	11/8/2018	UA	6.4	--	400	--	--
MW-1	2/14/2019	UA	6.7	<1.0	312	--	100
MW-1	5/14/2019	UA	6.4	--	364	--	--
MW-1	8/21/2019	UA	6.3	2.8	334	--	233
MW-1	11/13/2019	UA	6.47	--	326	--	--
MW-1	2/11/2020	UA	6.57	1.8	366	190	128
MW-1	5/12/2020	UA	6.62	--	350	--	--
MW-1	8/26/2020	UA	6.58	1.7	300	188	109
MW-1	12/2/2020	UA	6.56	--	302	--	--
MW-1	2/24/2021	UA	6.5	0	332	182	218.6
MW-1	3/15/2021	UA	6.5	0	330	165	181.6

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
AP1	8/26/2020	CCR	0.228	1.85	72.8	23	0.84
AP1	3/30/2021	CCR	0.136	0.81	65.7	27	0.45
AP1	9/1/2021	CCR	0.246	1.38	70.3	33	0.67
AP1	2/23/2022	CCR	0.170	0.696	68.6	29	0.42
MW-1	6/1/2013	UA	--	--	--	--	--
MW-1	6/3/2013	UA	0.048	0.154	--	12	0.16
MW-1	12/1/2013	UA	--	--	--	--	--
MW-1	12/11/2013	UA	0.052	0.232	--	13	0.2
MW-1	6/11/2014	UA	0.048	0.185	--	13	0.17
MW-1	12/2/2014	UA	0.049	0.235	--	13	0.19
MW-1	6/3/2015	UA	--	--	--	--	0.17
MW-1	6/16/2015	UA	0.048	0.192	--	10	0.16
MW-1	12/15/2015	UA	0.046	0.255	58.8	12	0.19
MW-1	2/29/2016	UA	0.045	0.203	63.9	11	0.16
MW-1	5/16/2016	UA	0.045	0.229	59.3	10	0.16
MW-1	8/22/2016	UA	0.047	0.269	61.1	11	0.18
MW-1	11/15/2016	UA	0.047	0.271	57.6	11	0.18
MW-1	2/13/2017	UA	0.044	0.228	57.5	10	0.16
MW-1	5/18/2017	UA	0.047	0.256	57	12	0.16
MW-1	7/18/2017	UA	0.044	0.273	55.6	11	0.18
MW-1	11/6/2017	UA	0.049	0.281	60.3	11	0.18
MW-1	5/31/2018	UA	0.044	0.234	59.1	12	0.19
MW-1	8/28/2018	UA	0.044	0.258	59.8	11	0.18
MW-1	11/8/2018	UA	0.062	0.352	--	12	0.19
MW-1	2/14/2019	UA	0.050	0.243	66	10	0.17
MW-1	5/14/2019	UA	0.045	0.21	--	11	0.19
MW-1	8/21/2019	UA	0.049	0.29	60.2	10	0.18
MW-1	11/13/2019	UA	0.046	0.278	--	9	0.19
MW-1	2/11/2020	UA	0.047	0.222	59.6	8	0.18
MW-1	5/12/2020	UA	0.046	0.223	--	8	0.18
MW-1	8/26/2020	UA	0.046	0.252	57.5	7	0.23
MW-1	12/2/2020	UA	0.046	0.28	--	7	0.2
MW-1	2/24/2021	UA	0.048	0.214	57	7	0.19
MW-1	3/15/2021	UA	0.043	0.195	55.3	6	0.18

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
AP1	8/26/2020	CCR	--	0.0191	35.8	--	--
AP1	3/30/2021	CCR	--	0.0098	26	--	--
AP1	9/1/2021	CCR	--	0.0189	29.4	--	--
AP1	2/23/2022	CCR	--	0.0087	26.2	--	--
MW-1	6/1/2013	UA	--	--	--	--	--
MW-1	6/3/2013	UA	<0.02	--	--	0.154	--
MW-1	12/1/2013	UA	--	--	--	--	--
MW-1	12/11/2013	UA	0.0306	--	--	0.1	--
MW-1	6/11/2014	UA	0.0551	--	--	0.121	--
MW-1	12/2/2014	UA	<0.02	--	--	0.184	--
MW-1	6/3/2015	UA	--	--	--	--	--
MW-1	6/16/2015	UA	0.0216	--	--	0.217	--
MW-1	12/15/2015	UA	<0.025	0.0019	--	0.172	--
MW-1	2/29/2016	UA	--	0.0017	--	--	--
MW-1	5/16/2016	UA	<0.025	0.0016	--	0.212	--
MW-1	8/22/2016	UA	--	0.0016	--	--	--
MW-1	11/15/2016	UA	<0.025	0.0021	--	0.206	--
MW-1	2/13/2017	UA	--	0.0015	--	--	--
MW-1	5/18/2017	UA	<0.025	0.0017	--	0.26	--
MW-1	7/18/2017	UA	--	0.002	27.8	--	--
MW-1	11/6/2017	UA	<0.025	--	--	0.203	--
MW-1	5/31/2018	UA	<0.025	0.0017	--	0.306	--
MW-1	8/28/2018	UA	--	0.0026	--	--	--
MW-1	11/8/2018	UA	0.0259	--	--	0.248	--
MW-1	2/14/2019	UA	--	0.0019	--	--	--
MW-1	5/14/2019	UA	<0.025	--	--	0.366	--
MW-1	8/21/2019	UA	--	<0.003	--	--	--
MW-1	11/13/2019	UA	<0.025	--	--	0.34	--
MW-1	2/11/2020	UA	--	<0.003	28.6	--	--
MW-1	5/12/2020	UA	<0.025	--	--	0.426	--
MW-1	8/26/2020	UA	--	<0.003	28.3	--	--
MW-1	12/2/2020	UA	<0.025	--	--	0.456	--
MW-1	2/24/2021	UA	0.1	<0.005	27.4	0.672	--
MW-1	3/15/2021	UA	<0.025	<0.003	27.8	0.444	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
AP1	8/26/2020	CCR	0.0143	9.41	95.4	332
AP1	3/30/2021	CCR	0.0099	5.84	50.5	195
AP1	9/1/2021	CCR	0.0144	8.2	73.2	275
AP1	2/23/2022	CCR	0.0095	5.35	45.1	172
MW-1	6/1/2013	UA	--	--	--	--
MW-1	6/3/2013	UA	--	--	--	108
MW-1	12/1/2013	UA	--	--	--	--
MW-1	12/11/2013	UA	--	--	--	113
MW-1	6/11/2014	UA	--	--	--	122
MW-1	12/2/2014	UA	--	--	--	107
MW-1	6/3/2015	UA	--	--	--	--
MW-1	6/16/2015	UA	--	--	--	106
MW-1	12/15/2015	UA	<0.001	--	--	113
MW-1	2/29/2016	UA	<0.001	--	--	117
MW-1	5/16/2016	UA	<0.001	--	--	108
MW-1	8/22/2016	UA	<0.001	--	--	117
MW-1	11/15/2016	UA	<0.001	--	--	109
MW-1	2/13/2017	UA	<0.001	--	--	105
MW-1	5/18/2017	UA	<0.001	--	--	109
MW-1	7/18/2017	UA	<0.001	0.236	15.6	101
MW-1	11/6/2017	UA	--	--	--	104
MW-1	5/31/2018	UA	<0.0015	--	--	91
MW-1	8/28/2018	UA	0.0016	--	--	94
MW-1	11/8/2018	UA	--	--	--	95
MW-1	2/14/2019	UA	<0.0015	--	--	92
MW-1	5/14/2019	UA	--	--	--	97
MW-1	8/21/2019	UA	<0.0015	--	--	80
MW-1	11/13/2019	UA	--	--	--	101
MW-1	2/11/2020	UA	<0.0015	0.272	16.3	92
MW-1	5/12/2020	UA	--	--	--	102
MW-1	8/26/2020	UA	<0.0015	0.28	17.4	93
MW-1	12/2/2020	UA	--	--	--	97
MW-1	2/24/2021	UA	<0.0015	0.245	16.8	93
MW-1	3/15/2021	UA	<0.0015	0.222	16.5	89

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-1	3/30/2021	UA	6.5	<1.0	298	191	126
MW-1	4/5/2021	UA	6	0	304	196	204.3
MW-1	5/19/2021	UA	6.08	<1.0	310	169	214
MW-1	6/10/2021	UA	6.19	<1.0	306	178	68
MW-1	7/1/2021	UA	6.25	<1.0	306	180	81
MW-1	7/22/2021	UA	6.31	<1.0	302	180	94
MW-1	8/10/2021	UA	6.35	<1.0	308	177	106
MW-1	9/1/2021	UA	6.46	4.4	302	182	117
MW-1	11/17/2021	UA	6.14	--	300	--	--
MW-1	2/22/2022	UA	6.42	<1.0	334	172	39
MW-1	9/1/2022	UA	6.31	<1.0	328	--	182
MW-1	1/30/2023	UA	6.49	4.2	300	198	120
MW-1	6/12/2023	UA	6.14	<1.0	306	180	113
MW-1	9/5/2023	UA	6.44	1.4	352	186	42
MW-1	11/27/2023	UA	6.36	2.2	324	160	85
MW-11	11/28/2023	UA	6.88	8.1	642	414	17
MW-12	12/15/2015	UA	6.9	3.7	1070	--	40
MW-12	2/29/2016	UA	6.8	27	1140	--	18
MW-12	5/16/2016	UA	7	17.6	1140	--	-19
MW-12	8/22/2016	UA	7.2	13.1	1160	--	-77
MW-12	11/15/2016	UA	7.2	3.5	1140	--	-97
MW-12	2/13/2017	UA	6.7	18.5	1180	--	5
MW-12	5/18/2017	UA	6.7	9.3	1170	--	19
MW-12	7/18/2017	UA	6.9	15.2	1170	532	-81
MW-12	11/6/2017	UA	7.1	6.9	1110	--	160
MW-12	5/31/2018	UA	6.6	9.7	1230	--	40
MW-12	8/28/2018	UA	6.7	9.9	1160	--	-53
MW-12	11/8/2018	UA	7	--	1210	--	--
MW-12	2/14/2019	UA	6.9	42.3	1130	--	-34
MW-12	5/14/2019	UA	6.48	--	1100	--	--
MW-12	8/20/2019	UA	6.4	1.4	1160	--	42
MW-12	11/13/2019	UA	6.69	--	1100	--	--
MW-12	2/11/2020	UA	6.65	24	1070	498	-10
MW-12	5/12/2020	UA	6.79	--	1040	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-1	3/30/2021	UA	0.045	0.204	57.8	6	0.18
MW-1	4/5/2021	UA	0.041	0.204	56.4	7	0.19
MW-1	5/19/2021	UA	0.041	0.218	57.8	7	0.18
MW-1	6/10/2021	UA	0.044	0.217	54.8	8	0.21
MW-1	7/1/2021	UA	0.047	0.226	58.3	8	0.2
MW-1	7/22/2021	UA	0.050	0.296	57.3	12	0.2
MW-1	8/10/2021	UA	0.041	0.266	54.8	9	0.19
MW-1	9/1/2021	UA	0.047	0.301	55.2	9	0.19
MW-1	11/17/2021	UA	0.045	0.28	--	9	0.22
MW-1	2/22/2022	UA	0.044	0.222	58.8	10	0.16
MW-1	9/1/2022	UA	0.052	0.295	56.3	12	0.2
MW-1	1/30/2023	UA	0.043	0.2	58	13	0.19
MW-1	6/12/2023	UA	0.043	0.208	51.4	15	0.2
MW-1	9/5/2023	UA	0.042	0.27	54.3	13	0.26
MW-1	11/27/2023	UA	0.045	0.293	58.2	14	0.2
MW-11	11/28/2023	UA	0.137	1.76	115	32	0.52
MW-12	12/15/2015	UA	0.137	2.1	197	49	0.22
MW-12	2/29/2016	UA	0.113	2.64	220	39	0.18
MW-12	5/16/2016	UA	0.119	2.48	205	44	0.18
MW-12	8/22/2016	UA	0.115	2.53	198	44	0.19
MW-12	11/15/2016	UA	0.112	2.43	200	42	0.21
MW-12	2/13/2017	UA	0.094	3.03	199	41	0.17
MW-12	5/18/2017	UA	0.106	2.51	199	33	0.18
MW-12	7/18/2017	UA	0.095	3.55	235	39	0.18
MW-12	11/6/2017	UA	0.101	2.99	212	38	0.18
MW-12	5/31/2018	UA	0.070	3.87	214	35	0.16
MW-12	8/28/2018	UA	0.082	3	209	33	0.18
MW-12	11/8/2018	UA	0.089	3.3	--	35	0.18
MW-12	2/14/2019	UA	0.089	3.06	224	32	0.19
MW-12	5/14/2019	UA	0.077	1.95	--	20	0.18
MW-12	8/20/2019	UA	0.066	4.42	219	29	0.18
MW-12	11/13/2019	UA	0.092	3	--	27	0.18
MW-12	2/11/2020	UA	0.056	2.26	197	22	0.17
MW-12	5/12/2020	UA	0.076	2.05	--	22	0.21

Table **5-**1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-1	3/30/2021	UA	--	<0.003	26.3	--	--
MW-1	4/5/2021	UA	<0.025	<0.003	28.2	0.388	--
MW-1	5/19/2021	UA	<0.025	<0.003	24.3	0.408	--
MW-1	6/10/2021	UA	<0.025	<0.003	26	0.466	--
MW-1	7/1/2021	UA	<0.025	<0.003	26.9	0.492	--
MW-1	7/22/2021	UA	<0.025	<0.003	26.2	0.481	--
MW-1	8/10/2021	UA	<0.025	<0.003	28.4	0.343	--
MW-1	9/1/2021	UA	--	<0.003	27.2	--	--
MW-1	11/17/2021	UA	<0.025	--	--	0.38	--
MW-1	2/22/2022	UA	<0.025	<0.003	27.8	0.459	--
MW-1	9/1/2022	UA	0.183	<0.0022	--	0.52	--
MW-1	1/30/2023	UA	0.0649	<0.0014	27.2	0.779	--
MW-1	6/12/2023	UA	<0.02	<0.0015	26.1	0.478	0.425
MW-1	9/5/2023	UA	0.0336	<0.0017	25.1	0.397	0.463
MW-1	11/27/2023	UA	--	<0.0016	27	--	
MW-11	11/28/2023	UA	--	<0.0025	47.3	--	
MW-12	12/15/2015	UA	--	0.0093	--	--	--
MW-12	2/29/2016	UA	--	0.0082	--	--	--
MW-12	5/16/2016	UA	--	0.0088	--	--	--
MW-12	8/22/2016	UA	--	0.0102	--	--	--
MW-12	11/15/2016	UA	--	0.0106	--	--	--
MW-12	2/13/2017	UA	--	0.0088	--	--	--
MW-12	5/18/2017	UA	4.85	0.009	--	0.594	--
MW-12	7/18/2017	UA	--	0.0097	92.8	--	--
MW-12	11/6/2017	UA	6.15	--	--	0.523	--
MW-12	5/31/2018	UA	2.58	0.0085	--	0.863	--
MW-12	8/28/2018	UA	--	0.0097	--	--	--
MW-12	11/8/2018	UA	2.8	--	--	0.656	--
MW-12	2/14/2019	UA	--	0.0095	--	--	--
MW-12	5/14/2019	UA	2.59	--	--	1.19	--
MW-12	8/20/2019	UA	--	0.0087	--	--	--
MW-12	11/13/2019	UA	3.4	--	--	0.74	--
MW-12	2/11/2020	UA	--	0.0068	81	--	--
MW-12	5/12/2020	UA	4.89	--	--	0.678	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-1	3/30/2021	UA	<0.0015	0.234	15.2	84
MW-1	4/5/2021	UA	<0.0015	0.296	15.8	84
MW-1	5/19/2021	UA	<0.0015	0.215	16.1	84
MW-1	6/10/2021	UA	<0.0015	0.246	15.3	90
MW-1	7/1/2021	UA	<0.0015	0.255	15.6	87
MW-1	7/22/2021	UA	<0.0015	0.263	15.3	85
MW-1	8/10/2021	UA	<0.0015	0.259	18.8	86
MW-1	9/1/2021	UA	<0.0015	0.261	15.8	85
MW-1	11/17/2021	UA	--	--	--	95
MW-1	2/22/2022	UA	<0.0015	0.277	15.5	83
MW-1	9/1/2022	UA	<0.0006	--	--	91
MW-1	1/30/2023	UA	<0.0006	0.294	16	89
MW-1	6/12/2023	UA	<0.0037	0.243	16.2	83
MW-1	9/5/2023	UA	<0.0006	0.315	15.4	80
MW-1	11/27/2023	UA	<0.0006	0.276	16.6	92
MW-11	11/28/2023	UA	0.0031	0.873	40	128
MW-12	12/15/2015	UA	0.0013	--	--	326
MW-12	2/29/2016	UA	<0.001	--	--	390
MW-12	5/16/2016	UA	<0.001	--	--	379
MW-12	8/22/2016	UA	<0.001	--	--	398
MW-12	11/15/2016	UA	0.0011	--	--	330
MW-12	2/13/2017	UA	<0.001	--	--	390
MW-12	5/18/2017	UA	<0.001	--	--	406
MW-12	7/18/2017	UA	<0.001	2.36	53.2	383
MW-12	11/6/2017	UA	--	--	--	388
MW-12	5/31/2018	UA	<0.0015	--	--	413
MW-12	8/28/2018	UA	<0.0015	--	--	388
MW-12	11/8/2018	UA	--	--	--	381
MW-12	2/14/2019	UA	<0.0015	--	--	393
MW-12	5/14/2019	UA	--	--	--	399
MW-12	8/20/2019	UA	<0.0015	--	--	371
MW-12	11/13/2019	UA	--	--	--	345
MW-12	2/11/2020	UA	<0.0015	2.99	40.9	370
MW-12	5/12/2020	UA	--	--	--	368

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-12	8/26/2020	UA	6.61	7.8	1100	534	-28
MW-12	12/2/2020	UA	6.72	--	1150	--	--
MW-12	3/30/2021	UA	6.5	5.3	908	486	28
MW-12	6/10/2021	UA	6.63	--	985	--	--
MW-12	9/1/2021	UA	6.67	9.6	1050	517	-64
MW-12	11/18/2021	UA	6.73	--	1040	--	--
MW-12	2/23/2022	UA	6.63	23	1110	518	-40
MW-12	9/1/2022	UA	6.55	5.1	1100	--	76
MW-12	2/1/2023	UA	6.63	9.1	1060	535	-56
MW-12	6/13/2023	UA	6.72	8.4	1080	534	-35
MW-12	9/7/2023	UA	6.46	8	1190	532	-58
MW-12	11/28/2023	UA	6.75	9.3	1090	514	-38
MW-12S	2/25/2021	USCU	6.8	0	598	336	10.6
MW-12S	3/16/2021	USCU	6.8	0	648	372	27.3
MW-12S	4/6/2021	USCU	6.2	0	814	486	-24
MW-12S	5/20/2021	USCU	6.5	4.6	654	340	-21
MW-12S	6/10/2021	USCU	6.48	<1.0	--	450	145
MW-12S	7/2/2021	USCU	6.4	<1.0	730	420	-20
MW-12S	7/23/2021	USCU	6.47	1	884	454	-107
MW-12S	8/11/2021	USCU	6.59	7.9	818	443	-89
MW-2	6/1/2013	UA	7.2	--	--	--	--
MW-2	6/3/2013	UA	--	--	590	--	--
MW-2	12/1/2013	UA	7.3	--	--	--	--
MW-2	12/11/2013	UA	--	--	516	--	--
MW-2	6/11/2014	UA	7.3	--	556	--	--
MW-2	12/2/2014	UA	7.6	--	496	--	--
MW-2	6/3/2015	UA	--	--	--	--	--
MW-2	6/16/2015	UA	7.5	--	500	--	--
MW-2	12/15/2015	UA	7.1	65.4	566	--	-5
MW-2	2/29/2016	UA	7.2	10.8	416	--	78
MW-2	5/16/2016	UA	7.4	30.5	534	--	4
MW-2	8/22/2016	UA	7.4	4.5	566	--	34
MW-2	11/15/2016	UA	7.5	9.8	576	--	-49
MW-2	2/13/2017	UA	7.2	1.9	520	--	143

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-12	8/26/2020	UA	0.073	3.76	211	31	0.22
MW-12	12/2/2020	UA	0.071	3.76	--	32	0.16
MW-12	3/30/2021	UA	0.085	1.97	181	17	0.18
MW-12	6/10/2021	UA	0.088	2.48	--	34	0.26
MW-12	9/1/2021	UA	0.080	2.78	197	40	0.22
MW-12	11/18/2021	UA	0.089	3.21	--	36	0.25
MW-12	2/23/2022	UA	0.078	3.39	216	27	0.18
MW-12	9/1/2022	UA	0.086	4.06	206	31	0.19
MW-12	2/1/2023	UA	0.071	2.71	212	30	0.2
MW-12	6/13/2023	UA	0.094	3.39	210	31	0.2
MW-12	9/7/2023	UA	0.087	3.94	204	29	0.2
MW-12	11/28/2023	UA	0.089	2.78	191	31	0.26
MW-12S	2/25/2021	USCU	0.083	0.856	124	25	0.15
MW-12S	3/16/2021	USCU	0.094	1.18	145	15	0.19
MW-12S	4/6/2021	USCU	0.073	1.73	169	7	0.21
MW-12S	5/20/2021	USCU	0.114	1.43	154	2	0.19
MW-12S	6/10/2021	USCU	0.057	2.07	169	5	0.26
MW-12S	7/2/2021	USCU	0.174	1.33	181	5	0.21
MW-12S	7/23/2021	USCU	0.106	2.63	175	6	0.27
MW-12S	8/11/2021	USCU	0.107	1.58	159	6	0.24
MW-2	6/1/2013	UA	--	--	--	--	--
MW-2	6/3/2013	UA	0.138	0.0631	--	17	0.51
MW-2	12/1/2013	UA	--	--	--	--	--
MW-2	12/11/2013	UA	0.135	0.0651	--	15	0.51
MW-2	6/11/2014	UA	0.120	0.0574	--	17	0.49
MW-2	12/2/2014	UA	0.118	0.0573	--	18	0.51
MW-2	6/3/2015	UA	--	--	--	--	0.49
MW-2	6/16/2015	UA	0.122	0.0608	--	17	0.46
MW-2	12/15/2015	UA	0.127	0.11	105	16	0.47
MW-2	2/29/2016	UA	0.111	0.0873	104	17	0.43
MW-2	5/16/2016	UA	0.113	0.0892	101	15	0.45
MW-2	8/22/2016	UA	0.114	0.0808	97.3	14	0.47
MW-2	11/15/2016	UA	0.113	0.102	101	13	0.47
MW-2	2/13/2017	UA	0.112	0.101	97.5	14	0.44

Table **5-**1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-12	8/26/2020	UA	--	0.0079	90.5	--	--
MW-12	12/2/2020	UA	1.87	--	--	0.848	--
MW-12	3/30/2021	UA	--	0.0069	74.1	--	--
MW-12	6/10/2021	UA	5.89	--	--	0.383	--
MW-12	9/1/2021	UA	--	0.0096	86.2	--	--
MW-12	11/18/2021	UA	3.52	--	--	0.476	--
MW-12	2/23/2022	UA	2.89	0.0095	91.9	0.861	--
MW-12	9/1/2022	UA	3.93	0.0085	--	0.666	--
MW-12	2/1/2023	UA	3.19	0.0078	87.5	0.516	--
MW-12	6/13/2023	UA	6.95	0.0102	88.2	0.489	0.384
MW-12	9/7/2023	UA	3.92	0.0089	87.6	0.478	0.504
MW-12	11/28/2023	UA	--	0.01	78.6	--	
MW-12S	2/25/2021	USCU	3.38	<0.005	31.3	1.96	--
MW-12S	3/16/2021	USCU	4.46	<0.003	37.9	2.63	--
MW-12S	4/6/2021	USCU	14.3	<0.003	55.2	4.74	--
MW-12S	5/20/2021	USCU	2.89	<0.003	31.8	1.85	--
MW-12S	6/10/2021	USCU	14.7	<0.003	53.1	4.36	--
MW-12S	7/2/2021	USCU	2.35	<0.003	29.8	0.908	--
MW-12S	7/23/2021	USCU	18	<0.003	50.6	4.57	--
MW-12S	8/11/2021	USCU	6.28	<0.003	44.2	2.16	--
MW-2	6/1/2013	UA	--	--	--	--	--
MW-2	6/3/2013	UA	2.85	--	--	0.329	--
MW-2	12/1/2013	UA	--	--	--	--	--
MW-2	12/11/2013	UA	1.55	--	--	0.299	--
MW-2	6/11/2014	UA	1.12	--	--	0.218	--
MW-2	12/2/2014	UA	1.84	--	--	0.319	--
MW-2	6/3/2015	UA	--	--	--	--	--
MW-2	6/16/2015	UA	1.67	--	--	0.207	--
MW-2	12/15/2015	UA	3.38	0.0068	--	0.332	--
MW-2	2/29/2016	UA	--	0.0063	--	--	--
MW-2	5/16/2016	UA	1.14	0.0056	--	0.203	--
MW-2	8/22/2016	UA	--	0.0055	--	--	--
MW-2	11/15/2016	UA	0.852	0.0057	--	0.298	--
MW-2	2/13/2017	UA	--	0.0058	--	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-12	8/26/2020	UA	<0.0015	3.11	58.9	424
MW-12	12/2/2020	UA	--	--	--	411
MW-12	3/30/2021	UA	<0.0015	2.34	37.5	295
MW-12	6/10/2021	UA	--	--	--	329
MW-12	9/1/2021	UA	<0.0015	2.14	51	332
MW-12	11/18/2021	UA	--	--	--	368
MW-12	2/23/2022	UA	<0.0015	2.55	48.8	404
MW-12	9/1/2022	UA	<0.0007	--	--	426
MW-12	2/1/2023	UA	<0.0006	2.46	54.1	388
MW-12	6/13/2023	UA	<0.0037	2.33	54.6	378
MW-12	9/7/2023	UA	<0.0006	2.43	57.5	380
MW-12	11/28/2023	UA	0.0017	2.08	46.7	350
MW-12S	2/25/2021	USCU	0.004	6.42	18.6	140
MW-12S	3/16/2021	USCU	0.0035	7.33	24.1	128
MW-12S	4/6/2021	USCU	0.0037	7.69	29.2	212
MW-12S	5/20/2021	USCU	0.0044	8.92	24.2	118
MW-12S	6/10/2021	USCU	0.0035	9.16	28.6	243
MW-12S	7/2/2021	USCU	0.007	11.3	25.4	176
MW-12S	7/23/2021	USCU	0.0047	9.52	27.5	239
MW-12S	8/11/2021	USCU	0.0055	10.9	30.2	223
MW-2	6/1/2013	UA	--	--	--	--
MW-2	6/3/2013	UA	--	--	--	168
MW-2	12/1/2013	UA	--	--	--	--
MW-2	12/11/2013	UA	--	--	--	153
MW-2	6/11/2014	UA	--	--	--	166
MW-2	12/2/2014	UA	--	--	--	135
MW-2	6/3/2015	UA	--	--	--	--
MW-2	6/16/2015	UA	--	--	--	150
MW-2	12/15/2015	UA	0.004	--	--	171
MW-2	2/29/2016	UA	0.0053	--	--	143
MW-2	5/16/2016	UA	0.0043	--	--	159
MW-2	8/22/2016	UA	0.0039	--	--	169
MW-2	11/15/2016	UA	0.004	--	--	161
MW-2	2/13/2017	UA	0.0043	--	--	173

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-2	5/18/2017	UA	7.2	<1.0	596	--	62
MW-2	7/18/2017	UA	7.3	6	512	298	-23
MW-2	11/6/2017	UA	7.1	7.2	506	--	207
MW-2	5/31/2018	UA	7	23.2	538	--	44
MW-2	8/28/2018	UA	6.8	13.2	558	--	-38
MW-2	11/8/2018	UA	6.9	--	556	--	--
MW-2	2/14/2019	UA	7.4	27.6	442	--	76
MW-2	5/14/2019	UA	7.16	--	516	--	--
MW-2	8/20/2019	UA	7.1	5	488	--	2
MW-2	11/13/2019	UA	7.26	--	464	--	--
MW-2	2/11/2020	UA	7.35	9.1	508	264	103
MW-2	5/12/2020	UA	7.36	--	490	--	--
MW-2	8/26/2020	UA	7.27	6.9	442	262	77
MW-2	12/2/2020	UA	7.29	--	474	--	--
MW-2	2/24/2021	UA	7.2	61.48	490	264	38.9
MW-2	3/15/2021	UA	7.3	210.91	494	246	15.6
MW-2	3/30/2021	UA	7.1	9.9	458	256	86
MW-2	4/5/2021	UA	6.7	75.12	482	262	68.7
MW-2	5/19/2021	UA	6.98	10	464	238	-73
MW-2	6/10/2021	UA	6.96	9.8	456	249	-63
MW-2	7/1/2021	UA	6.52	9.8	470	250	62
MW-2	7/22/2021	UA	6.63	7.2	480	260	124
MW-2	8/10/2021	UA	6.91	21	490	258	102
MW-2	9/1/2021	UA	7.02	25	476	254	-41
MW-2	11/17/2021	UA	6.88	--	464	--	--
MW-2	2/22/2022	UA	6.98	4.7	508	246	51
MW-2	9/1/2022	UA	6.97	35	496	--	169
MW-2	1/31/2023	UA	7.02	590	470	353	-19
MW-2	6/12/2023	UA	6.96	220	535	347	111
MW-2	9/5/2023	UA	6.75	51	495	270	-48
MW-2	11/27/2023	UA	6.95	54	485	256	8
MW-20	2/26/2021	UA	7.2	3.11	572	375	172.9
MW-20	3/16/2021	UA	7.1	0	594	386	70.8
MW-20	4/6/2021	UA	6.5	0	608	390	71.3

Table **5-**1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-2	5/18/2017	UA	0.112	0.106	104	14	0.43
MW-2	7/18/2017	UA	0.112	0.111	99.2	15	0.45
MW-2	11/6/2017	UA	0.114	0.0848	102	14	0.44
MW-2	5/31/2018	UA	0.163	0.0787	125	14	0.5
MW-2	8/28/2018	UA	0.103	0.0907	104	14	0.44
MW-2	11/8/2018	UA	0.156	0.152	--	14	0.45
MW-2	2/14/2019	UA	0.116	0.0701	104	18	0.55
MW-2	5/14/2019	UA	0.107	0.058	--	18	0.55
MW-2	8/20/2019	UA	0.107	0.0667	94.2	16	0.48
MW-2	11/13/2019	UA	0.120	0.0571	--	17	0.53
MW-2	2/11/2020	UA	0.117	0.0565	94.9	18	0.52
MW-2	5/12/2020	UA	0.107	0.0488	--	18	0.52
MW-2	8/26/2020	UA	0.106	0.0576	96.6	17	0.55
MW-2	12/2/2020	UA	0.103	0.0714	--	15	0.48
MW-2	2/24/2021	UA	0.113	0.0571	96.7	15	0.46
MW-2	3/15/2021	UA	0.115	0.069	97.3	17	0.44
MW-2	3/30/2021	UA	0.113	0.0609	96.2	16	0.47
MW-2	4/5/2021	UA	0.150	0.0711	111	18	0.44
MW-2	5/19/2021	UA	0.094	0.0698	95.4	16	0.43
MW-2	6/10/2021	UA	0.110	0.0552	92	18	0.51
MW-2	7/1/2021	UA	0.116	0.0582	96.6	17	0.48
MW-2	7/22/2021	UA	0.126	0.0852	96.6	16	0.46
MW-2	8/10/2021	UA	0.126	0.0791	106	16	0.45
MW-2	9/1/2021	UA	0.101	0.128	93.4	15	0.42
MW-2	11/17/2021	UA	0.115	0.0543	--	50	0.51
MW-2	2/22/2022	UA	0.123	0.0571	97.2	19	0.48
MW-2	9/1/2022	UA	0.141	0.0735	97.7	19	0.49
MW-2	1/31/2023	UA	0.326	0.0751	291	19	0.44
MW-2	6/12/2023	UA	0.315	0.0474	225	16	0.48
MW-2	9/5/2023	UA	0.138	0.063	104	14	0.51
MW-2	11/27/2023	UA	0.123	0.0745	95	15	0.45
MW-20	2/26/2021	UA	0.164	0.34	106	25	0.42
MW-20	3/16/2021	UA	0.142	0.4	115	24	0.4
MW-20	4/6/2021	UA	0.122	0.442	112	26	0.41

Table **5-**1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-2	5/18/2017	UA	0.658	0.0051	--	0.17	--
MW-2	7/18/2017	UA	--	0.0055	41.5	--	--
MW-2	11/6/2017	UA	0.868	--	--	0.306	--
MW-2	5/31/2018	UA	20.1	0.016	--	0.718	--
MW-2	8/28/2018	UA	--	0.0043	--	--	--
MW-2	11/8/2018	UA	1.56	--	--	0.339	--
MW-2	2/14/2019	UA	--	0.007	--	--	--
MW-2	5/14/2019	UA	0.732	--	--	0.165	--
MW-2	8/20/2019	UA	--	0.0051	--	--	--
MW-2	11/13/2019	UA	3.27	--	--	0.489	--
MW-2	2/11/2020	UA	--	0.007	34.7	--	--
MW-2	5/12/2020	UA	0.481	--	--	0.156	--
MW-2	8/26/2020	UA	--	0.0051	36.1	--	--
MW-2	12/2/2020	UA	0.217	--	--	0.113	--
MW-2	2/24/2021	UA	1.26	<0.005	35.6	0.347	--
MW-2	3/15/2021	UA	1.62	0.0052	36.8	0.258	--
MW-2	3/30/2021	UA	--	0.005	33.2	--	--
MW-2	4/5/2021	UA	9.81	0.0116	43.1	0.441	--
MW-2	5/19/2021	UA	0.56	0.0035	28.4	0.221	--
MW-2	6/10/2021	UA	0.568	0.0044	33.3	0.165	--
MW-2	7/1/2021	UA	0.805	0.0042	34.6	0.312	--
MW-2	7/22/2021	UA	0.682	0.0048	35.6	0.333	--
MW-2	8/10/2021	UA	1.18	0.0061	45.5	0.337	--
MW-2	9/1/2021	UA	--	0.004	36.5	--	--
MW-2	11/17/2021	UA	0.692	--	--	0.363	--
MW-2	2/22/2022	UA	0.562	0.0052	35.2	0.23	--
MW-2	9/1/2022	UA	1.57	0.0067	--	0.34	--
MW-2	1/31/2023	UA	86.1	0.0595	99.5	1.56	--
MW-2	6/12/2023	UA	34.1	0.0241	76	1.29	0.273
MW-2	9/5/2023	UA	8.19	0.0096	36.9	0.441	0.394
MW-2	11/27/2023	UA	--	0.0056	33.7	--	
MW-20	2/26/2021	UA	0.135	0.0233	54.3	0.313	--
MW-20	3/16/2021	UA	0.369	0.0201	56.3	0.357	--
MW-20	4/6/2021	UA	1.6	0.0169	57.9	0.472	--

Table **5-**1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-2	5/18/2017	UA	0.0037	--	--	178
MW-2	7/18/2017	UA	0.0042	1.5	28.2	159
MW-2	11/6/2017	UA	--	--	--	159
MW-2	5/31/2018	UA	0.0051	--	--	142
MW-2	8/28/2018	UA	0.0033	--	--	145
MW-2	11/8/2018	UA	--	--	--	139
MW-2	2/14/2019	UA	0.0058	--	--	136
MW-2	5/14/2019	UA	--	--	--	132
MW-2	8/20/2019	UA	0.0046	--	--	119
MW-2	11/13/2019	UA	--	--	--	132
MW-2	2/11/2020	UA	0.005	1.58	27.8	138
MW-2	5/12/2020	UA	--	--	--	153
MW-2	8/26/2020	UA	0.0047	1.32	27.1	139
MW-2	12/2/2020	UA	--	--	--	139
MW-2	2/24/2021	UA	0.0038	1.3	27.3	138
MW-2	3/15/2021	UA	0.0037	1.29	26	146
MW-2	3/30/2021	UA	0.0036	1.13	24.7	129
MW-2	4/5/2021	UA	0.0041	2.63	25.8	137
MW-2	5/19/2021	UA	0.0035	0.83	24.1	145
MW-2	6/10/2021	UA	0.004	1.22	24.2	150
MW-2	7/1/2021	UA	0.0033	1.08	24	151
MW-2	7/22/2021	UA	0.0036	1.1	23.2	146
MW-2	8/10/2021	UA	0.0062	1.42	31.6	144
MW-2	9/1/2021	UA	0.0034	1.28	22.4	133
MW-2	11/17/2021	UA	--	--	--	152
MW-2	2/22/2022	UA	0.0043	1.17	25.7	148
MW-2	9/1/2022	UA	0.0056	--	--	161
MW-2	1/31/2023	UA	0.0085	8.52	27.3	153
MW-2	6/12/2023	UA	<0.0037	2.77	27.3	149
MW-2	9/5/2023	UA	0.0046	2.25	23.6	130
MW-2	11/27/2023	UA	0.0075	1.34	22.8	140
MW-20	2/26/2021	UA	0.0124	2.75	32	134
MW-20	3/16/2021	UA	0.0094	2.45	30.3	127
MW-20	4/6/2021	UA	0.0064	1.99	28.2	130

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-20	5/18/2021	UA	6.94	9.4	624	392	107
MW-20	6/9/2021	UA	6.81	8.6	--	422	-118
MW-20	7/1/2021	UA	6.87	7.5	628	416	-93
MW-20	7/22/2021	UA	6.93	8.7	610	411	-93
MW-20	8/10/2021	UA	6.93	9.9	636	417	-63
MW-20	1/31/2023	UA	6.99	3.8	648	418	6
MW-20	6/13/2023	UA	6.95	4.5	666	430	114
MW-20	9/6/2023	UA	6.9	9.3	642	420	-227
MW-20	11/28/2023	UA	7.09	65	656	414	18
MW-20S	2/26/2021	USCU	6.8	0.79	842	445	150.9
MW-20S	3/16/2021	USCU	6.9	0	846	453	113.9
MW-20S	4/6/2021	USCU	6.3	0	878	475	162.4
MW-20S	5/19/2021	USCU	6.52	9.8	922	421	77
MW-20S	6/9/2021	USCU	6.43	7.3	--	453	58
MW-20S	7/1/2021	USCU	6.52	3.8	936	454	83
MW-20S	7/22/2021	USCU	6.53	1.3	1020	454	81
MW-20S	8/10/2021	USCU	6.58	5.1	1020	454	73
MW-20S	1/31/2023	USCU	6.71	2.2	1130	454	-13
MW-20S	6/13/2023	USCU	6.77	<1.0	1250	466	105
MW-20S	9/6/2023	USCU	6.71	7.8	1030	480	-210
MW-20S	11/28/2023	USCU	7.01	5.3	925	472	102
MW-28	2/24/2021	UA	6.9	0	1790	443	89
MW-28	3/16/2021	UA	7	0	1830	435	15.6
MW-28	4/7/2021	UA	6.3	0	1640	422	65.2
MW-28	5/18/2021	UA	6.54	<1.0	1700	405	-59
MW-28	6/10/2021	UA	6.64	<1.0	--	454	-6
MW-28	7/2/2021	UA	6.68	<1.0	1610	451	47
MW-28	7/23/2021	UA	6.65	1	1720	446	4
MW-28	8/11/2021	UA	6.76	2.7	1570	421	-50
MW-28	2/1/2023	UA	6.66	8.8	1620	422	28
MW-28	6/13/2023	UA	6.76	<1.0	1770	466	108
MW-28	9/6/2023	UA	6.81	4.1	1860	456	19
MW-28	11/28/2023	UA	6.58	2.8	1780	444	77
MW-29	2/25/2021	UA	6.7	0	778	501	106.4

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-20	5/18/2021	UA	0.115	0.463	123	23	0.38
MW-20	6/9/2021	UA	0.117	0.44	132	24	0.41
MW-20	7/1/2021	UA	0.117	0.503	119	24	0.39
MW-20	7/22/2021	UA	0.138	0.564	125	24	0.39
MW-20	8/10/2021	UA	0.119	0.499	127	26	0.37
MW-20	1/31/2023	UA	0.077	0.55	132	23	0.34
MW-20	6/13/2023	UA	0.121	0.586	133	22	0.36
MW-20	9/6/2023	UA	0.105	0.642	122	20	0.39
MW-20	11/28/2023	UA	0.103	0.592	120	20	0.38
MW-20S	2/26/2021	USCU	0.038	1.18	158	24	0.18
MW-20S	3/16/2021	USCU	0.042	1.2	163	20	0.17
MW-20S	4/6/2021	USCU	0.037	1.2	162	21	0.18
MW-20S	5/19/2021	USCU	0.041	1.38	174	21	0.18
MW-20S	6/9/2021	USCU	0.038	1.37	187	20	0.2
MW-20S	7/1/2021	USCU	<0.001	0.0611	175	20	0.2
MW-20S	7/22/2021	USCU	0.044	1.89	187	20	0.2
MW-20S	8/10/2021	USCU	0.049	1.65	201	22	0.19
MW-20S	1/31/2023	USCU	0.035	1.81	202	15	0.17
MW-20S	6/13/2023	USCU	0.037	2.19	204	14	0.19
MW-20S	9/6/2023	USCU	0.035	2.13	180	18	0.22
MW-20S	11/28/2023	USCU	0.044	1.64	168	19	0.21
MW-28	2/24/2021	UA	0.024	9.09	265	14	0.13
MW-28	3/16/2021	UA	0.023	9.29	264	13	0.54
MW-28	4/7/2021	UA	0.029	10.8	247	13	0.13
MW-28	5/18/2021	UA	0.021	9.7	256	12	0.12
MW-28	6/10/2021	UA	0.020	9.42	261	14	0.14
MW-28	7/2/2021	UA	0.026	9.56	237	13	0.13
MW-28	7/23/2021	UA	0.024	10.9	244	12	0.14
MW-28	8/11/2021	UA	0.022	8.35	219	13	0.12
MW-28	2/1/2023	UA	0.024	7.96	270	13	0.14
MW-28	6/13/2023	UA	0.027	9	286	15	0.13
MW-28	9/6/2023	UA	0.023	9.88	264	14	0.15
MW-28	11/28/2023	UA	0.028	8.2	251	13	0.15
MW-29	2/25/2021	UA	0.091	1.59	144	50	0.13

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-20	5/18/2021	UA	3.33	0.0142	57.7	0.48	--
MW-20	6/9/2021	UA	3.3	0.0118	64.1	0.443	--
MW-20	7/1/2021	UA	1.98	0.0122	57.8	0.471	--
MW-20	7/22/2021	UA	4.92	0.0134	60.3	0.6	--
MW-20	8/10/2021	UA	0.783	0.01	74.7	0.521	--
MW-20	1/31/2023	UA	--	0.004	66.4	--	--
MW-20	6/13/2023	UA	0.244	0.005	64	0.631	0.58
MW-20	9/6/2023	UA	0.122	0.0046	59.1	0.175	0.189
MW-20	11/28/2023	UA	--	0.0049	65.8	--	
MW-20S	2/26/2021	USCU	0.0261	<0.005	79.9	0.146	--
MW-20S	3/16/2021	USCU	0.14	<0.003	81.9	0.151	--
MW-20S	4/6/2021	USCU	0.0635	<0.003	85.4	0.149	--
MW-20S	5/19/2021	USCU	0.0753	<0.003	83.6	0.19	--
MW-20S	6/9/2021	USCU	0.0331	<0.003	92.5	0.181	--
MW-20S	7/1/2021	USCU	<0.025	<0.003	88.1	<0.002	--
MW-20S	7/22/2021	USCU	0.196	<0.003	91.4	0.566	--
MW-20S	8/10/2021	USCU	0.351	<0.003	125	0.284	--
MW-20S	1/31/2023	USCU	--	<0.0014	100	--	--
MW-20S	6/13/2023	USCU	<0.02	<0.0015	103	0.152	0.11
MW-20S	9/6/2023	USCU	0.588	<0.0015	89.1	0.402	0.423
MW-20S	11/28/2023	USCU	--	<0.0015	91	--	
MW-28	2/24/2021	UA	<0.025	0.0066	122	0.591	--
MW-28	3/16/2021	UA	0.113	0.0066	121	0.487	--
MW-28	4/7/2021	UA	0.141	0.0076	116	1.15	--
MW-28	5/18/2021	UA	0.219	0.0069	107	0.412	--
MW-28	6/10/2021	UA	0.174	0.0072	120	0.424	--
MW-28	7/2/2021	UA	0.195	0.0061	107	0.837	--
MW-28	7/23/2021	UA	0.261	0.0078	110	0.766	--
MW-28	8/11/2021	UA	0.397	0.0057	121	0.779	--
MW-28	2/1/2023	UA	--	0.0057	121	--	--
MW-28	6/13/2023	UA	0.101	0.0061	132	1.2	0.813
MW-28	9/6/2023	UA	0.141	0.0063	120	1.42	1.5
MW-28	11/28/2023	UA	--	0.0061	123	--	
MW-29	2/25/2021	UA	0.066	0.0084	68.5	0.175	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-20	5/18/2021	UA	0.0055	1.74	26.6	134
MW-20	6/9/2021	UA	0.0051	2.18	26.1	141
MW-20	7/1/2021	UA	0.0055	1.75	24.2	137
MW-20	7/22/2021	UA	0.006	1.81	24.5	143
MW-20	8/10/2021	UA	0.0056	1.85	30.5	147
MW-20	1/31/2023	UA	0.0031	1.06	23.2	180
MW-20	6/13/2023	UA	<0.0041	1.21	23	180
MW-20	9/6/2023	UA	0.0043	1.08	22.4	140
MW-20	11/28/2023	UA	0.0034	1.3	25	149
MW-20S	2/26/2021	USCU	<0.0015	0.162	23.2	243
MW-20S	3/16/2021	USCU	<0.0015	0.208	22.1	254
MW-20S	4/6/2021	USCU	<0.0015	0.216	21.9	260
MW-20S	5/19/2021	USCU	<0.0015	<0.175	22.2	297
MW-20S	6/9/2021	USCU	<0.0015	0.203	22.7	346
MW-20S	7/1/2021	USCU	<0.0015	0.383	22	312
MW-20S	7/22/2021	USCU	<0.0015	0.38	23.9	392
MW-20S	8/10/2021	USCU	<0.0015	0.262	31.7	383
MW-20S	1/31/2023	USCU	<0.0006	0.214	27.4	441
MW-20S	6/13/2023	USCU	<0.0037	0.188	29.6	519
MW-20S	9/6/2023	USCU	<0.0006	0.223	25.6	352
MW-20S	11/28/2023	USCU	<0.0009	0.277	28.2	356
MW-28	2/24/2021	UA	<0.0015	1.1	132	884
MW-28	3/16/2021	UA	<0.0015	0.964	129	929
MW-28	4/7/2021	UA	<0.0015	1.16	150	889
MW-28	5/18/2021	UA	<0.0015	0.803	123	795
MW-28	6/10/2021	UA	<0.0015	1.07	121	903
MW-28	7/2/2021	UA	<0.0015	0.943	113	815
MW-28	7/23/2021	UA	<0.0015	1.03	119	774
MW-28	8/11/2021	UA	<0.0015	0.878	136	883
MW-28	2/1/2023	UA	<0.0006	0.964	127	801
MW-28	6/13/2023	UA	<0.0037	0.978	128	951
MW-28	9/6/2023	UA	0.0045	0.997	122	920
MW-28	11/28/2023	UA	<0.0006	1.04	125	891
MW-29	2/25/2021	UA	<0.0015	0.789	46.4	148

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-29	3/16/2021	UA	6.9	0	774	516	76.3
MW-29	4/6/2021	UA	6.2	0	768	486	103
MW-29	5/21/2021	UA	6.63	1.5	764	482	48
MW-29	6/10/2021	UA	6.62	<1.0	--	515	29
MW-29	7/2/2021	UA	6.59	<1.0	788	509	28
MW-29	7/23/2021	UA	6.66	<1.0	790	509	47
MW-29	8/11/2021	UA	6.73	<1.0	756	513	-4
MW-32	2/25/2021	UA	6.6	0	1180	471	-50.4
MW-32	3/17/2021	UA	6.4	0	1190	454	34.7
MW-32	4/7/2021	UA	6	0	1190	486	63.8
MW-32	5/19/2021	UA	6.32	1	1190	454	-40
MW-32	6/9/2021	UA	6.21	<1.0	--	486	-7
MW-32	7/1/2021	UA	6.36	3.4	1180	486	51
MW-32	7/22/2021	UA	6.46	1	1150	486	35
MW-32	8/10/2021	UA	6.47	<1.0	1190	480	20
MW-32	1/31/2023	UA	6.45	<1.0	1100	486	-15
MW-32	6/13/2023	UA	6.58	<1.0	1050	524	104
MW-32	9/6/2023	UA	6.57	3.4	1050	520	-22
MW-32	11/27/2023	UA	6.38	4.3	1060	508	142
MW-4	6/1/2013	UA	6.7	--	--	--	--
MW-4	6/3/2013	UA	--	--	540	--	--
MW-4	12/1/2013	UA	6.9	--	--	--	--
MW-4	12/11/2013	UA	--	--	534	--	--
MW-4	6/11/2014	UA	6.9	--	508	--	--
MW-4	12/2/2014	UA	7.4	--	504	--	--
MW-4	6/3/2015	UA	--	--	--	--	--
MW-4	6/16/2015	UA	7.3	--	530	--	--
MW-4	12/15/2015	UA	6.9	--	514	--	--
MW-4	5/16/2016	UA	7.1	--	496	--	--
MW-4	11/15/2016	UA	7.3	--	552	--	--
MW-4	5/18/2017	UA	6.8	--	544	--	--
MW-4	11/6/2017	UA	7.1	--	506	--	--
MW-4	5/31/2018	UA	6.8	--	492	--	--
MW-4	11/8/2018	UA	7	--	546	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-29	3/16/2021	UA	0.089	1.65	149	47	0.6
MW-29	4/6/2021	UA	0.091	1.78	148	48	0.13
MW-29	5/21/2021	UA	0.079	1.66	154	44	0.12
MW-29	6/10/2021	UA	0.081	1.66	153	46	0.13
MW-29	7/2/2021	UA	0.098	1.85	149	48	0.12
MW-29	7/23/2021	UA	0.095	2.01	150	51	0.12
MW-29	8/11/2021	UA	0.080	1.57	136	49	0.11
MW-32	2/25/2021	UA	0.104	1.56	172	14	0.18
MW-32	3/17/2021	UA	0.098	1.58	190	13	0.16
MW-32	4/7/2021	UA	0.091	1.88	193	14	0.18
MW-32	5/19/2021	UA	0.080	1.67	193	13	0.18
MW-32	6/9/2021	UA	0.085	1.62	198	14	0.19
MW-32	7/1/2021	UA	0.097	1.75	186	13	0.18
MW-32	7/22/2021	UA	0.088	1.87	192	13	0.18
MW-32	8/10/2021	UA	0.073	1.44	176	13	0.18
MW-32	1/31/2023	UA	0.047	1.38	188	12	0.17
MW-32	6/13/2023	UA	0.057	1.67	180	11	0.17
MW-32	9/6/2023	UA	0.052	1.81	165	10	0.19
MW-32	11/27/2023	UA	0.051	1.61	163	11	0.17
MW-4	6/1/2013	UA	--	--	--	--	--
MW-4	6/3/2013	UA	0.112	0.513	--	30	0.34
MW-4	12/1/2013	UA	--	--	--	--	--
MW-4	12/11/2013	UA	0.122	0.665	--	31	0.35
MW-4	6/11/2014	UA	0.119	0.488	--	34	0.33
MW-4	12/2/2014	UA	0.153	0.408	--	32	0.38
MW-4	6/3/2015	UA	--	--	--	--	0.35
MW-4	6/16/2015	UA	0.172	0.339	--	31	0.35
MW-4	12/15/2015	UA	0.132	0.627	--	30	0.33
MW-4	5/16/2016	UA	0.121	0.602	--	28	0.31
MW-4	11/15/2016	UA	0.171	0.43	--	30	0.35
MW-4	5/18/2017	UA	0.121	0.661	--	29	0.31
MW-4	11/6/2017	UA	0.070	0.4	--	28	0.31
MW-4	5/31/2018	UA	0.145	0.563	--	29	0.33
MW-4	11/8/2018	UA	0.140	0.679	--	27	0.32

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-29	3/16/2021	UA	0.301	0.009	70.4	0.0655	--
MW-29	4/6/2021	UA	0.0519	0.0091	70.7	0.0465	--
MW-29	5/21/2021	UA	0.0914	0.0083	67.5	0.0256	--
MW-29	6/10/2021	UA	0.0545	0.0087	69.6	0.0374	--
MW-29	7/2/2021	UA	0.0635	0.0088	68.8	0.0311	--
MW-29	7/23/2021	UA	<0.025	0.0106	68	0.0161	--
MW-29	8/11/2021	UA	<0.025	0.0078	75.8	0.0114	--
MW-32	2/25/2021	UA	0.0971	<0.005	95.2	2.04	--
MW-32	3/17/2021	UA	0.343	<0.003	93.5	2.18	--
MW-32	4/7/2021	UA	0.254	<0.003	104	2.48	--
MW-32	5/19/2021	UA	0.185	<0.003	95.7	2.52	--
MW-32	6/9/2021	UA	0.158	<0.003	100	2.41	--
MW-32	7/1/2021	UA	0.137	<0.003	94.7	2.48	--
MW-32	7/22/2021	UA	0.249	<0.003	96	3.29	--
MW-32	8/10/2021	UA	0.412	<0.003	108	3.23	--
MW-32	1/31/2023	UA	--	<0.0014	95.1	--	--
MW-32	6/13/2023	UA	<0.031	<0.0015	90.9	2.44	2.22
MW-32	9/6/2023	UA	0.0599	<0.0015	84.5	2.79	4.29
MW-32	11/27/2023	UA	--	<0.0015	90.1	--	
MW-4	6/1/2013	UA	--	--	--	--	--
MW-4	6/3/2013	UA	2.65	--	--	0.136	--
MW-4	12/1/2013	UA	--	--	--	--	--
MW-4	12/11/2013	UA	1.17	--	--	0.15	--
MW-4	6/11/2014	UA	1.72	--	--	0.16	--
MW-4	12/2/2014	UA	1.05	--	--	0.191	--
MW-4	6/3/2015	UA	--	--	--	--	--
MW-4	6/16/2015	UA	1.6	--	--	0.253	--
MW-4	12/15/2015	UA	0.611	--	--	0.217	--
MW-4	5/16/2016	UA	1.06	--	--	0.221	--
MW-4	11/15/2016	UA	0.802	--	--	0.271	--
MW-4	5/18/2017	UA	0.906	--	--	0.21	--
MW-4	11/6/2017	UA	0.153	--	--	0.103	--
MW-4	5/31/2018	UA	0.43	--	--	0.318	--
MW-4	11/8/2018	UA	0.253	--	--	0.189	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-29	3/16/2021	UA	<0.0015	0.885	46.2	149
MW-29	4/6/2021	UA	<0.0015	0.773	45.9	148
MW-29	5/21/2021	UA	<0.0015	0.701	44.2	148
MW-29	6/10/2021	UA	<0.0015	0.82	42.2	154
MW-29	7/2/2021	UA	<0.0015	0.72	40.1	154
MW-29	7/23/2021	UA	<0.0015	0.747	43.1	163
MW-29	8/11/2021	UA	<0.0015	0.757	49.2	161
MW-32	2/25/2021	UA	<0.0015	0.486	65	443
MW-32	3/17/2021	UA	<0.0015	0.515	66.9	425
MW-32	4/7/2021	UA	<0.0015	0.532	75.3	477
MW-32	5/19/2021	UA	<0.0015	0.376	68.5	462
MW-32	6/9/2021	UA	<0.0015	0.494	65.9	474
MW-32	7/1/2021	UA	<0.0015	0.675	65.8	464
MW-32	7/22/2021	UA	<0.0015	0.482	66.4	454
MW-32	8/10/2021	UA	<0.0015	0.577	75.8	465
MW-32	1/31/2023	UA	<0.0006	0.47	69.1	418
MW-32	6/13/2023	UA	<0.0037	0.422	62.4	414
MW-32	9/6/2023	UA	<0.0006	0.378	59.1	340
MW-32	11/27/2023	UA	<0.0006	0.418	65.1	356
MW-4	6/1/2013	UA	--	--	--	--
MW-4	6/3/2013	UA	--	--	--	69
MW-4	12/1/2013	UA	--	--	--	--
MW-4	12/11/2013	UA	--	--	--	81
MW-4	6/11/2014	UA	--	--	--	62
MW-4	12/2/2014	UA	--	--	--	42
MW-4	6/3/2015	UA	--	--	--	--
MW-4	6/16/2015	UA	--	--	--	35
MW-4	12/15/2015	UA	--	--	--	72
MW-4	5/16/2016	UA	--	--	--	74
MW-4	11/15/2016	UA	--	--	--	35
MW-4	5/18/2017	UA	--	--	--	72
MW-4	11/6/2017	UA	--	--	--	62
MW-4	5/31/2018	UA	--	--	--	58
MW-4	11/8/2018	UA	--	--	--	52

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-4	5/14/2019	UA	6.71	--	496	--	--
MW-4	11/13/2019	UA	6.94	--	458	--	--
MW-4	5/12/2020	UA	6.98	--	484	--	--
MW-4	12/2/2020	UA	7.16	--	432	--	--
MW-4	2/25/2021	UA	6.9	0	474	386	-80.2
MW-4	3/16/2021	UA	6.9	0	470	401	-36.1
MW-4	4/6/2021	UA	6.4	0	474	394	-9.5
MW-4	5/19/2021	UA	6.61	<1.0	478	358	-139
MW-4	6/9/2021	UA	6.59	--	478	--	--
MW-4	11/17/2021	UA	6.65	--	454	--	--
MW-4	2/22/2022	UA	6.81	<1.0	492	387	-32
MW-4	9/1/2022	UA	6.86	2.3	478	--	22
MW-4	1/31/2023	UA	6.84	5.6	472	--	-94
MW-4	9/5/2023	UA	6.86	2.1	480	--	-79
MW-6	6/1/2013	UA	6.4	--	--	--	--
MW-6	6/3/2013	UA	--	--	504	--	--
MW-6	12/1/2013	UA	6.2	--	--	--	--
MW-6	12/12/2013	UA	--	--	804	--	--
MW-6	6/11/2014	UA	6.6	--	672	--	--
MW-6	12/2/2014	UA	6.8	--	668	--	--
MW-6	6/4/2015	UA	--	--	--	--	--
MW-6	6/16/2015	UA	7	--	635	--	--
MW-6	12/15/2015	UA	6.5	3.3	676	--	169
MW-6	2/29/2016	UA	6.7	3.6	358	--	136
MW-6	5/16/2016	UA	7	2	484	--	165
MW-6	8/22/2016	UA	6.5	3.7	588	--	154
MW-6	11/15/2016	UA	6.8	5.8	726	--	62
MW-6	2/13/2017	UA	6.6	2	624	--	170
MW-6	5/18/2017	UA	6.6	<1.0	530	--	53
MW-6	7/18/2017	UA	6.5	2.5	622	274	103
MW-6	11/6/2017	UA	6.7	0	780	--	218
MW-6	5/31/2018	UA	6.5	<1.0	554	--	168
MW-6	8/28/2018	UA	6.6	6.1	544	--	71
MW-6	11/8/2018	UA	6.8	--	620	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-4	5/14/2019	UA	0.112	0.618	--	26	0.33
MW-4	11/13/2019	UA	0.152	0.438	--	28	0.38
MW-4	5/12/2020	UA	0.115	0.668	--	26	0.33
MW-4	12/2/2020	UA	0.146	0.565	--	28	0.38
MW-4	2/25/2021	UA	0.129	0.55	85.1	30	0.34
MW-4	3/16/2021	UA	0.122	0.567	91.2	29	0.32
MW-4	4/6/2021	UA	0.133	0.715	94.6	27	0.31
MW-4	5/19/2021	UA	0.097	0.843	93.6	26	0.29
MW-4	6/9/2021	UA	0.120	0.49	--	30	0.38
MW-4	11/17/2021	UA	0.141	0.518	--	33	0.39
MW-4	2/22/2022	UA	0.126	0.667	--	28	0.32
MW-4	9/1/2022	UA	0.152	0.362	--	34	0.4
MW-4	1/31/2023	UA	0.116	0.52	--	30	0.32
MW-4	9/5/2023	UA	0.137	0.531	--	30	0.4
MW-6	6/1/2013	UA	--	--	--	--	--
MW-6	6/3/2013	UA	0.027	0.961	--	<5.0	0.26
MW-6	12/1/2013	UA	--	--	--	--	--
MW-6	12/12/2013	UA	0.033	1.94	--	10	0.16
MW-6	6/11/2014	UA	0.026	1.19	--	6	0.2
MW-6	12/2/2014	UA	0.033	1.39	--	6	0.18
MW-6	6/4/2015	UA	--	--	--	--	0.19
MW-6	6/16/2015	UA	0.031	1	--	5	0.19
MW-6	12/15/2015	UA	0.032	1.58	113	7	0.18
MW-6	2/29/2016	UA	0.027	0.837	101	5	0.17
MW-6	5/16/2016	UA	0.030	0.874	98.6	5	0.19
MW-6	8/22/2016	UA	0.037	1.16	116	<5.0	0.2
MW-6	11/15/2016	UA	0.034	1.54	113	7	0.17
MW-6	2/13/2017	UA	0.029	1.04	100	<5.0	0.16
MW-6	5/18/2017	UA	0.029	1.02	96	<5.0	0.19
MW-6	7/18/2017	UA	0.060	1.48	105	<5.0	0.17
MW-6	11/6/2017	UA	0.041	1.91	139	11	0.16
MW-6	5/31/2018	UA	0.032	1.07	93.6	<5.0	0.19
MW-6	8/28/2018	UA	0.044	1.16	122	<5.0	0.22
MW-6	11/8/2018	UA	0.037	1.45	--	<5.0	0.19

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-4	5/14/2019	UA	0.386	--	--	0.205	--
MW-4	11/13/2019	UA	0.258	--	--	0.202	--
MW-4	5/12/2020	UA	0.368	--	--	0.257	--
MW-4	12/2/2020	UA	0.161	--	--	0.357	--
MW-4	2/25/2021	UA	0.429	<0.005	42.8	0.402	--
MW-4	3/16/2021	UA	0.285	0.0031	43.4	0.34	--
MW-4	4/6/2021	UA	0.267	0.0034	47.5	0.319	--
MW-4	5/19/2021	UA	0.181	<0.003	37.3	0.2	--
MW-4	6/9/2021	UA	0.221	--	--	0.265	--
MW-4	11/17/2021	UA	0.225	--	--	0.253	--
MW-4	2/22/2022	UA	0.256	--	--	0.386	--
MW-4	9/1/2022	UA	0.571	--	--	0.341	--
MW-4	1/31/2023	UA	0.327	--	--	0.387	--
MW-4	9/5/2023	UA	0.428	--	--	0.249	--
MW-6	6/1/2013	UA	--	--	--	--	--
MW-6	6/3/2013	UA	0.28	--	--	0.0167	--
MW-6	12/1/2013	UA	--	--	--	--	--
MW-6	12/12/2013	UA	0.161	--	--	0.0051	--
MW-6	6/11/2014	UA	0.0309	--	--	<0.005	--
MW-6	12/2/2014	UA	0.0296	--	--	<0.003	--
MW-6	6/4/2015	UA	--	--	--	--	--
MW-6	6/16/2015	UA	0.134	--	--	0.0042	--
MW-6	12/15/2015	UA	0.339	0.0012	--	0.0109	--
MW-6	2/29/2016	UA	--	<0.001	--	--	--
MW-6	5/16/2016	UA	0.103	<0.001	--	0.0063	--
MW-6	8/22/2016	UA	--	0.0012	--	--	--
MW-6	11/15/2016	UA	0.0345	0.0012	--	0.0039	--
MW-6	2/13/2017	UA	--	<0.001	--	--	--
MW-6	5/18/2017	UA	0.0437	<0.001	--	0.0037	--
MW-6	7/18/2017	UA	--	<0.001	48.3	--	--
MW-6	11/6/2017	UA	0.124	--	--	0.0037	--
MW-6	5/31/2018	UA	0.0704	<0.0015	--	<0.002	--
MW-6	8/28/2018	UA	--	<0.0015	--	--	--
MW-6	11/8/2018	UA	0.122	--	--	0.0034	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-4	5/14/2019	UA	--	--	--	51
MW-4	11/13/2019	UA	--	--	--	19
MW-4	5/12/2020	UA	--	--	--	43
MW-4	12/2/2020	UA	--	--	--	18
MW-4	2/25/2021	UA	<0.0015	0.544	37.5	35
MW-4	3/16/2021	UA	<0.0015	0.616	38.3	34
MW-4	4/6/2021	UA	<0.0015	0.602	42.5	45
MW-4	5/19/2021	UA	<0.0015	0.371	35.5	57
MW-4	6/9/2021	UA	--	--	--	27
MW-4	11/17/2021	UA	--	--	--	13
MW-4	2/22/2022	UA	--	--	--	38
MW-4	9/1/2022	UA	--	--	--	11
MW-4	1/31/2023	UA	--	--	--	29
MW-4	9/5/2023	UA	--	--	--	22
MW-6	6/1/2013	UA	--	--	--	--
MW-6	6/3/2013	UA	--	--	--	167
MW-6	12/1/2013	UA	--	--	--	--
MW-6	12/12/2013	UA	--	--	--	401
MW-6	6/11/2014	UA	--	--	--	272
MW-6	12/2/2014	UA	--	--	--	233
MW-6	6/4/2015	UA	--	--	--	--
MW-6	6/16/2015	UA	--	--	--	161
MW-6	12/15/2015	UA	<0.001	--	--	287
MW-6	2/29/2016	UA	<0.001	--	--	164
MW-6	5/16/2016	UA	<0.001	--	--	167
MW-6	8/22/2016	UA	<0.001	--	--	187
MW-6	11/15/2016	UA	<0.001	--	--	275
MW-6	2/13/2017	UA	<0.001	--	--	246
MW-6	5/18/2017	UA	<0.001	--	--	153
MW-6	7/18/2017	UA	<0.001	0.314	30.7	238
MW-6	11/6/2017	UA	--	--	--	335
MW-6	5/31/2018	UA	<0.0015	--	--	195
MW-6	8/28/2018	UA	<0.0015	--	--	133
MW-6	11/8/2018	UA	--	--	--	159

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
MW-6	2/15/2019	UA	6.7	8.6	464	--	161
MW-6	5/14/2019	UA	6.55	--	532	--	--
MW-6	8/21/2019	UA	6.4	2.2	550	--	224
MW-6	11/13/2019	UA	6.58	--	490	--	--
MW-6	2/11/2020	UA	6.71	3	478	290	126
MW-6	5/12/2020	UA	6.72	--	500	--	--
MW-6	8/26/2020	UA	6.55	6.5	476	308	128
MW-6	12/2/2020	UA	6.55	--	608	--	--
MW-6	3/30/2021	UA	6.6	<1.0	368	226	116
MW-6	6/10/2021	UA	6.36	--	442	--	--
MW-6	9/1/2021	UA	6.41	7.3	498	284	78
MW-6	11/18/2021	UA	6.46	--	486	--	--
MW-6	2/23/2022	UA	6.62	27	422	258	129
MW-6	9/1/2022	UA	6.36	<1.0	542	--	128
MW-6	2/1/2023	UA	6.52	6.6	430	273	102
MW-6	6/13/2023	UA	6.57	2.5	462	299	96
MW-6	9/6/2023	UA	6.54	6.7	584	328	39
MW-6	11/28/2023	UA	6.4	15	670	314	74
MW-7	11/27/2023	UA	6.75	11	1000	418	27
MW-7S	11/27/2023	USCU	6.68	4.5	1300	417	-56
XPW01	3/1/2021	CCR	7.5	11.74	652	159	-49.6
XPW01	3/18/2021	CCR	7.3	0	634	168	4.3
XPW01	4/7/2021	CCR	6.9	0	648	163	40.1
XPW01	5/21/2021	CCR	7.01	9	696	180	116
XPW01	6/10/2021	CCR	7.35	<1.0	--	162	-48
XPW01	7/2/2021	CCR	7.31	<1.0	466	149	-74
XPW01	7/22/2021	CCR	7.27	<1.0	514	114	0
XPW01	8/11/2021	CCR	7.53	<1.0	544	114	-124
XPW01	2/23/2022	CCR	7.49	<1.0	458	154	-63
XPW01	1/31/2023	CCR	7.54	<1.0	340	163	-117
XPW01	6/13/2023	CCR	7.44	11	510	217	71
XPW01	9/7/2023	CCR	--	--	--	--	--
XPW02	3/1/2021	CCR	7	71.01	946	248	-87.3
XPW02	3/18/2021	CCR	6.7	0	954	259	-64.1

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
MW-6	2/15/2019	UA	0.037	0.649	101	<5.0	0.19
MW-6	5/14/2019	UA	0.035	0.792	--	<4.0	0.22
MW-6	8/21/2019	UA	0.040	1.32	113	<5.0	0.19
MW-6	11/13/2019	UA	0.039	0.804	--	<4.0	0.2
MW-6	2/11/2020	UA	0.027	0.632	90.9	<5.0	0.2
MW-6	5/12/2020	UA	0.033	0.836	--	<4.0	0.2
MW-6	8/26/2020	UA	0.043	1.09	103	<5.0	0.24
MW-6	12/2/2020	UA	0.042	1.46	--	7	0.18
MW-6	3/30/2021	UA	0.029	0.64	75.6	<5.0	0.21
MW-6	6/10/2021	UA	0.036	0.906	--	3	0.22
MW-6	9/1/2021	UA	0.041	1.28	93.5	4	0.19
MW-6	11/18/2021	UA	0.045	1.14	--	3	0.21
MW-6	2/23/2022	UA	0.040	0.71	85.1	2	0.19
MW-6	9/1/2022	UA	0.045	1.62	111	<3.0	0.21
MW-6	2/1/2023	UA	0.034	0.8	85.2	2	0.18
MW-6	6/13/2023	UA	0.043	0.996	93.2	<2.0	0.2
MW-6	9/6/2023	UA	0.048	1.47	104	5	0.22
MW-6	11/28/2023	UA	0.050	1.44	110	9	0.2
MW-7	11/27/2023	UA	0.061	0.563	174	8	0.28
MW-7S	11/27/2023	USCU	0.036	4.81	180	9	0.29
XPW01	3/1/2021	CCR	0.056	1.5	76.8	29	0.84
XPW01	3/18/2021	CCR	0.070	1.58	78.2	25	0.8
XPW01	4/7/2021	CCR	0.057	1.53	70.5	29	0.73
XPW01	5/21/2021	CCR	0.056	1.53	89.9	28	0.63
XPW01	6/10/2021	CCR	0.048	1.18	80.1	29	0.71
XPW01	7/2/2021	CCR	0.052	1.2	66.1	28	0.64
XPW01	7/22/2021	CCR	0.049	1.41	64.8	29	0.62
XPW01	8/11/2021	CCR	0.044	1.3	60.8	29	0.61
XPW01	2/23/2022	CCR	0.045	1.03	63.9	26	0.79
XPW01	1/31/2023	CCR	0.060	0.527	53.7	23	0.65
XPW01	6/13/2023	CCR	0.089	0.674	81.1	22	0.56
XPW01	9/7/2023	CCR	--	--	--	--	--
XPW02	3/1/2021	CCR	0.064	3.74	160	6	0.45
XPW02	3/18/2021	CCR	0.057	4.22	169	4	0.37

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
MW-6	2/15/2019	UA	--	<0.0015	--	--	--
MW-6	5/14/2019	UA	0.103	--	--	0.0029	--
MW-6	8/21/2019	UA	--	<0.003	--	--	--
MW-6	11/13/2019	UA	0.1	--	--	0.0033	--
MW-6	2/11/2020	UA	--	<0.003	39.7	--	--
MW-6	5/12/2020	UA	0.0606	--	--	<0.002	--
MW-6	8/26/2020	UA	--	<0.003	45.2	--	--
MW-6	12/2/2020	UA	0.145	--	--	0.0043	--
MW-6	3/30/2021	UA	--	<0.003	29.7	--	--
MW-6	6/10/2021	UA	0.0998	--	--	0.0036	--
MW-6	9/1/2021	UA	--	<0.003	42.4	--	--
MW-6	11/18/2021	UA	0.0795	--	--	0.0026	--
MW-6	2/23/2022	UA	0.996	<0.003	36.5	0.0261	--
MW-6	9/1/2022	UA	0.148	<0.0014	--	0.0162	--
MW-6	2/1/2023	UA	0.303	<0.0014	36.2	0.0056	--
MW-6	6/13/2023	UA	0.131	<0.0015	39.4	<0.0053	<0.0025
MW-6	9/6/2023	UA	0.514	<0.0015	44.5	0.0152	0.0083
MW-6	11/28/2023	UA	--	<0.0018	51.3	--	
MW-7	11/27/2023	UA	--	<0.0028	82	--	
MW-7S	11/27/2023	USCU	--	<0.0015	74.8	--	
XPW01	3/1/2021	CCR	0.708	0.0159	37.2	0.106	--
XPW01	3/18/2021	CCR	4.57	0.0197	37.7	0.136	--
XPW01	4/7/2021	CCR	0.0589	0.0179	40.1	0.0972	--
XPW01	5/21/2021	CCR	0.475	0.0171	44.8	0.0109	--
XPW01	6/10/2021	CCR	0.153	0.0145	30.6	0.0043	--
XPW01	7/2/2021	CCR	0.0891	0.0124	26.2	0.0053	--
XPW01	7/22/2021	CCR	0.483	0.0142	25.6	0.0108	--
XPW01	8/11/2021	CCR	0.165	0.0111	29.9	0.0204	--
XPW01	2/23/2022	CCR	--	0.0145	28.6	--	--
XPW01	1/31/2023	CCR	--	0.011	27	--	--
XPW01	6/13/2023	CCR	<0.035	0.0151	37.3	0.0481	0.0412
XPW01	9/7/2023	CCR	0.0586	--	--	0.0376	0.0566
XPW02	3/1/2021	CCR	30.8	0.0529	33.9	0.497	--
XPW02	3/18/2021	CCR	30.5	0.0573	35	0.401	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
MW-6	2/15/2019	UA	<0.0015	--	--	106
MW-6	5/14/2019	UA	--	--	--	107
MW-6	8/21/2019	UA	<0.0015	--	--	153
MW-6	11/13/2019	UA	--	--	--	114
MW-6	2/11/2020	UA	<0.0015	0.168	15.5	97
MW-6	5/12/2020	UA	--	--	--	131
MW-6	8/26/2020	UA	<0.0015	0.367	23.2	157
MW-6	12/2/2020	UA	--	--	--	237
MW-6	3/30/2021	UA	<0.0015	0.176	14.1	98
MW-6	6/10/2021	UA	--	--	--	117
MW-6	9/1/2021	UA	<0.0015	0.374	24	173
MW-6	11/18/2021	UA	--	--	--	160
MW-6	2/23/2022	UA	<0.0015	0.398	15.3	108
MW-6	9/1/2022	UA	<0.0006	--	--	144
MW-6	2/1/2023	UA	<0.0006	0.312	19.3	127
MW-6	6/13/2023	UA	<0.0037	0.253	20.9	126
MW-6	9/6/2023	UA	<0.0006	0.419	25.9	151
MW-6	11/28/2023	UA	<0.0006	0.5	30.4	222
MW-7	11/27/2023	UA	0.0023	2.25	26.8	360
MW-7S	11/27/2023	USCU	<0.0014	2.91	106	525
XPW01	3/1/2021	CCR	0.0154	7.84	87.9	353
XPW01	3/18/2021	CCR	0.0161	7.96	83.3	280
XPW01	4/7/2021	CCR	0.0142	7.98	88.5	295
XPW01	5/21/2021	CCR	0.0147	7.27	73.2	312
XPW01	6/10/2021	CCR	0.0131	7.83	57.7	215
XPW01	7/2/2021	CCR	0.0121	6.97	55.7	202
XPW01	7/22/2021	CCR	0.0147	6.91	62.5	237
XPW01	8/11/2021	CCR	0.0161	7.31	79.5	267
XPW01	2/23/2022	CCR	0.01	6.56	52.3	221
XPW01	1/31/2023	CCR	0.0049	5.14	33.8	125
XPW01	6/13/2023	CCR	<0.0045	5.83	37.8	205
XPW01	9/7/2023	CCR	--	--	--	--
XPW02	3/1/2021	CCR	0.0446	19.4	74.4	437
XPW02	3/18/2021	CCR	0.0429	19.7	74.6	465

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
XPW02	4/7/2021	CCR	6.1	488.38	1010	254	-25.5
XPW02	5/21/2021	CCR	6.55	9.9	770	230	-133
XPW02	6/10/2021	CCR	6.44	9.4	--	273	-121
XPW02	7/2/2021	CCR	6.56	9	858	275	-111
XPW02	7/22/2021	CCR	6.62	6.5	810	251	-127
XPW02	8/11/2021	CCR	6.67	1.2	828	276	-139
XPW02	2/22/2022	CCR	6.76	9.9	522	222	-104
XPW02	2/1/2023	CCR	6.67	170	262	236	-110
XPW02	6/13/2023	CCR	6.65	71	620	258	28
XPW02	9/7/2023	CCR	--	--	--	--	--
XPW03	3/2/2021	CCR	7.1	21.51	1710	375	-48.2
XPW03	3/18/2021	CCR	6.8	55.29	1440	356	-21.2
XPW03	4/7/2021	CCR	6.6	0	1880	384	-12.4
XPW03	5/20/2021	CCR	6.74	9.9	1440	343	-89
XPW03	6/10/2021	CCR	6.74	10	--	407	84
XPW03	7/1/2021	CCR	6.82	6.8	1180	401	-93
XPW03	7/22/2021	CCR	6.82	8.1	1300	361	-68
XPW03	8/11/2021	CCR	6.9	9.8	1370	373	-119
XPW03	2/22/2022	CCR	6.97	9.7	1280	351	-86
XPW03	2/1/2023	CCR	6.87	50	290	432	-3
XPW03	6/13/2023	CCR	6.88	160	1280	402	47
XPW03	9/7/2023	CCR	--	--	--	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
XPW02	4/7/2021	CCR	0.082	4.22	165	4	0.37
XPW02	5/21/2021	CCR	0.074	3.49	145	3	0.32
XPW02	6/10/2021	CCR	0.066	3.72	158	3	0.35
XPW02	7/2/2021	CCR	0.068	4.23	145	3	0.33
XPW02	7/22/2021	CCR	0.047	3.11	142	13	0.31
XPW02	8/11/2021	CCR	0.058	3.52	138	3	0.31
XPW02	2/22/2022	CCR	0.071	2.39	109	2	0.31
XPW02	2/1/2023	CCR	0.160	2.99	140	2	0.31
XPW02	6/13/2023	CCR	0.062	3.15	132	<2.0	0.31
XPW02	9/7/2023	CCR	--	--	--	--	--
XPW03	3/2/2021	CCR	0.048	2.92	180	5	0.69
XPW03	3/18/2021	CCR	0.089	2.69	154	4	0.62
XPW03	4/7/2021	CCR	0.082	4.21	153	4	0.78
XPW03	5/20/2021	CCR	0.033	2.81	150	3	0.58
XPW03	6/10/2021	CCR	0.036	3.11	140	4	0.68
XPW03	7/1/2021	CCR	0.050	3.1	128	3	0.65
XPW03	7/22/2021	CCR	0.039	2.77	156	3	0.56
XPW03	8/11/2021	CCR	0.037	2.85	161	3	0.51
XPW03	2/22/2022	CCR	0.034	2.54	151	3	0.54
XPW03	2/1/2023	CCR	0.041	3.22	199	4	0.61
XPW03	6/13/2023	CCR	0.053	3.03	151	<2.0	0.61
XPW03	9/7/2023	CCR	--	--	--	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
XPW02	4/7/2021	CCR	33.9	0.057	38	0.395	--
XPW02	5/21/2021	CCR	22.5	0.041	26.8	0.244	--
XPW02	6/10/2021	CCR	24.1	0.0515	30.4	0.234	--
XPW02	7/2/2021	CCR	28.2	0.0556	27.8	0.284	--
XPW02	7/22/2021	CCR	24.6	0.0437	27.7	0.224	--
XPW02	8/11/2021	CCR	28	0.0505	33.8	0.232	--
XPW02	2/22/2022	CCR	--	0.0337	21.5	--	--
XPW02	2/1/2023	CCR	--	0.0403	28.6	--	--
XPW02	6/13/2023	CCR	22.2	0.0437	24	0.202	0.173
XPW02	9/7/2023	CCR	26.9	--	--	0.164	0.245
XPW03	3/2/2021	CCR	5.02	0.0299	51.5	0.197	--
XPW03	3/18/2021	CCR	39.3	0.0304	47.5	0.219	--
XPW03	4/7/2021	CCR	39.1	0.0308	60.6	0.222	--
XPW03	5/20/2021	CCR	3.35	0.0256	50.7	0.164	--
XPW03	6/10/2021	CCR	2.67	0.0301	53.8	0.162	--
XPW03	7/1/2021	CCR	4.92	0.0272	50.5	0.196	--
XPW03	7/22/2021	CCR	5.73	0.0283	54.4	0.181	--
XPW03	8/11/2021	CCR	3.87	0.0271	56.9	0.188	--
XPW03	2/22/2022	CCR	--	0.0308	51.4	--	--
XPW03	2/1/2023	CCR	--	0.0267	69.1	--	--
XPW03	6/13/2023	CCR	29.9	0.0215	51.8	0.551	0.107
XPW03	9/7/2023	CCR	11	--	--	0.197	0.244

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
XPW02	4/7/2021	CCR	0.0445	21.8	86.4	435
XPW02	5/21/2021	CCR	0.0358	15.2	53.4	314
XPW02	6/10/2021	CCR	0.0364	18.6	62.3	359
XPW02	7/2/2021	CCR	0.0349	18.2	63.2	359
XPW02	7/22/2021	CCR	0.0318	18.1	56	330
XPW02	8/11/2021	CCR	0.0364	18.1	65.3	353
XPW02	2/22/2022	CCR	0.0332	13.2	24.3	201
XPW02	2/1/2023	CCR	0.052	14.8	37.5	282
XPW02	6/13/2023	CCR	0.0342	16.6	36.7	257
XPW02	9/7/2023	CCR	--	--	--	--
XPW03	3/2/2021	CCR	0.0494	14.2	330	937
XPW03	3/18/2021	CCR	0.0434	12.2	264	745
XPW03	4/7/2021	CCR	0.0559	17	464	1110
XPW03	5/20/2021	CCR	0.0346	12.3	264	715
XPW03	6/10/2021	CCR	0.0383	13.4	273	751
XPW03	7/1/2021	CCR	0.0386	11.6	223	537
XPW03	7/22/2021	CCR	0.0441	13.4	221	642
XPW03	8/11/2021	CCR	0.0353	13.5	216	684
XPW03	2/22/2022	CCR	0.0362	15.1	196	642
XPW03	2/1/2023	CCR	0.048	15.5	364	1000
XPW03	6/13/2023	CCR	0.0443	14.5	249	699
XPW03	9/7/2023	CCR	--	--	--	--

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	pH (field) (SU)	Turbidity, field (NTU)	Total Dissolved Solids (mg/L)	Alkalinity, total	Oxidation Reduction Potential (mV)
XPW04	3/2/2021	CCR	7.1	6.27	416	228	-96.1
XPW04	3/18/2021	CCR	6.7	0	386	286	-85.1
XPW04	4/7/2021	CCR	6.3	0	394	286	-65.7
XPW04	5/20/2021	CCR	6.74	7	374	166	-146
XPW04	6/9/2021	CCR	6.64	<1.0	--	214	-165
XPW04	7/1/2021	CCR	6.88	1	384	131	-131
XPW04	7/22/2021	CCR	6.66	<1.0	396	122	-127
XPW04	8/10/2021	CCR	6.92	<1.0	450	147	-147
XPW04	2/22/2022	CCR	6.9	5.2	368	240	-144
XPW04	2/1/2023	CCR	6.88	<1.0	325	221	-137
XPW04	6/13/2023	CCR	6.79	47	340	252	-22
XPW04	9/7/2023	CCR	--	--	--	--	--

Notes:

-- = not measured

< = below method detection limit

mg/L = milligrams per liter

SU= standard units

NTU = Nephelometric Turbidity unit

mV= millivolts

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Samples with turbidity >100 NTU not included in principal component analysis

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Barium, total (mg/L)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)
XPW04	3/2/2021	CCR	0.130	1.5	68.4	18	0.46
XPW04	3/18/2021	CCR	0.133	1.54	62.2	14	0.5
XPW04	4/7/2021	CCR	0.095	2.28	63.7	15	0.42
XPW04	5/20/2021	CCR	0.072	1.26	51.8	7	0.42
XPW04	6/9/2021	CCR	0.080	1.5	63	9	0.5
XPW04	7/1/2021	CCR	0.095	1.87	61.1	10	0.49
XPW04	7/22/2021	CCR	0.072	1.54	65	10	0.46
XPW04	8/10/2021	CCR	0.068	1.94	69.7	12	0.48
XPW04	2/22/2022	CCR	0.082	1.72	63.2	10	0.41
XPW04	2/1/2023	CCR	0.081	0.902	49.4	14	0.31
XPW04	6/13/2023	CCR	0.095	1.18	50.7	12	0.39
XPW04	9/7/2023	CCR	--	--	--	--	--

Notes:

-- = not measured

< = below method detection limit

mg/L = milligrams per liter

SU= standard units

NTU = Nephelometric Turbidity unit

mV= millivolts

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Samples with turbidity >100 NTU not included in principal component a

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Iron, total (mg/L)	Lithium, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Manganese, dissolved (mg/L)
XPW04	3/2/2021	CCR	40.8	0.0315	26.5	0.34	--
XPW04	3/18/2021	CCR	40.9	0.0289	27.4	0.26	--
XPW04	4/7/2021	CCR	37.3	0.0282	29.3	0.292	--
XPW04	5/20/2021	CCR	34.1	0.019	22.4	0.182	--
XPW04	6/9/2021	CCR	31.8	0.021	25.8	0.184	--
XPW04	7/1/2021	CCR	31.7	0.0217	25.5	0.22	--
XPW04	7/22/2021	CCR	33.1	0.0204	26	0.175	--
XPW04	8/10/2021	CCR	12.6	0.0212	26.6	0.215	--
XPW04	2/22/2022	CCR	--	0.0227	23.5	--	--
XPW04	2/1/2023	CCR	--	0.0147	23	--	--
XPW04	6/13/2023	CCR	31.2	0.0166	24.1	0.148	0.136
XPW04	9/7/2023	CCR	37.4	--	--	0.196	0.281

Notes:

-- = not measured

< = below method detection limit

mg/L = milligrams per liter

SU= standard units

NTU = Nephelometric Turbidity unit

mV= millivolts

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Samples with turbidity >100 NTU not included in principal component a

Table **5**-1. Groundwater Analytical Data

Well ID	Date	HSU	Molybdenum, total (mg/L)	Potassium, total (mg/L)	Sodium, total (mg/L)	Sulfate, total (mg/L)
XPW04	3/2/2021	CCR	0.0065	6.69	39.3	51
XPW04	3/18/2021	CCR	0.0064	6.9	38.6	44
XPW04	4/7/2021	CCR	0.0088	6.65	42	51
XPW04	5/20/2021	CCR	0.0068	4.44	25.6	78
XPW04	6/9/2021	CCR	0.0099	6.1	26.8	88
XPW04	7/1/2021	CCR	0.0135	6.21	28.5	87
XPW04	7/22/2021	CCR	0.0107	5.8	29.1	85
XPW04	8/10/2021	CCR	0.0107	6.98	33.5	104
XPW04	2/22/2022	CCR	0.0102	6.12	28.8	75
XPW04	2/1/2023	CCR	0.0051	5.26	30.3	34
XPW04	6/13/2023	CCR	<0.0066	5.01	29.9	29
XPW04	9/7/2023	CCR	--	--	--	--

Notes:

-- = not measured

< = below method detection limit

mg/L = milligrams per liter

SU= standard units

NTU = Nephelometric Turbidity unit

mV= millivolts

HSU = hydrostratigraphic unit

CCR = coal combustion residual

UA = uppermost aquifer

USCU = upper semi-confining unit

Samples with turbidity >100 NTU not included in principal component a

ATTACHMENT 1

Monitored Natural Attenuation Field Investigation Status Update, Primary Ash Pond (CCR Unit 141) Kincaid Power Plant, Christian County, Illinois

TECHNICAL MEMORANDUM

DATE December 16, 2021 **Project No.** 21454831

TO David Mitchell, Stu Cravens, Vic Modeer
Kincaid Generation, LLC

CC Brian Hennings - Ramboll

FROM Patrick J. Behling, Jeffrey Ingram - Golder **EMAIL JIngram@golder.com**

MONITORED NATURAL ATTENUATION FIELD INVESTIGATION STATUS UPDATE, PRIMARY ASH POND (CCR UNIT 141) KINCAID POWER PLANT, CHRISTIAN COUNTY, ILLINOIS

1.0 INTRODUCTION AND BACKGROUND

The following Technical Memorandum summarizes the results received to date from the Monitored Natural Attenuation (MNA) Field Investigation completed by Golder Associates USA Inc. (Golder) for the Primary Ash Pond (PAP, CCR Unit 141) located at the Kincaid Power Plant (KPP or Site) operated by Kincaid Generation, LLC (KG) in Christian County, Illinois. Data collected as part of this investigation will be an integral part of the MNA Feasibility Demonstration for the PAP and will be used for KG's Illinois Part 845 Coal Combustion Residual (CCR) compliance program. A Site plan showing the PAP, existing Part 845 monitoring wells, and the MNA boring locations is provided in **Figure 1**.

This memorandum only includes laboratory analytical data that has been received to date. Golder will update this memorandum when the remaining data has been received and reviewed.

2.0 PROJECT SCOPE OF WORK

As part of the MNA Feasibility Demonstration, and ongoing discussions with KG, Golder completed the following activities as part of this Field Investigation:

- Screened for potential underground utilities in the vicinity of the proposed borings prior to completing any drilling or ground disturbance activities.
- Advanced a total of eight (8) soil borings ranging in depth from 20 to 40 feet below ground surface (FT BGS).
- Collected twelve (12) soil samples from eight (8) soil borings for laboratory analysis.
- Collected groundwater samples from five (5) existing monitoring wells for laboratory analysis.

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3.0 FIELD INVESTIGATION

3.1 Private Utility Locate

Prior to conducting any work onsite, Golder reviewed Site plans/drawings provided by KG and/or Site representatives and met with Site representatives to assist in identifying underground utility locations in the vicinity of the proposed borings. Golder also sub-contracted with GPRS to provide ground penetrating radar (GPR) and electromagnetic (EM) tracing services to screen the proposed boring locations in the field. All boring locations were cleared by GPRS personnel before drilling commenced.

3.2 Drilling and Aquifer Solids Sampling

Drilling was completed by Cascade Environmental Drilling using a roto-sonic drill rig under direct supervision of a Golder Geologist. Continuous soil core samples were obtained at each borehole location and were logged in the field by Golder personnel. Soils were classified according to the Unified Soil Classification System (USCS) and in accordance with the standard Golder Soil Logging Technical Procedure.

During the field investigation, eight (8) soil borings were advanced at the locations shown on **Figure 1**. Soil boring logs are provided in **Attachment A**. The following units were encountered during the field investigation (unit names are consistent with the Groundwater Monitoring Plan (Ramboll, 2021) in the Newton Part 845 Operating Permit):

- Shallow Saturated Zone —- This zone is made up of the surficial soils and the upper confining unit. The Shallow Saturated Zone consists of low permeability silty clay and clayey silt of the Cahokia Formation, with occasional, discontinuous sand lenses referred to as potential migration pathways. The contact between the Shallow Saturated Zone and the underlying uppermost aquifer rangers from approximately 574 feet above mean sea level (FT MSL) and 586 FT MSL in the borings completed for this investigation. Samples from the Shallow Saturated Zone unit are shown in **Table 1**.
- Uppermost Aquifer – This zone consists of moderately permeability sand, silty sand, clayey sand, and gravel units of the Upper Cahokia, where saturated, and thin sands and gravels of the Lower Cahokia . This unit is present between approximately 570 and 586 FT MSL in the borings completed for this investigation. Samples collected from the uppermost aquifer are shown in **Table 1**.
- Lower Confining Unit – This unit consists of the Vandalia Till and is generally made up of dense silts and hard clays. The lower confining unit was present below the uppermost aquifer. The contact between these two units ranges from approximately 570 FT MSL to 583 FT MSL in the borings completed for this investigation. There were no samples collected from the lower confining unit.

Twelve (12) soil samples were collected for laboratory analysis from the soil borings (see **Figure 1** for sample location). Details regarding collected samples are included in **Table 1**.

Table 1: Laboratory Sample Locations and Intervals

Borehole ID	Sample ID	Sample Depth (FT BGS)	Soil Type / Geologic Unit Sampled
K-SB-02	K-SB-02 (10.0 – 14.7)	10.0 – 14.7	Silty Clay / Shallow Saturated Zone

Borehole ID	Sample ID	Sample Depth (FT BGS)	Soil Type / Geologic Unit Sampled
	K-SB-02 (14.7 – 17.5)	14.7 – 17.5	Clayey Silt / Shallow Saturated Zone
K-SB-03	K-SB-03 (19.0 – 20.0)	19.0 – 20.0	Poorly Graded Sand / Uppermost Aquifer
K-SB-07	K-SB-07 (7.0 – 10.0)	7.0 – 10.0	Clay / Shallow Saturated Zone
	K-SB-07 (10.0 – 15.0)	10.0 – 15.0	Clayey Silt / Uppermost Aquifer
K-SB-08	K-SB-08 (4.0 – 7.0)	4.0 – 7.0	Clayey Silt / Shallow Saturated Zone
	K-SB-08 (13.0 – 17.0)	13.0 – 17.0	Silty Sand / Uppermost Aquifer
K-SB-12	K-SB-12 (13.0 – 17.3)	13.0 – 17.3	Clayey Sand / Shallow Saturated Zone
	K-SB-12 (17.3 – 21.0)	17.3 – 21.0	Clayey Silt and Sand / Uppermost Aquifer
K-SB-28	K-SB-28 (18.0 – 21.5)	18.0 – 21.5	Silty Sand / Uppermost Aquifer
K-SB-32	K-SB-32 (31.0 – 36.0)	31.0 – 36.0	Sandy Silty Clay / Uppermost Aquifer
K-SB-XPW03	K-SB-XPW03 (10.0 – 20.0)	10.0 – 20.0	CCR

Notes

1) FT BGS – Feet Below Ground Surface.

After the soil samples had been collected, the soil borings were plugged using hydrated 3/8-inch bentonite grout chips to ground surface. Additional material recovered during the drilling process was disposed onsite near the borehole location.

3.2.1 Laboratory Analysis

Soil samples collected during the field investigation were placed in clean containers and properly labeled with sample location, depth, project name, sampler initials, analyses to be performed, date, and time of collection. Sample information was logged on a chain of custody (COC) and shipped to the following laboratories analysis:

- Eurofins TestAmerica for 7 Step Sequential Extraction; and
- SiREM for the Batch Testing, Total Metals testing, Reitveld XRD, leachability, Cation Exchange Capacity (CEC), and Total Organic Carbon (TOC) analyses.

The following laboratory analyses were conducted for each soil sample:

- 6010B 7-step sequential extraction (Iron, Aluminum, Arsenic, Manganese, Lead, Lithium, Molybdenum, Cobalt, Calcium, Selenium, Beryllium, and Chromium)
- EPA 6010B for Total Metals (Iron, Aluminum, Arsenic, Manganese, Lead, Lithium, Molybdenum, Cobalt, Calcium, Selenium, Beryllium, and Chromium).
- Bulk Mineralogy by Reitveld XRD Analysis.
- Cation Exchange Capacity (CEC) Analysis.
- Total Organic Carbon Analysis.
- SPLP Method 1312 Leachability Test (for CCR source sample only).

Currently, only the results from Test America have been received, and are included in **Attachment B**. A separate Technical Memorandum will be provided when results from SiREM are completed.

3.3 Groundwater Sampling

Groundwater sampling was completed by Golder personnel concurrently with drilling activities. Six (6) previously existing monitoring wells were sampled (see **Figure 1** for sample locations). Groundwater sample collection locations for the MNA evaluation are included in **Table 2**.

Table 2: Groundwater Sample Locations

Well ID	Adjacent Borehole Sample
MW-02 (background)	K-SB-02 (14.7-17.5)
MW-07S	K-SB-07 (7.0 -10.0)
MW-07	K-SB-07 (15.0 - 20.0)
MW-12	K-SB-12 (13.0 -17.3)
MW-12D	K-SB-12 (17.3 – 21.0)
MW-28	K-SB-12 (18.0 - 21.5)

3.3.1 Groundwater Sample Laboratory Analysis

Groundwater samples collected during the field investigation were placed in clean containers and properly labeled with well ID, project name, sampler initials, analyses to be performed, date, and time of collection. Sample information was logged on a chain of custody (COC) and shipped to SiREM Laboratories to be included in batch

testing analysis along with soil samples collected at adjacent boreholes. Results for the batch testing has not yet been completed and will be provided in a separate Technical Memorandum.

4.0 CLOSING

Golder appreciates the opportunity to serve as your consultant on this project. If you have any questions concerning this technical memorandum or need additional information, please contact the undersigned

Golder Associates Inc.

Jeffrey Ingram
Senior Project Geologist
JSI/PJB

Patrick J. Behling
Principal and Practice Leader

Attachments: Figure 1 – Kincaid Power Plant Monitored Natural Attenuation Boring and Groundwater Sample Locations
Appendix A – Soil Boring Logs
Appendix B – Eurofins TestAmerica Laboratory Data

Figures



LEGEND

- Primary Ash
- MNA Soil Boring Locations

Exceedance

- Groundwater Sampling Location - Part 845 Well With Potential Exceedances
- Groundwayer Sampling Location - Part 845 Well With No Potential Exceedances

0 250 500 1,000 1,500 Feet

NOTE(S)

1. SOIL BORING LOCATIONS SURVEYED BY INGENAE ON SEPTEMBER 2, 2021.

REFERENCE(S)

1. RAMBOLL 2021, TABLE 2 SUMMARY OF POTENTIAL EXCEEDANCES.
2. RAMBOLL 2021, GROUNDWATER MONITORING PLAN, PRIMARY ASH POND, KINCAID POWER PLANT, KINCAID, ILLINOIS.

CLIENT
KINCAID GENERATION, LLC.

PROJECT
KINCAID POWER PLANT MNA FEASABILITY STUDY

TITLE
KINCAID POWER PLANT MONITORED NATURAL ATTENUATION BORING AND GROUNDWATER SAMPLE LOCATIONS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-12-07
DESIGNED	JSI
PREPARED	ETF
REVIEWED	BTT
APPROVED	XXX

PROJECT NO.
21454831

FIGURE
1

PATH: C:\Users\BTaber\Golder Associates\21454831 - Vistra IL MNA Part 845 Support - Project Files\5 Technical Work\Phase3 - Kincaid\3.11-Figures\Kincaid GW Sampling Locations.mxd PRINTED ON: 2021-12-16 AT: 12:31:26 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

APPENDIX A

Soil Boring Logs

RECORD OF BOREHOLE K-SB-02

SHEET 1 of 1

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/25/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,065,502.76 E: 2,487,550.52

ELEVATION: 599
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-1.0) (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand, some fine poorly graded sub-rounded gravel, trace roots; dark yellowish brown (10YR 4/2), TOPSOIL; non-cohesive, dry, loose.	ML		598.0 / 1.0				
		(1.0-3.0) (ML) CLAYEY SILT, non-plastic to low plasticity fines, some fine poorly graded sub-rounded sand; dark yellowish brown (10YR 4/2); cohesive, w<PL, stiff.	ML		596.0 / 3.0				
		(3.0-14.7) (CL) SILTY CLAY, low to medium plasticity fines, trace fine sand, trace roots; dark yellowish orange (10YR 6/6); cohesive, w~PL, firm.	CL						
5		(5.0) Same As Above (SAA) except, no roots, soft.			594.0 / 5.0	1	SO	10.0 / 10.0	
10		(10.0) SAA except, color to yellowish gray (5Y 7/2) and trace gravel.			589.0 / 10.0				(10.0-14.7) Silty clay sample collected at 07:30 - 8/25/2021.
	6" Sonic	(14.7-17.5) (ML) sandy CLAYEY SILT, non-plastic to low plasticity fines, fine poorly graded sub-rounded sand; yellowish gray (5Y 7/2) with dark yellowish orange (10YR 6/6) sand; cohesive, w>PL, firm.	ML		584.3 / 14.7	2	SO	10.0 / 10.0	(14.7-17.5) Sandy clayey silt sample collected at 07:30 - 8/25/2021.
15		(17.5-20.0) (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand, some fine to coarse gravel, trace low plasticity fines; moderate yellowish brown (10YR 5/4); non-cohesive, moist, very dense.	ML		581.5 / 17.5				
20		END OF BORING AT 20.0 FEET BELOW GROUND SURFACE.			579.0 / 20.0				
25									
30									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-03

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/26/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,066,852.74 E: 2,488,055.01

ELEVATION: 599.33
INCLINATION: -90

DEPTH (feet)	BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-3.5) FILL - (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand; dark yellowish brown (10YR 2/2) with light gray (N6); non-cohesive, dry, very loose. (2.0) Same As Above (SAA) except, pale yellowish orange (10YR 8/6) and loose.	ML		597.3 2.0 595.8				
		(3.5-16.0) (ML) CLAYEY SILT, low plasticity fines, some fine poorly graded sub-rounded sand; moderate yellowish brown (10YR 5/4) with light gray (N6) mottling; cohesive, w<PL, soft.			3.5	1	SO	10.0 / 10.0	
5									
10			ML						
15						2	SO	10.0 / 10.0	
					583.3				
		(16.0-19.0) (ML) sandy CLAYEY SILT, low plasticity fines, fine poorly graded sub-rounded sand; moderate yellowish brown (10YR 5/4) with light gray (N6) mottling; cohesive, w<PL, soft.	ML		16.0 580.3				
20		(19.0-22.0) (SP) SAND, poorly graded, fine to medium grained poorly graded sub-rounded sand, some non-plastic fines, trace sub-rounded gravel; medium gray (N5); non-cohesive, moist, compact. (20.0) SAA except, fine grained sand.	SP		19.0 579.3 20.0 577.3				(19.0-20.0) Sand sample collected at 08:15 - 8/26/2021.
	6" Sonic	(22.0-30.0) (ML) SILT, non-plastic fines, trace low plasticity fines, trace fine sub-rounded sand, trace sub-rounded gravel; medium light gray (N6); non-cohesive, moist, very dense.			22.0	3	SO	10.0 / 10.0	
25			ML						
30					569.3				

Log continued on next page

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-03

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant
DRILLING METHOD: Sonic
DRILLING DATE: 8/26/2021
DRILL RIG: Mini Sonic CC 150
DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,066,852.74 E: 2,488,055.01
ELEVATION: 599.33
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
30		END OF BORING AT 30.0 FEET BELOW GROUND SURFACE.			30.0				
35									
40									
45									
50									
55									
60									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon
LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-07

SHEET 1 of 1

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/25/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,067,988.05 E: 2,484,747.32

ELEVATION: 595.55
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-7.0) (CL) sandy CLAY, medium to high plasticity fines, fine poorly graded sub-rounded sand; very dusky red (10R 2/2) to dark yellowish orange (10YR 6/6); cohesive, w>PL, firm.	CL		588.6	1	SO	10.0 / 10.0	
		(7.0-10.0) (CL) SILTY CLAY, medium to high plasticity fines, trace fine sub-rounded sand; moderate yellowish brown (10YR 5/4) with light brown (5YR 5/6) mottling; cohesive, w>PL, stiff.	CL		7.0 585.6				(7.0-10.0) Silty clay sample collected at 13:10 - 8/25/2021.
10	6" Sonic	(10.0-15.0) (ML) sandy CLAYEY SILT, non-plastic to low plasticity fines, fine poorly graded sub-rounded sand, trace fine sub-rounded gravel; dark yellowish orange (10YR 6/6); cohesive, w<PL, soft	ML		10.0 580.6	2	SO	10.0 / 10.0	(10.0-15.0) Sandy clayey silt sample collected at 13:30 - 8/25/2021.
15		(15.0-20.0) (ML) CLAYEY SILT, non-plastic to low plasticity fines, trace fine sub-rounded sand, trace fine sub-rounded gravel; light gray (N6); cohesive, w<PL, hard.	ML		15.0 575.6				
20		END OF BORING AT 20.0 FEET BELOW GROUND SURFACE.			20.0				
25									
30									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-08

SHEET 1 of 1

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/26/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,066,822.75 E: 2,485,322.69

ELEVATION: 599.67
INCLINATION: -90

DEPTH (feet)	BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-0.5) (ML) SILT, non-plastic fines, trace fine sub-rounded sand, trace organics (grass/roots); dark yellowish brown (10YR 4/2), TOPSOIL; non-cohesive, dry, very loose.	ML		599.2 / 0.5				
		(0.5-3.7) (ML) SILT, non-plastic fines, trace fine sub-rounded sand, trace fine sub-rounded gravel; moderate brown (5YR 4/4); non-cohesive, dry, loose.	ML		596.0 / 3.7				
5		(3.7-7.0) (ML) CLAYEY SILT, non-plastic to low plasticity fines, trace fine grained sand; dark yellowish brown (10YR 2/2); cohesive, w<PL, very stiff.	ML		592.7 / 7.0	1	SO	10.0 / 10.0	(4.0-7.0) Clayey silt sample collected at 09:25 - 8/26/2021.
		(7.0-10.0) (CL) SILTY CLAY, low to medium plasticity fines, trace fine sub-rounded sand; light olive brown (5Y 5/6); cohesive, w>PL, stiff.	CL		589.7 / 10.0				
10	6" Sonic	(10.0-14.0) (CL) sandy CLAY, medium to high plasticity fines, fine poorly graded sub-rounded sand, trace sub-rounded gravel; pale yellowish brown (10YR 6/2); cohesive, w>PL, firm.	CL		585.7 / 14.0	2	SO	3.0 / 3.0	(10.0) Due to target depth of hole, drillers use a 3' run to end the hole at the desired total depth.
15	6" Sonic	(14.0-17.0) (SM) SILTY SAND, fine poorly graded sub-rounded sand, non-plastic fines, trace fine sub-rounded gravel; moderate yellowish brown (10YR 5/4); non-cohesive, moist, compact.	ML		582.7 / 17.0				(13.0-17.0) Silty sand sample collected at 09:55 - 8/26/2021.
		(17.0-23.0) (ML) CLAYEY SILT, non-plastic to low plasticity fines, trace fine sub-rounded sand, trace fine sub-rounded gravel; light gray (N6); cohesive, w<PL, hard.	ML		576.7 / 23.0	3	SO	10.0 / 10.0	
20		END OF BORING AT 23.0 FEET BELOW GROUND SURFACE.							
25									
30									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-12

SHEET 1 of 1

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/25/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,068,919.56 E: 2,485,427.70

ELEVATION: 591.01
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-1.0) (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand, fine poorly graded sub-rounded gravel; dark yellowish brown (10YR 4/2), TOPSOIL; non-cohesive, dry, loose.	ML		590.0 / 1.0				
		(1.0-8.0) (SC) CLAYEY SAND, fine to medium poorly graded sub-rounded sand, low to medium plasticity fines, trace fine sub-rounded gravel; dusky brown (5YR 2/2); non-cohesive, moist, compact.	SC			1	SO	10.0 / 10.0	
		(8.5-10.0) (CL) sandy CLAY, medium to high plasticity fines, fine poorly graded sub-rounded sand; dusky brown (5YR 2/2); cohesive, w<PL, firm.	CL		582.5 / 8.5 / 581.0				
10	6" Sonic	(10.0-13.0) (SC) CLAYEY SAND, fine poorly graded sub-rounded sand, low to medium plasticity fines, trace fine sub-rounded gravel; light brown (5YR 6/4) to grayish yellow (5Y 8/4); non-cohesive, moist, compact.	SC		10.0 / 578.0	2	SO	3.0 / 3.0	(10.0) Due to target depth of hole, drillers use a 3' run to end the hole at the desired total depth.
	6" Sonic	(13.0-17.3) (SM) SILTY SAND, fine poorly graded sub-rounded sand, non-plastic to low plasticity fines, trace fine sub-rounded gravel; light brown (5YR 5/6); non-cohesive, moist, compact.	SM		13.0 / 573.7	3	SO	10.0 / 10.0	(13.0-17.3) Silty sand sample collected at 09:30 - 8/25/2021.
15									
	6" Sonic	(17.3-21.0) (SP&SM) SAND AND SILT, fine poorly graded sub-rounded sand, non-plastic fines, trace fine sub-rounded gravel; medium gray (N5); non-cohesive, moist, compact.	SM		17.3 / 570.0				(17.3-21.0) Sand and silt sample collected at 09:30 - 8/25/2021.
20									
		(21.0-23.0) (ML) SILT, non-plastic fines, trace fine sub-rounded grained sand, trace fine sub-rounded gravel; medium gray (N5); non-cohesive, moist, very dense.	ML		21.0 / 568.0				
		END OF BORING AT 23.0 FEET BELOW GROUND SURFACE.			23.0				
25									
30									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-28

SHEET 1 of 1

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/25/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,068,619.51 E: 2,485,021.89

ELEVATION: 598.49
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-5.0) (CL) sandy SILTY CLAY, low to medium plasticity fines, fine poorly graded sub-rounded sand; moderate yellowish brown (10YR 5/4); cohesive, w~PL, soft.	CL		593.5 / 5.0	1	SO	10.0 / 10.0	
5		(5.0-11.0) (CL) SILTY CLAY, low to medium plasticity fines, trace fine poorly graded sub-rounded sand; moderate yellowish brown (10YR 5/4) cohesive, w~PL, firm.	CL		587.5 / 11.0				
10	6" Sonic	(11.0-18.0) (ML) SILT, non-plastic to low plasticity fines, some fine poorly graded sub-rounded sand; moderate yellowish brown (10YR 5/4); non-cohesive, moist, compact. (14.0) Same As Above (SAA) except, stiff.	ML		584.5 / 14.0	2	SO	10.0 / 10.0	
15					580.5 / 18.0				
20	6" Sonic	(18.0-21.5) (SM) SILTY SAND, poorly graded, fine sand, some non-plastic fines, trace fine gravel; dark yellowish orange (10YR 6/6); non-cohesive, moist, compact.	SM		577.0 / 21.5	3	SO	5.0 / 5.0	(18.0-21.5) Silty sand sample collected at 11:10 - 8/25/2021.
25		(21.5-25.0) (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand, trace gravel; medium gray (N5); non-cohesive, moist, compact.	ML		573.5 / 25.0				
		END OF BORING AT 25.0 FEET BELOW GROUND SURFACE.							
30									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-32

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant
DRILLING METHOD: Sonic
DRILLING DATE: 8/25/2021
DRILL RIG: Mini Sonic CC 150
DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,069,344.55 E: 2,487,609.44
ELEVATION: 615.91
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-10.0) CCR - (SM) SILTY SAND, fine poorly graded sub-rounded sand, non-plastic fines; medium dark gray (N4) to black (N1), ASH; non-cohesive, dry, loose.	SM		605.9 / 10.0	1	SO	5.0 / 10.0	(0.0) Poor recovery due to material falling out of core barrel during recovery.
10	6" Sonic	(10.0-17.0) (CL) sandy CLAY, medium to high plasticity fines, fine poorly graded sub-rounded sand; light olive gray (5Y 5/2) with light gray (N6) sand; cohesive, w~PL, firm.	CL		598.9 / 17.0	2	SO	10.0 / 10.0	
15		(17.0-21.0) (CL) SILTY CLAY, low to medium plasticity fines, trace fine sub-rounded sand; dusky yellowish brown (10YR 2/2); cohesive, w~PL, stiff.	CL		594.9 / 21.0				
20	6" Sonic	(21.0-30.0) (CL) SILTY CLAY, medium plasticity fines, trace fine sub-rounded sand; light olive gray (5Y 5/2) and dark yellowish orange (10YR 6/6); cohesive, w~PL, firm.	CL		585.9	3	SO	10.0 / 10.0	
25									
30		Log continued on next page							

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon
LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-32

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/25/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,069,344.55 E: 2,487,609.44

ELEVATION: 615.91
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
30	6" Sonic	(30.0-36.0) (CL) sandy SILTY CLAY, medium plasticity fines, fine poorly graded sub-rounded sand, trace gravel; moderate yellowish brown (10YR 5/4); cohesive, w~PL, firm.	CL		30.0	4	SO	10.0 / 10.0	(31.0-36.0) Sandy silty clay sample collected at 15:25 - 8/25/2021.
35					579.9				
		(36.0-40.0) (ML) CLAYEY SILT, non-plastic fines, some fine poorly graded sub-rounded sand, trace fine gravel; light gray (N7); non-cohesive, moist, very dense.	ML		36.0				
40					575.9				
		END OF BORING AT 40.0 FEET BELOW GROUND SURFACE.			40.0				
45									
50									
55									
60									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

RECORD OF BOREHOLE K-SB-XPW03

SHEET 1 of 1

PROJECT: Part 845 MNA Evaluation
PROJECT NUMBER: 21454831
LOCATION: Kincaid Power Plant

DRILLING METHOD: Sonic
DRILLING DATE: 8/26/2021
DRILL RIG: Mini Sonic CC 150

DATUM: N/A
AZIMUTH: N/A
COORDINATES: N: 1,068,727.56 E: 2,485,608.71

ELEVATION: 616
INCLINATION: -90

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC / ATT	REMARKS
0	6" Sonic	(0.0-2.0) CCR - (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand, trace fine sub-rounded gravel; black (N1), ASH; non-cohesive, dry, loose.	ML		614.0				
		(2.0-3.5) CCR - (ML) CLAYEY SILT, non-plastic to low plasticity fines, some fine poorly graded sub-rounded sand; light brown (5YR 5/6), ASH; cohesive, w<PL, firm.	ML		2.0 612.5				
5		(3.5-10.0) CCR - (ML) sandy SILT, non-plastic fines, fine poorly graded sub-rounded sand, trace fine sub-rounded gravel; black (N1), ASH; non-cohesive, dry, loose.	ML		3.5	1	SO	10.0 10.0	
		(9.0) Same As Above (SAA) except, moist.			607.0 9.0 606.0				
10	6" Sonic	(10.0-20.0) CCR - (ML) SILT, non-plastic fines, some fine poorly graded sub-rounded sand, trace fine sub-rounded gravel; black (N1), ASH; non-cohesive, moist, loose.	ML		10.0	2	SO	7.0 10.0	(10.0-20.0) CCR material sample collected at 11:10 - 8/26/2021.
15									
20		END OF BORING AT 20.0 FEET BELOW GROUND SURFACE.			596.0 20.0				
25									
30									

SCALE: 1 in = 3.8 ft
DRILLING CONTRACTOR: Cascade Environmental
DRILLER: D. Gordon

LOGGED: BTT
CHECKED: EMS
REVIEWED:

GOLDER

GOLDER STL RECORD OF BOREHOLE MWD KINCAID.GPJ GLDR_CO.GDT 12/16/21

APPENDIX B

Eurofins TestAmerica Laboratory Data

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-24471-1
Client Project/Site: Kincaid Power Station - Illinois

For:
Golder Associates Inc.
701 Emerson Road
Suite 250
Creve Coeur, Missouri 63141

Attn: Jeffrey Ingram

Ryan Henry

Authorized for release by:
11/29/2021 3:12:20 PM

Ryan Henry, Project Manager I
(865)291-3000
williamr.henry@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Qualifiers

Metals

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
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.

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: 140-24471-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative
140-24471-1

Receipt
The samples were received on 9/3/2021 at 9:45am and arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5º C.

Metals
7 Step Sequential Extraction Procedure

These soil samples were prepared and analyzed using Eurofins TestAmerica Knoxville standard operating procedure KNOX-MT-0008, "7 Step Sequential Extraction Procedure". SW-846 Method 6010B as incorporated in Eurofins TestAmerica Knoxville standard operating procedure KNOX-MT-0007 was used to perform the final instrument analyses.

An aliquot of each sample was sequentially extracted using the steps listed below:

· Step 1 - Exchangeable Fraction: A 5 gram aliquot of sample was extracted with 25 mL of 1M magnesium sulfate (MgSO4), centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
· Step 2 - Carbonate Fraction: The sample residue from step 1 was extracted with 25 mL of 1M sodium acetate/acetic acid (NaOAc/HOAc) at pH 5, centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
· Step 3 - Non-crystalline Materials Fraction: The sample residue from step 2 was extracted with 25 mL of 0.2M ammonium oxalate (pH 3), centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
· Step 4 - Metal Hydroxide Fraction: The sample residue from step 3 was extracted with 25 mL of 1M hydroxylamine hydrochloride solution in 25% v/v acetic acid, centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
· Step 5 - Organic-bound Fraction: The sample residue from step 4 was extracted three times with 25 mL of 5% sodium hypochlorite (NaClO) at pH 9.5, centrifuged and filtered. The resulting leachates were combined and 5 mL were digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
· Step 6 - Acid/Sulfide Fraction: The sample residue from step 5 was extracted with 25 mL of a 3:1:2 v/v solution of HCl-HNO3-H2O, centrifuged and filtered. 5 mL of the resulting leachate was diluted to 50 mL with reagent water and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
· Step 7 - Residual Fraction: A 1.0 g aliquot of the sample residue from step 6 was digested using HF, HNO3, HCl and H3BO3. The digestate was analyzed by ICP using method 6010B. Results are reported in mg/kg on a dry weight basis.

In addition, a 1.0 g aliquot of the original sample was digested using HF, HNO3, HCl and H3BO3. The digestate was analyzed by ICP using method 6010B. Total metal results are reported in mg/kg on a dry weight basis.

Results were calculated using the following equation:

Result, µg/g or mg/Kg, dry weight = (C × V × V1 × D) / (W × S × V2)

Where:
C = Concentration from instrument readout, µg/mL
V = Final volume of digestate, mL
D = Instrument dilution factor
V1 = Total volume of leachate, mL
V2 = Volume of leachate digested, mL
W = Wet weight of sample, g
S = Percent solids/100

A method blank, laboratory control sample and laboratory control sample duplicate were prepared and analyzed with each SEP step in

Job ID: 140-24471-1 (Continued)

Laboratory: Eurofins TestAmerica, Knoxville (Continued)

order to provide information about both the presence of elements of interest in the extraction solutions, and the recovery of elements of interest from the extraction solutions. Results outside of laboratory QC limits do not reflect out of control performance, but rather the effect of the extraction solution upon the analyte.

A laboratory sample duplicate was prepared and analyzed with each batch of samples in order to provide information regarding the reproducibility of the procedure.

SEP Report Notes:

The final report lists the results for each step, the result for the total digestion of the sample, and a sum of the results of steps 1 through 7 by element.

Magnesium was not reported for step 1 because the extraction solution for this step (magnesium sulfate) contains high levels of magnesium. Sodium was not reported for steps 2 and 5 since the extraction solutions for these steps contain high levels of sodium. The sum of steps 1 through 7 is much higher than the total result for sodium and magnesium due to the magnesium and sodium introduced by the extraction solutions.

The digestates for steps 1, 2 and 5 were analyzed at a dilution due to instrument problems caused by the high solids content of the digestates. The reporting limits were adjusted accordingly.

Method 6010B: The serial dilution performed for the following sample associated with batch 140-56350 was outside control limits: (140-24471-A-12-A SD ^10) and (140-24471-A-12-A SD ^25)

Method 6010B: The following samples were diluted due to the nature of the sample matrix: K-SB-02 (10-14.7) (140-24471-1), K-SB-02 (14.7-17.5) (140-24471-2), K-SB-12 (13-17.3) (140-24471-3), K-SB-12 (17.3-21.0) (140-24471-4), K-SB-28 (18-21.5) (140-24471-5), K-SB-07 (7-10) (140-24471-6), K-SB-07 (10-15) (140-24471-7), K-SB-32 (31-36) (140-24471-8), K-SB-03 (19-20) (140-24471-9), K-SB-08 (4-7) (140-24471-10), K-SB-08 (13-17) (140-24471-11) and K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided for aluminum and calcium.

Method 6010B: The following samples were diluted to bring the concentration of target analyte, iron, within the calibration range: K-SB-02 (10-14.7) (140-24471-1) and K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided.

Method 6010B: The following samples were diluted due to the presence of Iron which interferes with Arsenic and Selenium: K-SB-02 (10-14.7) (140-24471-1) and K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided.

Method 6010B: The following samples were diluted due to the presence of silicon which interferes with Arsenic, Lead and Selenium: K-SB-12 (17.3-21.0) (140-24471-4), K-SB-28 (18-21.5) (140-24471-5) and K-SB-03 (19-20) (140-24471-9). Elevated reporting limits (RLs) are provided.

Method 6010B: The following samples were diluted due to the presence of titanium which interferes with Cobalt and Lead: K-SB-07 (7-10) (140-24471-6), K-SB-08 (4-7) (140-24471-10) and K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided.

Method 6010B: The following samples were diluted due to the presence of Aluminum which interferes with Lead: K-SB-07 (7-10) (140-24471-6) and K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided.

Method 6010B: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: K-SB-07 (7-10) (140-24471-6) and K-SB-XPW03 (10-20) (140-24471-12).

Method 6010B SEP: LCSD for the following prep/analytical batch had low recoveries for lead and molybdenum. Recoveries were slightly outside the acceptance limits of 70-120%. LCS met acceptance criteria.

Job ID: 140-24471-1 (Continued)

Laboratory: Eurofins TestAmerica, Knoxville (Continued)

(LCSD 140-55278/20-B ^5)

Method 6010B SEP: The method blank associated with the following prep/analytical batch was high for iron. The method blank was reanalyzed on 11/12/21 and met acceptance criteria. Contamination of the method blank may have caused the high result for iron.

(MB 140-55232/18-B ^4)

Method 6010B SEP: The method blank for the following prep/analytical batch was high for iron and aluminum. The method blank was reanalyzed on 11/12/21 and met acceptance criteria. Contamination of the method blank may have caused the high iron and aluminum results.

(MB 140-55278/18-B ^3)

Method 6010B SEP: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: K-SB-XPW03 (10-20) (140-24471-12).

Method 6010B SEP: The following samples were diluted due to the nature of the sample matrix: K-SB-02 (10-14.7) (140-24471-1), K-SB-07 (7-10) (140-24471-6), K-SB-08 (4-7) (140-24471-10), K-SB-08 (13-17) (140-24471-11) and K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided for aluminum and calcium.

Method 6010B SEP: The following sample was diluted due to the presence of Iron which interferes with Arsenic and Selenium: K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided.

Method 6010B SEP: The following sample was diluted to bring the concentration of target analyte, iron, within the calibration range: K-SB-XPW03 (10-20) (140-24471-12). Elevated reporting limits (RLs) are provided.

Method 6010B SEP: The following sample was diluted due to the presence of silicon which interferes with Arsenic, Lead and Selenium: K-SB-07 (7-10) (140-24471-6). Elevated reporting limits (RLs) are provided.

Method 6010B SEP: The following samples were diluted due to the presence of titanium which interferes with Cobalt and Lead: K-SB-02 (10-14.7) (140-24471-1), K-SB-02 (14.7-17.5) (140-24471-2), K-SB-07 (7-10) (140-24471-6), K-SB-07 (10-15) (140-24471-7), K-SB-32 (31-36) (140-24471-8), K-SB-08 (4-7) (140-24471-10), K-SB-08 (13-17) (140-24471-11) and K-SB-XPW03 (10-20) (140-24471-12). 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
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-24471-1	K-SB-02 (10-14.7)	Solid	08/25/21 07:30	09/03/21 09:45
140-24471-2	K-SB-02 (14.7-17.5)	Solid	08/25/21 07:30	09/03/21 09:45
140-24471-3	K-SB-12 (13-17.3)	Solid	08/25/21 09:30	09/03/21 09:45
140-24471-4	K-SB-12 (17.3-21.0)	Solid	08/25/21 09:30	09/03/21 09:45
140-24471-5	K-SB-28 (18-21.5)	Solid	08/25/21 11:10	09/03/21 09:45
140-24471-6	K-SB-07 (7-10)	Solid	08/25/21 13:10	09/03/21 09:45
140-24471-7	K-SB-07 (10-15)	Solid	08/25/21 13:30	09/03/21 09:45
140-24471-8	K-SB-32 (31-36)	Solid	08/25/21 15:25	09/03/21 09:45
140-24471-9	K-SB-03 (19-20)	Solid	08/26/21 08:15	09/03/21 09:45
140-24471-10	K-SB-08 (4-7)	Solid	08/26/21 09:25	09/03/21 09:45
140-24471-11	K-SB-08 (13-17)	Solid	08/26/21 09:55	09/03/21 09:45
140-24471-12	K-SB-XPW03 (10-20)	Solid	08/26/21 11:10	09/03/21 09:45

Client Sample ID: K-SB-02 (10-14.7)
Date Collected: 08/25/21 07:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-1
Matrix: Solid
Percent Solids: 80.2

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**45**	**J B**	50	8.0	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Arsenic	ND		2.5	0.65	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Beryllium	ND		1.2	0.38	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Calcium	**1700**	**B**	1200	9.5	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Chromium	ND		2.5	0.35	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Cobalt	ND		12	0.22	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Iron	**49**	**B**	25	14	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Lead	ND		2.5	0.55	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Lithium	ND		12	0.75	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Manganese	**0.59**	**J B**	3.7	0.15	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Molybdenum	ND		10	0.41	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4
Selenium	ND		2.5	0.85	mg/Kg	☼	11/03/21 08:00	11/11/21 16:17	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**62**	**B**	37	6.0	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Arsenic	ND		1.9	0.49	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Beryllium	**0.14**	**J B**	0.94	0.060	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Calcium	**880**	**J B**	940	8.2	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Chromium	ND		1.9	0.26	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Cobalt	ND		9.4	0.24	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Iron	**52**	**B**	19	11	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Lead	ND	*-	1.9	0.41	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Lithium	ND		9.4	0.56	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Manganese	**3.1**		2.8	1.0	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Molybdenum	ND	*-	7.5	0.31	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3
Selenium	ND		1.9	0.64	mg/Kg	☼	11/04/21 08:00	11/11/21 18:19	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**340**		12	2.6	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Arsenic	**0.50**	**J**	0.62	0.16	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Beryllium	**0.11**	**J**	0.31	0.019	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Calcium	**6.9**	**J**	310	1.9	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Chromium	**0.15**	**J**	0.62	0.087	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Cobalt	**0.56**	**J**	3.1	0.056	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Iron	**250**		6.2	3.6	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Lead	**0.67**		0.62	0.14	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Lithium	ND		3.1	0.19	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Manganese	**25**	**B**	0.94	0.034	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Molybdenum	ND		2.5	0.10	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1
Selenium	ND		0.62	0.21	mg/Kg	☼	11/05/21 08:00	11/12/21 16:03	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3400**		12	2.0	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Arsenic	**2.4**	**B**	0.62	0.27	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Beryllium	**0.36**		0.31	0.020	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Calcium	**910**		310	2.7	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Chromium	**5.7**		0.62	0.087	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1

Client Sample ID: K-SB-02 (10-14.7)
Date Collected: 08/25/21 07:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-1
Matrix: Solid
Percent Solids: 80.2

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.9	J	3.1	0.066	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Iron	9500		6.2	3.6	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Lead	6.7		0.62	0.14	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Lithium	3.7		3.1	0.19	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Manganese	78		0.94	0.16	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Molybdenum	0.17	J	2.5	0.10	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1
Selenium	1.3		0.62	0.59	mg/Kg	☼	11/08/21 08:00	11/16/21 12:09	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		190	29	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Arsenic	ND		9.4	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Beryllium	ND		4.7	0.39	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Calcium	170	J B	4700	14	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Chromium	4.1	J	9.4	1.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Cobalt	ND		47	0.75	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Iron	ND		94	55	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Lead	ND		9.4	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Lithium	6.3	J B	47	2.7	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Manganese	3.6	J *1	14	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Molybdenum	ND		37	1.6	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5
Selenium	ND		9.4	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:11	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000		12	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Arsenic	1.9		0.62	0.19	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Beryllium	0.21	J	0.31	0.015	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Calcium	210	J	310	2.6	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Chromium	10		0.62	0.087	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Cobalt	2.2	J	3.1	0.057	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Iron	10000		6.2	3.6	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Lead	3.2		0.62	0.14	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Lithium	7.1		3.1	0.19	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Manganese	45		0.94	0.31	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Molybdenum	ND		2.5	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1
Selenium	0.88		0.62	0.21	mg/Kg	☼	11/10/21 08:00	11/16/21 16:15	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	22000		120	20	mg/Kg	☼	11/11/21 08:00	11/20/21 11:26	10
Arsenic	0.96		0.62	0.16	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Beryllium	0.22	J	0.31	0.020	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Calcium	1200		310	3.2	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Chromium	17		0.62	0.087	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Cobalt	1.1	J	6.2	0.065	mg/Kg	☼	11/11/21 08:00	11/20/21 15:13	2
Iron	5200		6.2	5.1	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Lead	4.6		1.2	0.27	mg/Kg	☼	11/11/21 08:00	11/20/21 15:13	2
Lithium	14		3.1	0.19	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Manganese	44		0.94	0.14	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-02 (10-14.7)
Date Collected: 08/25/21 07:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-1
Matrix: Solid
Percent Solids: 80.2

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.5	0.10	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1
Selenium	**0.34**	**J**	0.62	0.21	mg/Kg	☼	11/11/21 08:00	11/20/21 13:11	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**37000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**5.7**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**1.0**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**5000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**37**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**6.8**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**25000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**15**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**31**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**200**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	**0.17**	**J**	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**2.5**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**46000**		120	20	mg/Kg	☼	10/28/21 08:00	11/24/21 10:53	10
Arsenic	**9.5**		1.2	0.32	mg/Kg	☼	10/28/21 08:00	11/24/21 14:03	2
Beryllium	**1.1**		0.31	0.020	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Calcium	**5400**		3100	32	mg/Kg	☼	10/28/21 08:00	11/24/21 10:53	10
Chromium	**30**		0.62	0.087	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Cobalt	**10**		3.1	0.032	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Iron	**36000**		12	10	mg/Kg	☼	10/28/21 08:00	11/24/21 14:03	2
Lead	**17**		0.62	0.14	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Lithium	**22**		3.1	0.19	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Manganese	**480**		0.94	0.14	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Molybdenum	**0.80**	**J**	2.5	0.10	mg/Kg	☼	10/28/21 08:00	11/24/21 12:05	1
Selenium	**2.9**		1.2	0.42	mg/Kg	☼	10/28/21 08:00	11/24/21 14:03	2

Client Sample ID: K-SB-02 (14.7-17.5)
Date Collected: 08/25/21 07:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-2
Matrix: Solid
Percent Solids: 86.4

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**53**	**B**	46	7.4	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Arsenic	ND		2.3	0.60	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Beryllium	ND		1.2	0.36	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Calcium	**1200**	**B**	1200	8.8	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Chromium	**0.41**	**J**	2.3	0.32	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Cobalt	ND		12	0.21	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Iron	**56**	**B**	23	13	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Lead	ND		2.3	0.51	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Lithium	ND		12	0.69	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Manganese	**2.4**	**J B**	3.5	0.14	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Molybdenum	ND		9.3	0.38	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4
Selenium	ND		2.3	0.79	mg/Kg	☼	11/03/21 08:00	11/11/21 16:22	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**61**	**B**	35	5.6	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Arsenic	ND		1.7	0.45	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Beryllium	**0.12**	**J B**	0.87	0.056	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Calcium	**5900**	**B**	870	7.6	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Chromium	ND		1.7	0.24	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Cobalt	ND		8.7	0.22	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Iron	**53**	**B**	17	10	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Lead	**1.4**	**J *-**	1.7	0.38	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Lithium	ND		8.7	0.52	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Manganese	**81**		2.6	0.97	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Molybdenum	ND	*-	6.9	0.28	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3
Selenium	ND		1.7	0.59	mg/Kg	☼	11/04/21 08:00	11/11/21 18:24	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**120**		12	2.4	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Arsenic	**0.28**	**J**	0.58	0.15	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Beryllium	**0.037**	**J**	0.29	0.017	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Calcium	**8.5**	**J**	290	1.7	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Chromium	**0.32**	**J**	0.58	0.081	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Cobalt	**0.85**	**J**	2.9	0.052	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Iron	**270**		5.8	3.4	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Lead	ND		0.58	0.13	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Lithium	**0.17**	**J**	2.9	0.17	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Manganese	**60**	**B**	0.87	0.031	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Molybdenum	ND		2.3	0.095	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1
Selenium	ND		0.58	0.20	mg/Kg	☼	11/05/21 08:00	11/12/21 16:08	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1200**		12	1.9	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Arsenic	**1.9**	**B**	0.58	0.25	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Beryllium	**0.18**	**J**	0.29	0.019	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Calcium	**8300**		290	2.5	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Chromium	**2.7**		0.58	0.081	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1

Client Sample ID: K-SB-02 (14.7-17.5)
Date Collected: 08/25/21 07:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-2
Matrix: Solid
Percent Solids: 86.4

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.4	J	2.9	0.061	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Iron	4800		5.8	3.4	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Lead	5.6		0.58	0.13	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Lithium	1.2	J	2.9	0.17	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Manganese	85		0.87	0.15	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Molybdenum	0.20	J	2.3	0.095	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1
Selenium	0.65		0.58	0.54	mg/Kg	☼	11/08/21 08:00	11/16/21 12:14	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	200		170	27	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Arsenic	ND		8.7	2.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Beryllium	ND		4.3	0.36	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Calcium	7800	B	4300	13	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Chromium	2.4	J	8.7	1.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Cobalt	ND		43	0.69	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Iron	ND		87	51	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Lead	ND		8.7	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Lithium	5.4	J B	43	2.5	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Manganese	6.3	J *1	13	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Molybdenum	ND		35	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5
Selenium	ND		8.7	3.0	mg/Kg	☼	11/10/21 08:00	11/16/21 14:16	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5400		12	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Arsenic	1.6		0.58	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Beryllium	0.12	J	0.29	0.014	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Calcium	3100		290	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Chromium	7.2		0.58	0.081	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Cobalt	1.6	J	2.9	0.053	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Iron	5800		5.8	3.4	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Lead	3.2		0.58	0.13	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Lithium	5.0		2.9	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Manganese	54		0.87	0.29	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Molybdenum	ND		2.3	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1
Selenium	0.41	J	0.58	0.20	mg/Kg	☼	11/10/21 08:00	11/16/21 16:20	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	15000		12	1.9	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Arsenic	0.87		0.58	0.15	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Beryllium	0.26	J	0.29	0.019	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Calcium	1200		290	3.0	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Chromium	15		0.58	0.081	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Cobalt	0.90	J	5.8	0.060	mg/Kg	☼	11/11/21 08:00	11/20/21 15:18	2
Iron	4200		5.8	4.7	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Lead	4.7		1.2	0.25	mg/Kg	☼	11/11/21 08:00	11/20/21 15:18	2
Lithium	9.9		2.9	0.17	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Manganese	48		0.87	0.13	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1

Client Sample ID: K-SB-02 (14.7-17.5)
Date Collected: 08/25/21 07:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-2
Matrix: Solid
Percent Solids: 86.4

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.3	0.095	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1
Selenium	ND		0.58	0.20	mg/Kg	☼	11/11/21 08:00	11/20/21 13:16	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**22000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**4.7**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**0.72**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**28000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**28**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**4.7**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**15000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**15**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**22**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**340**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	**0.20**	**J**	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**1.1**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**24000**		120	19	mg/Kg	☼	10/28/21 08:00	11/24/21 10:58	10
Arsenic	**3.2**		0.58	0.15	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Beryllium	**0.50**		0.29	0.019	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Calcium	**33000**		2900	30	mg/Kg	☼	10/28/21 08:00	11/24/21 10:58	10
Chromium	**19**		0.58	0.081	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Cobalt	**3.3**		2.9	0.030	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Iron	**12000**		5.8	4.7	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Lead	**12**		0.58	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Lithium	**13**		2.9	0.17	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Manganese	**280**		0.87	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Molybdenum	**0.39**	**J**	2.3	0.095	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1
Selenium	**0.55**	**J**	0.58	0.20	mg/Kg	☼	10/28/21 08:00	11/24/21 12:10	1

Client Sample ID: K-SB-12 (13-17.3)
Date Collected: 08/25/21 09:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-3
Matrix: Solid
Percent Solids: 86.3

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**40**	**J B**	46	7.4	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Arsenic	ND		2.3	0.60	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Beryllium	ND		1.2	0.36	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Calcium	**1000**	**J B**	1200	8.8	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Chromium	ND		2.3	0.32	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Cobalt	ND		12	0.21	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Iron	**54**	**B**	23	13	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Lead	ND		2.3	0.51	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Lithium	ND		12	0.70	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Manganese	**0.64**	**J B**	3.5	0.14	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Molybdenum	ND		9.3	0.38	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4
Selenium	ND		2.3	0.79	mg/Kg	☼	11/03/21 08:00	11/11/21 16:27	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**64**	**B**	35	5.6	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Arsenic	ND		1.7	0.45	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Beryllium	**0.11**	**J B**	0.87	0.056	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Calcium	**7900**	**B**	870	7.7	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Chromium	**0.93**	**J**	1.7	0.24	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Cobalt	ND		8.7	0.22	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Iron	**92**	**B**	17	10	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Lead	ND	*-	1.7	0.38	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Lithium	ND		8.7	0.52	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Manganese	**49**		2.6	0.97	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Molybdenum	ND	*-	7.0	0.29	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3
Selenium	ND		1.7	0.59	mg/Kg	☼	11/04/21 08:00	11/11/21 18:29	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**62**		12	2.4	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Arsenic	**0.22**	**J**	0.58	0.15	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Beryllium	ND		0.29	0.017	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Calcium	**8.9**	**J**	290	1.7	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Chromium	**0.21**	**J**	0.58	0.081	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Cobalt	**1.6**	**J**	2.9	0.052	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Iron	**210**		5.8	3.4	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Lead	ND		0.58	0.13	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Lithium	**0.20**	**J**	2.9	0.17	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Manganese	**190**	**B**	0.87	0.031	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Molybdenum	ND		2.3	0.095	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1
Selenium	**0.24**	**J**	0.58	0.20	mg/Kg	☼	11/05/21 08:00	11/12/21 16:13	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**610**		12	1.9	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Arsenic	**1.8**	**B**	0.58	0.26	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Beryllium	**0.12**	**J**	0.29	0.019	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Calcium	**12000**		290	2.6	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Chromium	**2.0**		0.58	0.081	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1

Client Sample ID: K-SB-12 (13-17.3)
Date Collected: 08/25/21 09:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-3
Matrix: Solid
Percent Solids: 86.3

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.99	J	2.9	0.061	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Iron	4700		5.8	3.4	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Lead	5.0		0.58	0.13	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Lithium	0.99	J	2.9	0.17	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Manganese	100		0.87	0.15	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Molybdenum	0.18	J	2.3	0.095	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1
Selenium	0.74		0.58	0.54	mg/Kg	☼	11/08/21 08:00	11/16/21 12:19	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	230		170	27	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Arsenic	ND		8.7	2.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Beryllium	ND		4.3	0.37	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Calcium	9000	B	4300	13	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Chromium	2.7	J	8.7	1.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Cobalt	ND		43	0.70	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Iron	ND		87	51	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Lead	ND		8.7	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Lithium	5.8	J B	43	2.6	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Manganese	7.4	J *1	13	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Molybdenum	ND		35	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5
Selenium	ND		8.7	3.0	mg/Kg	☼	11/10/21 08:00	11/16/21 14:21	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4200		12	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Arsenic	3.7		0.58	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Beryllium	0.15	J	0.29	0.014	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Calcium	5000		290	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Chromium	8.2		0.58	0.081	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Cobalt	2.3	J	2.9	0.053	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Iron	7900		5.8	3.4	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Lead	3.3		0.58	0.13	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Lithium	6.3		2.9	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Manganese	73		0.87	0.29	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Molybdenum	0.19	J	2.3	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1
Selenium	0.72		0.58	0.20	mg/Kg	☼	11/10/21 08:00	11/16/21 16:25	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	18000		12	1.9	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Arsenic	1.0		0.58	0.15	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Beryllium	0.36		0.29	0.019	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Calcium	1500		290	3.0	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Chromium	14		0.58	0.081	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Cobalt	0.57	J	2.9	0.030	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Iron	4000		5.8	4.8	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Lead	3.2		0.58	0.13	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Lithium	10		2.9	0.17	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Manganese	31		0.87	0.13	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1

Client Sample ID: K-SB-12 (13-17.3)

Date Collected: 08/25/21 09:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-3

Matrix: Solid
Percent Solids: 86.3

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.12	J	2.3	0.095	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1
Selenium	ND		0.58	0.20	mg/Kg	☼	11/11/21 08:00	11/20/21 13:21	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	23000		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	6.7		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	0.73		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	37000		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	28		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	5.5		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	17000		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	12		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	24		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	450		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	0.49	J	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	1.7		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	31000		120	19	mg/Kg	☼	10/28/21 08:00	11/24/21 11:02	10
Arsenic	4.9		0.58	0.15	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Beryllium	0.57		0.29	0.019	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Calcium	55000		2900	30	mg/Kg	☼	10/28/21 08:00	11/24/21 11:02	10
Chromium	19		0.58	0.081	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Cobalt	3.9		2.9	0.030	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Iron	13000		5.8	4.8	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Lead	9.7		0.58	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Lithium	15		2.9	0.17	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Manganese	360		0.87	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Molybdenum	0.38	J	2.3	0.095	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1
Selenium	0.39	J	0.58	0.20	mg/Kg	☼	10/28/21 08:00	11/24/21 12:25	1

Client Sample ID: K-SB-12 (17.3-21.0)
Date Collected: 08/25/21 09:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-4
Matrix: Solid
Percent Solids: 90.0

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	41	J B	44	7.1	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Arsenic	ND		2.2	0.58	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Beryllium	ND		1.1	0.34	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Calcium	770	J B	1100	8.4	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Chromium	ND		2.2	0.31	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Cobalt	ND		11	0.20	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Iron	45	B	22	13	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Lead	ND		2.2	0.49	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Lithium	ND		11	0.67	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Manganese	9.3	B	3.3	0.14	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Molybdenum	ND		8.9	0.36	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4
Selenium	ND		2.2	0.76	mg/Kg	☼	11/03/21 08:00	11/11/21 16:32	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	63	B	33	5.3	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Arsenic	ND		1.7	0.43	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Beryllium	0.10	J B	0.83	0.053	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Calcium	14000	B	830	7.3	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Chromium	0.36	J	1.7	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Cobalt	0.54	J	8.3	0.21	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Iron	210	B	17	9.7	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Lead	0.54	J *-	1.7	0.37	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Lithium	ND		8.3	0.50	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Manganese	62		2.5	0.93	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Molybdenum	ND	*-	6.7	0.27	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3
Selenium	ND		1.7	0.57	mg/Kg	☼	11/04/21 08:00	11/11/21 18:34	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	45		11	2.3	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Arsenic	0.66		0.56	0.14	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Beryllium	ND		0.28	0.017	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Calcium	7.6	J	280	1.7	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Chromium	0.34	J	0.56	0.078	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Cobalt	0.35	J	2.8	0.050	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Iron	1000		5.6	3.2	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Lead	ND		0.56	0.12	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Lithium	ND		2.8	0.17	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Manganese	31	B	0.83	0.030	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Molybdenum	0.22	J	2.2	0.091	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1
Selenium	0.25	J	0.56	0.19	mg/Kg	☼	11/05/21 08:00	11/12/21 16:18	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	280		11	1.8	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Arsenic	0.56	B	0.56	0.24	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Beryllium	0.063	J	0.28	0.018	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Calcium	19000		280	2.4	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Chromium	1.1		0.56	0.078	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1

Client Sample ID: K-SB-12 (17.3-21.0)

Date Collected: 08/25/21 09:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-4

Matrix: Solid
Percent Solids: 90.0

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.60	J	2.8	0.059	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Iron	2900		5.6	3.2	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Lead	2.5		0.56	0.12	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Lithium	1.3	J	2.8	0.17	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Manganese	120		0.83	0.14	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Molybdenum	0.18	J	2.2	0.091	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1
Selenium	ND		0.56	0.52	mg/Kg	☼	11/08/21 08:00	11/16/21 12:24	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	110	J	170	26	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Arsenic	ND		8.3	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Beryllium	ND		4.2	0.35	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Calcium	11000	B	4200	12	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Chromium	1.3	J	8.3	1.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Cobalt	ND		42	0.67	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Iron	ND		83	49	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Lead	ND		8.3	1.8	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Lithium	6.0	J B	42	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Manganese	17	*1	13	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Molybdenum	ND		33	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5
Selenium	ND		8.3	2.9	mg/Kg	☼	11/10/21 08:00	11/16/21 14:26	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2300		11	1.8	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Arsenic	1.9		0.56	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Beryllium	0.11	J	0.28	0.013	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Calcium	5700		280	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Chromium	4.5		0.56	0.078	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Cobalt	2.1	J	2.8	0.051	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Iron	5700		5.6	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Lead	4.0		0.56	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Lithium	5.0		2.8	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Manganese	46		0.83	0.28	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Molybdenum	0.26	J	2.2	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1
Selenium	0.40	J	0.56	0.19	mg/Kg	☼	11/10/21 08:00	11/16/21 16:29	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13000		11	1.8	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Arsenic	0.64		0.56	0.14	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Beryllium	0.40		0.28	0.018	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Calcium	1100		280	2.9	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Chromium	14		0.56	0.078	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Cobalt	0.49	J	2.8	0.029	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Iron	3200		5.6	4.6	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Lead	4.2		0.56	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Lithium	8.3		2.8	0.17	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Manganese	35		0.83	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1

Client Sample ID: K-SB-12 (17.3-21.0)

Date Collected: 08/25/21 09:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-4

Matrix: Solid
Percent Solids: 90.0

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.11	J	2.2	0.091	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1
Selenium	ND		0.56	0.19	mg/Kg	☼	11/11/21 08:00	11/20/21 13:26	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	3.8		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	0.68		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	52000		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	21		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	4.1		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	13000		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	11		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	21		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	320		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	0.77	J	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	0.65		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	23000		110	18	mg/Kg	☼	10/28/21 08:00	11/24/21 11:07	10
Arsenic	4.0		1.1	0.29	mg/Kg	☼	10/28/21 08:00	11/24/21 14:08	2
Beryllium	0.48		0.28	0.018	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Calcium	50000		2800	29	mg/Kg	☼	10/28/21 08:00	11/24/21 11:07	10
Chromium	16		0.56	0.078	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Cobalt	3.3		2.8	0.029	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Iron	11000		5.6	4.6	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Lead	8.8		1.1	0.24	mg/Kg	☼	10/28/21 08:00	11/24/21 14:08	2
Lithium	12		2.8	0.17	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Manganese	310		0.83	0.12	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Molybdenum	1.3	J	2.2	0.091	mg/Kg	☼	10/28/21 08:00	11/24/21 12:30	1
Selenium	ND		1.1	0.38	mg/Kg	☼	10/28/21 08:00	11/24/21 14:08	2

Client Sample ID: K-SB-28 (18-21.5)
Lab Sample ID: 140-24471-5

Date Collected: 08/25/21 11:10
Matrix: Solid

Date Received: 09/03/21 09:45
Percent Solids: 92.0

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**130**	**B**	43	7.0	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Arsenic	ND		2.2	0.57	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Beryllium	ND		1.1	0.33	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Calcium	**880**	**J B**	1100	8.3	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Chromium	**0.45**	**J**	2.2	0.30	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Cobalt	**0.24**	**J**	11	0.20	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Iron	**120**	**B**	22	13	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Lead	ND		2.2	0.48	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Lithium	ND		11	0.65	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Manganese	**1.2**	**J B**	3.3	0.13	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Molybdenum	ND		8.7	0.36	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4
Selenium	ND		2.2	0.74	mg/Kg	☼	11/03/21 08:00	11/11/21 16:36	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**55**	**B**	33	5.2	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Arsenic	ND		1.6	0.42	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Beryllium	**0.086**	**J B**	0.82	0.052	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Calcium	**13000**	**B**	820	7.2	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Chromium	ND		1.6	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Cobalt	ND		8.2	0.21	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Iron	**78**	**B**	16	9.5	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Lead	**0.51**	**J *-**	1.6	0.36	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Lithium	ND		8.2	0.49	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Manganese	**48**		2.4	0.91	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Molybdenum	ND	*-	6.5	0.27	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3
Selenium	ND		1.6	0.55	mg/Kg	☼	11/04/21 08:00	11/11/21 18:39	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**26**		11	2.3	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Arsenic	**0.17**	**J**	0.54	0.14	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Beryllium	ND		0.27	0.016	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Calcium	**7.9**	**J**	270	1.6	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Chromium	**0.15**	**J**	0.54	0.076	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Cobalt	**0.94**	**J**	2.7	0.049	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Iron	**150**		5.4	3.2	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Lead	ND		0.54	0.12	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Lithium	ND		2.7	0.16	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Manganese	**86**	**B**	0.82	0.029	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Molybdenum	ND		2.2	0.089	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1
Selenium	ND		0.54	0.18	mg/Kg	☼	11/05/21 08:00	11/12/21 16:23	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**180**		11	1.7	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Arsenic	**0.81**	**B**	0.54	0.24	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Beryllium	**0.021**	**J**	0.27	0.017	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Calcium	**27000**		270	2.4	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Chromium	**0.90**		0.54	0.076	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1

Client Sample ID: K-SB-28 (18-21.5)
Date Collected: 08/25/21 11:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-5
Matrix: Solid
Percent Solids: 92.0

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.21	J	2.7	0.058	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Iron	2200		5.4	3.2	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Lead	3.7		0.54	0.12	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Lithium	0.59	J	2.7	0.16	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Manganese	100		0.82	0.14	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Molybdenum	ND		2.2	0.089	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1
Selenium	ND		0.54	0.51	mg/Kg	☼	11/08/21 08:00	11/16/21 12:29	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	76	J	160	26	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Arsenic	ND		8.2	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Beryllium	ND		4.1	0.34	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Calcium	10000	B	4100	12	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Chromium	1.8	J	8.2	1.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Cobalt	ND		41	0.65	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Iron	ND		82	48	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Lead	ND		8.2	1.8	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Lithium	7.0	J B	41	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Manganese	4.9	J *1	12	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Molybdenum	ND		33	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5
Selenium	ND		8.2	2.8	mg/Kg	☼	11/10/21 08:00	11/16/21 14:31	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1600		11	1.7	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Arsenic	1.8		0.54	0.16	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Beryllium	0.062	J	0.27	0.013	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Calcium	8600		270	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Chromium	3.8		0.54	0.076	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Cobalt	1.0	J	2.7	0.050	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Iron	4500		5.4	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Lead	1.9		0.54	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Lithium	3.2		2.7	0.16	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Manganese	40		0.82	0.27	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Molybdenum	ND		2.2	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1
Selenium	0.34	J	0.54	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 16:34	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	19000		11	1.7	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Arsenic	0.49	J	0.54	0.14	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Beryllium	0.29		0.27	0.017	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Calcium	2500		270	2.8	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Chromium	9.6		0.54	0.076	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Cobalt	0.42	J	2.7	0.028	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Iron	3200		5.4	4.5	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Lead	3.7		0.54	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Lithium	6.4		2.7	0.16	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Manganese	42		0.82	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-28 (18-21.5)

Date Collected: 08/25/21 11:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-5

Matrix: Solid
Percent Solids: 92.0

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.2	0.089	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1
Selenium	ND		0.54	0.18	mg/Kg	☼	11/11/21 08:00	11/20/21 13:31	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**21000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**3.3**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**0.46**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**62000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**17**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**2.8**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**10000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**9.8**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**17**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**320**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	ND		2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**0.34**	**J**	0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**14000**		110	17	mg/Kg	☼	10/28/21 08:00	11/24/21 11:12	10
Arsenic	**3.2**		1.1	0.28	mg/Kg	☼	10/28/21 08:00	11/24/21 14:14	2
Beryllium	**0.30**		0.27	0.017	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Calcium	**68000**		2700	28	mg/Kg	☼	10/28/21 08:00	11/24/21 11:12	10
Chromium	**11**		0.54	0.076	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Cobalt	**2.5**	**J**	2.7	0.028	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Iron	**9100**		5.4	4.5	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Lead	**11**		1.1	0.24	mg/Kg	☼	10/28/21 08:00	11/24/21 14:14	2
Lithium	**9.4**		2.7	0.16	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Manganese	**370**		0.82	0.12	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Molybdenum	**0.30**	**J**	2.2	0.089	mg/Kg	☼	10/28/21 08:00	11/24/21 12:35	1
Selenium	ND		1.1	0.37	mg/Kg	☼	10/28/21 08:00	11/24/21 14:14	2

Client Sample ID: K-SB-07 (7-10)
Date Collected: 08/25/21 13:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-6
Matrix: Solid
Percent Solids: 81.9

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**51**	**B**	49	7.8	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Arsenic	ND		2.4	0.63	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Beryllium	ND		1.2	0.38	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Calcium	**1700**	**B**	1200	9.3	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Chromium	ND		2.4	0.34	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Cobalt	ND		12	0.22	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Iron	**57**	**B**	24	14	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Lead	ND		2.4	0.54	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Lithium	ND		12	0.73	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Manganese	**88**	**B**	3.7	0.15	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Molybdenum	ND		9.8	0.40	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4
Selenium	ND		2.4	0.83	mg/Kg	☼	11/03/21 08:00	11/11/21 16:41	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**72**	**B**	37	5.9	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Arsenic	ND		1.8	0.48	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Beryllium	**0.20**	**J B**	0.92	0.059	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Calcium	**950**	**B**	920	8.1	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Chromium	ND		1.8	0.26	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Cobalt	ND		9.2	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Iron	**79**	**B**	18	11	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Lead	**0.72**	**J *-**	1.8	0.40	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Lithium	ND		9.2	0.55	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Manganese	**87**		2.7	1.0	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Molybdenum	ND	*-	7.3	0.30	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3
Selenium	ND		1.8	0.62	mg/Kg	☼	11/04/21 08:00	11/11/21 18:44	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**330**		12	2.6	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Arsenic	**0.51**	**J**	0.61	0.16	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Beryllium	**0.16**	**J**	0.31	0.018	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Calcium	**9.2**	**J**	310	1.8	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Chromium	**0.29**	**J**	0.61	0.085	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Cobalt	**0.76**	**J**	3.1	0.055	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Iron	**470**		6.1	3.5	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Lead	**0.97**		0.61	0.13	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Lithium	ND		3.1	0.18	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Manganese	**74**	**B**	0.92	0.033	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Molybdenum	ND		2.4	0.10	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1
Selenium	ND		0.61	0.21	mg/Kg	☼	11/05/21 08:00	11/12/21 16:28	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3600**		12	2.0	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Arsenic	**2.4**	**B**	0.61	0.27	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Beryllium	**0.36**		0.31	0.020	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Calcium	**500**		310	2.7	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Chromium	**6.6**		0.61	0.085	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1

Client Sample ID: K-SB-07 (7-10)
Date Collected: 08/25/21 13:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-6
Matrix: Solid
Percent Solids: 81.9

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	3.3		3.1	0.065	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Iron	7000		6.1	3.5	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Lead	6.2		0.61	0.13	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Lithium	2.6	J	3.1	0.18	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Manganese	110		0.92	0.16	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Molybdenum	ND		2.4	0.10	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1
Selenium	1.1		0.61	0.57	mg/Kg	☼	11/08/21 08:00	11/16/21 12:34	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		180	29	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Arsenic	ND		9.2	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Beryllium	ND		4.6	0.38	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Calcium	130	J B	4600	13	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Chromium	4.8	J	9.2	1.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Cobalt	ND		46	0.73	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Iron	ND		92	54	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Lead	ND		9.2	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Lithium	5.9	J B	46	2.7	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Manganese	12	J *1	14	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Molybdenum	ND		37	1.5	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5
Selenium	ND		9.2	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:36	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000		12	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Arsenic	2.0		0.61	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Beryllium	0.21	J	0.31	0.015	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Calcium	180	J	310	2.6	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Chromium	11		0.61	0.085	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Cobalt	1.8	J	3.1	0.056	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Iron	8700		6.1	3.5	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Lead	3.0		0.61	0.13	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Lithium	6.4		3.1	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Manganese	42		0.92	0.31	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Molybdenum	ND		2.4	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1
Selenium	0.78		0.61	0.21	mg/Kg	☼	11/10/21 08:00	11/16/21 16:49	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	26000		120	20	mg/Kg	☼	11/11/21 08:00	11/20/21 11:50	10
Arsenic	0.99	J	1.2	0.32	mg/Kg	☼	11/11/21 08:00	11/20/21 15:23	2
Beryllium	0.12	J	0.31	0.020	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1
Calcium	1500		310	3.2	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1
Chromium	16		0.61	0.085	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1
Cobalt	0.71	J	6.1	0.063	mg/Kg	☼	11/11/21 08:00	11/20/21 15:23	2
Iron	5000		6.1	5.0	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1
Lead	4.0		1.2	0.27	mg/Kg	☼	11/11/21 08:00	11/20/21 15:23	2
Lithium	13		3.1	0.18	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1
Manganese	46		0.92	0.13	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-07 (7-10)

Date Collected: 08/25/21 13:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-6

Matrix: Solid
Percent Solids: 81.9

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.4	0.10	mg/Kg	☼	11/11/21 08:00	11/20/21 13:36	1
Selenium	ND		1.2	0.42	mg/Kg	☼	11/11/21 08:00	11/20/21 15:23	2

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**41000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**5.9**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**1.0**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**5000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**39**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**6.6**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**21000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**15**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**27**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**460**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	ND		2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**1.9**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**57000**		120	20	mg/Kg	☼	10/28/21 08:00	11/24/21 11:26	10
Arsenic	**5.5**		1.2	0.32	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2
Beryllium	**0.91**		0.31	0.020	mg/Kg	☼	10/28/21 08:00	11/24/21 12:41	1
Calcium	**5800**		3100	32	mg/Kg	☼	10/28/21 08:00	11/24/21 11:26	10
Chromium	**35**		0.61	0.085	mg/Kg	☼	10/28/21 08:00	11/24/21 12:41	1
Cobalt	**6.8**		6.1	0.063	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2
Iron	**22000**		12	10	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2
Lead	**16**		1.2	0.27	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2
Lithium	**23**		6.1	0.37	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2
Manganese	**400**		0.92	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:41	1
Molybdenum	**0.25**	**J**	4.9	0.20	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2
Selenium	**1.6**		1.2	0.42	mg/Kg	☼	10/28/21 08:00	11/24/21 14:19	2

Client Sample ID: K-SB-07 (10-15)
Date Collected: 08/25/21 13:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-7
Matrix: Solid
Percent Solids: 83.8

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**40**	**J B**	48	7.6	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Arsenic	ND		2.4	0.62	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Beryllium	ND		1.2	0.37	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Calcium	**1200**	**B**	1200	9.1	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Chromium	ND		2.4	0.33	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Cobalt	ND		12	0.21	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Iron	**48**	**B**	24	14	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Lead	ND		2.4	0.53	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Lithium	ND		12	0.72	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Manganese	**0.50**	**J B**	3.6	0.15	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Molybdenum	ND		9.5	0.39	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4
Selenium	ND		2.4	0.81	mg/Kg	☼	11/03/21 08:00	11/11/21 16:46	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**66**	**B**	36	5.7	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Arsenic	ND		1.8	0.47	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Beryllium	**0.13**	**J B**	0.90	0.057	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Calcium	**780**	**J B**	900	7.9	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Chromium	ND		1.8	0.25	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Cobalt	ND		9.0	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Iron	**52**	**B**	18	10	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Lead	ND	*-	1.8	0.39	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Lithium	ND		9.0	0.54	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Manganese	**4.9**		2.7	1.0	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Molybdenum	ND	*-	7.2	0.29	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3
Selenium	ND		1.8	0.61	mg/Kg	☼	11/04/21 08:00	11/11/21 18:58	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**190**		12	2.5	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Arsenic	**0.66**		0.60	0.16	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Beryllium	**0.065**	**J**	0.30	0.018	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Calcium	**5.3**	**J**	300	1.8	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Chromium	**0.17**	**J**	0.60	0.084	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Cobalt	**1.9**	**J**	3.0	0.054	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Iron	**210**		6.0	3.5	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Lead	**0.44**	**J**	0.60	0.13	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Lithium	ND		3.0	0.18	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Manganese	**99**	**B**	0.90	0.032	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Molybdenum	ND		2.4	0.098	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1
Selenium	ND		0.60	0.20	mg/Kg	☼	11/05/21 08:00	11/12/21 16:33	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2800**		12	1.9	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Arsenic	**3.8**	**B**	0.60	0.26	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Beryllium	**0.25**	**J**	0.30	0.019	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Calcium	**1600**		300	2.6	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Chromium	**5.2**		0.60	0.084	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1

Client Sample ID: K-SB-07 (10-15)
Date Collected: 08/25/21 13:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-7
Matrix: Solid
Percent Solids: 83.8

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.8	J	3.0	0.063	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Iron	9200		6.0	3.5	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Lead	6.3		0.60	0.13	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Lithium	3.1		3.0	0.18	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Manganese	84		0.90	0.16	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Molybdenum	0.19	J	2.4	0.098	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1
Selenium	1.3		0.60	0.56	mg/Kg	☼	11/08/21 08:00	11/16/21 12:38	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	71	J	180	28	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Arsenic	ND		9.0	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Beryllium	ND		4.5	0.38	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Calcium	280	J B	4500	13	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Chromium	3.2	J	9.0	1.3	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Cobalt	ND		45	0.72	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Iron	ND		90	53	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Lead	ND		9.0	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Lithium	7.6	J B	45	2.6	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Manganese	ND	*1	13	2.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Molybdenum	ND		36	1.5	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5
Selenium	ND		9.0	3.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:51	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5900		12	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Arsenic	2.4		0.60	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Beryllium	0.15	J	0.30	0.014	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Calcium	160	J	300	2.5	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Chromium	6.7		0.60	0.084	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Cobalt	1.6	J	3.0	0.055	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Iron	6900		6.0	3.5	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Lead	2.6		0.60	0.13	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Lithium	4.5		3.0	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Manganese	40		0.90	0.30	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Molybdenum	ND		2.4	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1
Selenium	0.67		0.60	0.20	mg/Kg	☼	11/10/21 08:00	11/16/21 16:54	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	17000		12	1.9	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Arsenic	1.1		0.60	0.16	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Beryllium	0.31		0.30	0.019	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Calcium	630		300	3.1	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Chromium	18		0.60	0.084	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Cobalt	0.87	J	6.0	0.062	mg/Kg	☼	11/11/21 08:00	11/20/21 15:27	2
Iron	5100		6.0	4.9	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Lead	3.9		1.2	0.26	mg/Kg	☼	11/11/21 08:00	11/20/21 15:27	2
Lithium	13		3.0	0.18	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Manganese	38		0.90	0.13	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1

Client Sample ID: K-SB-07 (10-15)
Date Collected: 08/25/21 13:30
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-7
Matrix: Solid
Percent Solids: 83.8

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.4	0.098	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1
Selenium	ND		0.60	0.20	mg/Kg	☼	11/11/21 08:00	11/20/21 13:41	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**26000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**7.9**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**0.91**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**4700**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**33**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**7.2**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**22000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**13**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**28**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**270**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	**0.19**	**J**	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**2.0**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**44000**		120	19	mg/Kg	☼	10/28/21 08:00	11/24/21 11:31	10
Arsenic	**6.4**		0.60	0.16	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Beryllium	**0.80**		0.30	0.019	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Calcium	**6100**		3000	31	mg/Kg	☼	10/28/21 08:00	11/24/21 11:31	10
Chromium	**28**		0.60	0.084	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Cobalt	**5.6**		3.0	0.031	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Iron	**19000**		6.0	4.9	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Lead	**13**		0.60	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Lithium	**19**		3.0	0.18	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Manganese	**230**		0.90	0.13	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Molybdenum	**0.37**	**J**	2.4	0.098	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1
Selenium	**1.4**		0.60	0.20	mg/Kg	☼	10/28/21 08:00	11/24/21 12:46	1

Client Sample ID: K-SB-32 (31-36)
Date Collected: 08/25/21 15:25
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-8
Matrix: Solid
Percent Solids: 90.2

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**43**	**J B**	44	7.1	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Arsenic	ND		2.2	0.58	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Beryllium	ND		1.1	0.34	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Calcium	**1000**	**J B**	1100	8.4	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Chromium	**0.57**	**J**	2.2	0.31	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Cobalt	ND		11	0.20	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Iron	**52**	**B**	22	13	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Lead	ND		2.2	0.49	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Lithium	ND		11	0.67	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Manganese	**1.4**	**J B**	3.3	0.14	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Molybdenum	ND		8.9	0.36	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4
Selenium	ND		2.2	0.75	mg/Kg	☼	11/03/21 08:00	11/11/21 17:01	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**58**	**B**	33	5.3	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Arsenic	ND		1.7	0.43	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Beryllium	**0.093**	**J B**	0.83	0.053	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Calcium	**15000**	**B**	830	7.3	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Chromium	ND		1.7	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Cobalt	ND		8.3	0.21	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Iron	**57**	**B**	17	9.6	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Lead	ND	*-	1.7	0.37	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Lithium	ND		8.3	0.50	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Manganese	**40**		2.5	0.93	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Molybdenum	ND	*-	6.7	0.27	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3
Selenium	ND		1.7	0.57	mg/Kg	☼	11/04/21 08:00	11/11/21 19:03	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**49**		11	2.3	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Arsenic	**0.23**	**J**	0.55	0.14	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Beryllium	ND		0.28	0.017	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Calcium	**8.4**	**J**	280	1.7	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Chromium	**0.16**	**J**	0.55	0.078	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Cobalt	**2.1**	**J**	2.8	0.050	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Iron	**140**		5.5	3.2	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Lead	ND		0.55	0.12	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Lithium	ND		2.8	0.17	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Manganese	**190**	**B**	0.83	0.030	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Molybdenum	ND		2.2	0.091	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1
Selenium	ND		0.55	0.19	mg/Kg	☼	11/05/21 08:00	11/12/21 16:37	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**390**		11	1.8	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Arsenic	**1.6**	**B**	0.55	0.24	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Beryllium	**0.084**	**J**	0.28	0.018	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Calcium	**21000**		280	2.4	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Chromium	**1.2**		0.55	0.078	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1

Client Sample ID: K-SB-32 (31-36)

Date Collected: 08/25/21 15:25
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-8

Matrix: Solid
Percent Solids: 90.2

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.71	J	2.8	0.059	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Iron	3200		5.5	3.2	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Lead	5.4		0.55	0.12	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Lithium	0.99	J	2.8	0.17	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Manganese	130		0.83	0.14	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Molybdenum	0.16	J	2.2	0.091	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1
Selenium	0.53	J	0.55	0.52	mg/Kg	☼	11/08/21 08:00	11/16/21 12:53	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	150	J	170	26	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Arsenic	ND		8.3	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Beryllium	ND		4.2	0.35	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Calcium	11000	B	4200	12	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Chromium	2.1	J	8.3	1.2	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Cobalt	ND		42	0.67	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Iron	ND		83	49	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Lead	ND		8.3	1.8	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Lithium	6.9	J B	42	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Manganese	5.7	J *1	12	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Molybdenum	ND		33	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5
Selenium	ND		8.3	2.9	mg/Kg	☼	11/10/21 08:00	11/16/21 14:56	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3800		11	1.8	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Arsenic	1.9		0.55	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Beryllium	0.14	J	0.28	0.013	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Calcium	5700		280	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Chromium	6.9		0.55	0.078	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Cobalt	2.0	J	2.8	0.051	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Iron	6000		5.5	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Lead	2.2		0.55	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Lithium	6.4		2.8	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Manganese	65		0.83	0.28	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Molybdenum	ND		2.2	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1
Selenium	0.45	J	0.55	0.19	mg/Kg	☼	11/10/21 08:00	11/16/21 16:59	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	21000		11	1.8	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Arsenic	0.78		0.55	0.14	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Beryllium	0.53		0.28	0.018	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Calcium	1500		280	2.9	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Chromium	20		0.55	0.078	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Cobalt	0.69	J	5.5	0.058	mg/Kg	☼	11/11/21 08:00	11/20/21 15:32	2
Iron	4900		5.5	4.5	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Lead	3.6		1.1	0.24	mg/Kg	☼	11/11/21 08:00	11/20/21 15:32	2
Lithium	13		2.8	0.17	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Manganese	43		0.83	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-32 (31-36)
Date Collected: 08/25/21 15:25
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-8
Matrix: Solid
Percent Solids: 90.2

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.2	0.091	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1
Selenium	**0.22**	**J**	0.55	0.19	mg/Kg	☼	11/11/21 08:00	11/20/21 13:45	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**25000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**4.5**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**0.85**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**55000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**31**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**5.5**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**14000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**11**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**27**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**470**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	**0.16**	**J**	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**1.2**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**33000**		110	18	mg/Kg	☼	10/28/21 08:00	11/24/21 11:36	10
Arsenic	**4.2**		0.55	0.14	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Beryllium	**0.62**		0.28	0.018	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Calcium	**57000**		2800	29	mg/Kg	☼	10/28/21 08:00	11/24/21 11:36	10
Chromium	**23**		0.55	0.078	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Cobalt	**4.6**		2.8	0.029	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Iron	**12000**		5.5	4.5	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Lead	**11**		0.55	0.12	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Lithium	**17**		2.8	0.17	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Manganese	**380**		0.83	0.12	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Molybdenum	**0.36**	**J**	2.2	0.091	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1
Selenium	**0.39**	**J**	0.55	0.19	mg/Kg	☼	10/28/21 08:00	11/24/21 12:51	1

Client Sample ID: K-SB-03 (19-20)
Date Collected: 08/26/21 08:15
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-9
Matrix: Solid
Percent Solids: 88.4

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**44**	**J B**	45	7.2	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Arsenic	ND		2.3	0.59	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Beryllium	ND		1.1	0.35	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Calcium	**660**	**J B**	1100	8.6	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Chromium	ND		2.3	0.32	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Cobalt	ND		11	0.20	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Iron	**46**	**B**	23	13	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Lead	ND		2.3	0.50	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Lithium	ND		11	0.68	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Manganese	**8.4**	**B**	3.4	0.14	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Molybdenum	ND		9.1	0.37	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4
Selenium	ND		2.3	0.77	mg/Kg	☼	11/03/21 08:00	11/11/21 17:05	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**63**	**B**	34	5.4	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Arsenic	ND		1.7	0.44	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Beryllium	**0.11**	**J B**	0.85	0.054	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Calcium	**14000**	**B**	850	7.5	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Chromium	**2.2**		1.7	0.24	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Cobalt	**0.25**	**J**	8.5	0.21	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Iron	**190**	**B**	17	9.8	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Lead	**2.1**	***-**	1.7	0.37	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Lithium	ND		8.5	0.51	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Manganese	**100**		2.5	0.95	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Molybdenum	ND	*-	6.8	0.28	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3
Selenium	ND		1.7	0.58	mg/Kg	☼	11/04/21 08:00	11/11/21 19:08	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**56**		11	2.4	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Arsenic	**0.18**	**J**	0.57	0.15	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Beryllium	**0.017**	**J**	0.28	0.017	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Calcium	**8.4**	**J**	280	1.7	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Chromium	**0.54**	**J**	0.57	0.079	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Cobalt	**0.25**	**J**	2.8	0.051	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Iron	**1400**		5.7	3.3	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Lead	ND		0.57	0.12	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Lithium	**0.17**	**J**	2.8	0.17	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Manganese	**52**	**B**	0.85	0.031	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Molybdenum	ND		2.3	0.093	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1
Selenium	**0.23**	**J**	0.57	0.19	mg/Kg	☼	11/05/21 08:00	11/12/21 16:43	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**230**		11	1.8	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Arsenic	**0.53**	**J B**	0.57	0.25	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Beryllium	**0.048**	**J**	0.28	0.018	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Calcium	**40000**		280	2.5	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Chromium	**1.3**		0.57	0.079	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1

Client Sample ID: K-SB-03 (19-20)
Date Collected: 08/26/21 08:15
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-9
Matrix: Solid
Percent Solids: 88.4

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.0	J	2.8	0.060	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Iron	2400		5.7	3.3	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Lead	3.7		0.57	0.12	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Lithium	0.99	J	2.8	0.17	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Manganese	160		0.85	0.15	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Molybdenum	ND		2.3	0.093	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1
Selenium	ND		0.57	0.53	mg/Kg	☼	11/08/21 08:00	11/16/21 12:58	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	160	J	170	27	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Arsenic	ND		8.5	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Beryllium	ND		4.2	0.36	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Calcium	12000	B	4200	12	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Chromium	1.7	J	8.5	1.2	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Cobalt	ND		42	0.68	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Iron	ND		85	50	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Lead	ND		8.5	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Lithium	6.5	J B	42	2.5	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Manganese	7.5	J *1	13	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Molybdenum	ND		34	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5
Selenium	ND		8.5	2.9	mg/Kg	☼	11/10/21 08:00	11/16/21 15:01	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2200		11	1.8	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Arsenic	2.5		0.57	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Beryllium	0.088	J	0.28	0.014	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Calcium	9300		280	2.4	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Chromium	4.7		0.57	0.079	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Cobalt	2.4	J	2.8	0.052	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Iron	4300		5.7	3.3	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Lead	1.5		0.57	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Lithium	4.7		2.8	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Manganese	51		0.85	0.28	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Molybdenum	0.32	J	2.3	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1
Selenium	0.38	J	0.57	0.19	mg/Kg	☼	11/10/21 08:00	11/16/21 17:04	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	22000		11	1.8	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Arsenic	0.91		0.57	0.15	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Beryllium	0.51		0.28	0.018	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Calcium	2100		280	2.9	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Chromium	19		0.57	0.079	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Cobalt	0.58	J	2.8	0.029	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Iron	3700		5.7	4.6	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Lead	3.9		0.57	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Lithium	10		2.8	0.17	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Manganese	32		0.85	0.12	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-03 (19-20)
Date Collected: 08/26/21 08:15
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-9
Matrix: Solid
Percent Solids: 88.4

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.3	0.093	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1
Selenium	ND		0.57	0.19	mg/Kg	☼	11/11/21 08:00	11/20/21 14:00	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**25000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**4.1**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**0.77**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**77000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**30**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**4.5**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**12000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**11**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**23**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**410**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	**0.32**	**J**	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**0.61**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15000**		110	18	mg/Kg	☼	10/28/21 08:00	11/24/21 11:41	10
Arsenic	**2.4**		1.1	0.29	mg/Kg	☼	10/28/21 08:00	11/24/21 14:24	2
Beryllium	**0.41**		0.28	0.018	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Calcium	**89000**		2800	29	mg/Kg	☼	10/28/21 08:00	11/24/21 11:41	10
Chromium	**17**		0.57	0.079	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Cobalt	**3.1**		2.8	0.029	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Iron	**12000**		5.7	4.6	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Lead	**9.8**		1.1	0.25	mg/Kg	☼	10/28/21 08:00	11/24/21 14:24	2
Lithium	**13**		2.8	0.17	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Manganese	**470**		0.85	0.12	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Molybdenum	**0.64**	**J**	2.3	0.093	mg/Kg	☼	10/28/21 08:00	11/24/21 12:56	1
Selenium	ND		1.1	0.38	mg/Kg	☼	10/28/21 08:00	11/24/21 14:24	2

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-08 (4-7)

Date Collected: 08/26/21 09:25
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-10

Matrix: Solid
Percent Solids: 81.4

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**41**	**J B**	49	7.9	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Arsenic	ND		2.5	0.64	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Beryllium	ND		1.2	0.38	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Calcium	**2900**	**B**	1200	9.3	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Chromium	ND		2.5	0.34	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Cobalt	**0.27**	**J**	12	0.22	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Iron	**48**	**B**	25	14	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Lead	ND		2.5	0.54	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Lithium	ND		12	0.74	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Manganese	**60**	**B**	3.7	0.15	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Molybdenum	ND		9.8	0.40	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4
Selenium	ND		2.5	0.84	mg/Kg	☼	11/03/21 08:00	11/11/21 17:10	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**59**	**B**	37	5.9	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Arsenic	ND		1.8	0.48	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Beryllium	**0.13**	**J B**	0.92	0.059	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Calcium	**550**	**J B**	920	8.1	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Chromium	ND		1.8	0.26	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Cobalt	ND		9.2	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Iron	**58**	**B**	18	11	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Lead	ND	*-	1.8	0.41	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Lithium	ND		9.2	0.55	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Manganese	**28**		2.8	1.0	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Molybdenum	ND	*-	7.4	0.30	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3
Selenium	ND		1.8	0.63	mg/Kg	☼	11/04/21 08:00	11/11/21 19:13	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**290**		12	2.6	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Arsenic	**2.0**		0.61	0.16	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Beryllium	**0.18**	**J**	0.31	0.018	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Calcium	**10**	**J**	310	1.8	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Chromium	**0.55**	**J**	0.61	0.086	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Cobalt	**3.1**		3.1	0.055	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Iron	**2200**		6.1	3.6	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Lead	**2.9**		0.61	0.14	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Lithium	ND		3.1	0.18	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Manganese	**230**	**B**	0.92	0.033	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Molybdenum	ND		2.5	0.10	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1
Selenium	**0.33**	**J**	0.61	0.21	mg/Kg	☼	11/05/21 08:00	11/12/21 16:48	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2700**		12	2.0	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Arsenic	**1.9**	**B**	0.61	0.27	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Beryllium	**0.24**	**J**	0.31	0.020	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Calcium	**240**	**J**	310	2.7	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Chromium	**4.4**		0.61	0.086	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1

Client Sample ID: K-SB-08 (4-7)
Date Collected: 08/26/21 09:25
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-10
Matrix: Solid
Percent Solids: 81.4

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.1	J	3.1	0.065	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Iron	4600		6.1	3.6	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Lead	8.9		0.61	0.14	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Lithium	2.3	J	3.1	0.18	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Manganese	110		0.92	0.16	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Molybdenum	0.15	J	2.5	0.10	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1
Selenium	0.79		0.61	0.58	mg/Kg	☼	11/08/21 08:00	11/16/21 13:03	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	170	J	180	29	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Arsenic	ND		9.2	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Beryllium	ND		4.6	0.39	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Calcium	66	J B	4600	14	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Chromium	4.3	J	9.2	1.3	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Cobalt	ND		46	0.74	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Iron	88	J	92	54	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Lead	2.4	J	9.2	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Lithium	6.3	J B	46	2.7	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Manganese	13	J *1	14	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Molybdenum	ND		37	1.5	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5
Selenium	ND		9.2	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 15:06	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5100		12	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Arsenic	1.5		0.61	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Beryllium	0.084	J	0.31	0.015	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Calcium	100	J	310	2.6	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Chromium	4.9		0.61	0.086	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Cobalt	0.73	J	3.1	0.057	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Iron	4800		6.1	3.6	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Lead	1.6		0.61	0.14	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Lithium	2.8	J	3.1	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Manganese	23		0.92	0.31	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Molybdenum	ND		2.5	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1
Selenium	0.52	J	0.61	0.21	mg/Kg	☼	11/10/21 08:00	11/16/21 17:09	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	30000		120	20	mg/Kg	☼	11/11/21 08:00	11/20/21 12:18	10
Arsenic	1.3		0.61	0.16	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Beryllium	0.16	J	0.31	0.020	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Calcium	1800		310	3.2	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Chromium	18		0.61	0.086	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Cobalt	0.35	J	6.1	0.064	mg/Kg	☼	11/11/21 08:00	11/20/21 15:37	2
Iron	4900		6.1	5.0	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Lead	4.6		1.2	0.27	mg/Kg	☼	11/11/21 08:00	11/20/21 15:37	2
Lithium	10		3.1	0.18	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Manganese	55		0.92	0.14	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-08 (4-7)

Date Collected: 08/26/21 09:25
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-10

Matrix: Solid
Percent Solids: 81.4

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.17	J	2.5	0.10	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1
Selenium	ND		0.61	0.21	mg/Kg	☼	11/11/21 08:00	11/20/21 14:05	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	38000		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	6.8		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	0.78		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	5700		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	32		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	6.6		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	17000		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	20		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	22		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	510		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	0.33	J	2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	1.6		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	48000		120	20	mg/Kg	☼	10/28/21 08:00	11/24/21 11:46	10
Arsenic	7.4		0.61	0.16	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Beryllium	0.73		0.31	0.020	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Calcium	6100		3100	32	mg/Kg	☼	10/28/21 08:00	11/24/21 11:46	10
Chromium	29		0.61	0.086	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Cobalt	6.7		6.1	0.064	mg/Kg	☼	10/28/21 08:00	11/24/21 14:29	2
Iron	16000		6.1	5.0	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Lead	20		1.2	0.27	mg/Kg	☼	10/28/21 08:00	11/24/21 14:29	2
Lithium	15		3.1	0.18	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Manganese	400		0.92	0.14	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Molybdenum	0.54	J	2.5	0.10	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1
Selenium	1.7		0.61	0.21	mg/Kg	☼	10/28/21 08:00	11/24/21 13:02	1

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-08 (13-17)
Date Collected: 08/26/21 09:55
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-11
Matrix: Solid
Percent Solids: 81.2

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**51**	**B**	49	7.9	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Arsenic	ND		2.5	0.64	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Beryllium	ND		1.2	0.38	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Calcium	**1300**	**B**	1200	9.4	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Chromium	ND		2.5	0.34	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Cobalt	ND		12	0.22	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Iron	**48**	**B**	25	14	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Lead	ND		2.5	0.54	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Lithium	ND		12	0.74	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Manganese	**29**	**B**	3.7	0.15	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Molybdenum	ND		9.9	0.40	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4
Selenium	ND		2.5	0.84	mg/Kg	☼	11/03/21 08:00	11/11/21 17:15	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**70**	**B**	37	5.9	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Arsenic	ND		1.8	0.48	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Beryllium	**0.14**	**J B**	0.92	0.059	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Calcium	**1500**	**B**	920	8.1	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Chromium	ND		1.8	0.26	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Cobalt	**0.35**	**J**	9.2	0.23	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Iron	**62**	**B**	18	11	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Lead	**0.55**	**J *-**	1.8	0.41	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Lithium	ND		9.2	0.55	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Manganese	**34**		2.8	1.0	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Molybdenum	ND	*-	7.4	0.30	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3
Selenium	ND		1.8	0.63	mg/Kg	☼	11/04/21 08:00	11/11/21 19:18	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**160**		12	2.6	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Arsenic	**0.19**	**J**	0.62	0.16	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Beryllium	**0.057**	**J**	0.31	0.018	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Calcium	**6.6**	**J**	310	1.8	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Chromium	**0.14**	**J**	0.62	0.086	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Cobalt	**0.77**	**J**	3.1	0.055	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Iron	**220**		6.2	3.6	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Lead	ND		0.62	0.14	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Lithium	ND		3.1	0.18	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Manganese	**41**	**B**	0.92	0.033	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Molybdenum	ND		2.5	0.10	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1
Selenium	ND		0.62	0.21	mg/Kg	☼	11/05/21 08:00	11/12/21 17:02	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2200**		12	2.0	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Arsenic	**1.7**	**B**	0.62	0.27	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Beryllium	**0.20**	**J**	0.31	0.020	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Calcium	**4000**		310	2.7	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Chromium	**4.2**		0.62	0.086	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1

Client Sample ID: K-SB-08 (13-17)
Date Collected: 08/26/21 09:55
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-11
Matrix: Solid
Percent Solids: 81.2

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.4	J	3.1	0.065	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Iron	5900		6.2	3.6	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Lead	4.4		0.62	0.14	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Lithium	2.3	J	3.1	0.18	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Manganese	53		0.92	0.16	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Molybdenum	ND		2.5	0.10	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1
Selenium	0.98		0.62	0.58	mg/Kg	☼	11/08/21 08:00	11/16/21 13:08	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	140	J	180	29	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Arsenic	ND		9.2	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Beryllium	ND		4.6	0.39	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Calcium	2200	J B	4600	14	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Chromium	2.7	J	9.2	1.3	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Cobalt	ND		46	0.74	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Iron	ND		92	54	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Lead	ND		9.2	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Lithium	6.6	J B	46	2.7	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Manganese	ND	*1	14	2.3	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Molybdenum	ND		37	1.5	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5
Selenium	ND		9.2	3.2	mg/Kg	☼	11/10/21 08:00	11/16/21 15:11	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5900		12	2.0	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Arsenic	1.4		0.62	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Beryllium	0.14	J	0.31	0.015	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Calcium	620		310	2.6	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Chromium	6.9		0.62	0.086	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Cobalt	1.6	J	3.1	0.057	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Iron	5800		6.2	3.6	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Lead	2.2		0.62	0.14	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Lithium	4.7		3.1	0.18	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Manganese	34		0.92	0.31	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Molybdenum	ND		2.5	0.12	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1
Selenium	0.53	J	0.62	0.21	mg/Kg	☼	11/10/21 08:00	11/16/21 17:13	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	26000		120	20	mg/Kg	☼	11/11/21 08:00	11/20/21 12:23	10
Arsenic	1.0		0.62	0.16	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Beryllium	0.27	J	0.31	0.020	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Calcium	1400		310	3.2	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Chromium	17		0.62	0.086	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Cobalt	0.84	J	6.2	0.064	mg/Kg	☼	11/11/21 08:00	11/20/21 15:42	2
Iron	4500		6.2	5.0	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Lead	4.3		1.2	0.27	mg/Kg	☼	11/11/21 08:00	11/20/21 15:42	2
Lithium	14		3.1	0.18	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Manganese	40		0.92	0.14	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1

Client Sample ID: K-SB-08 (13-17)
Date Collected: 08/26/21 09:55
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-11
Matrix: Solid
Percent Solids: 81.2

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.5	0.10	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1
Selenium	ND		0.62	0.21	mg/Kg	☼	11/11/21 08:00	11/20/21 14:10	1

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**35000**		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	**4.3**		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	**0.80**		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	**11000**		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	**31**		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	**6.0**		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	**17000**		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	**11**		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	**27**		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	**230**		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	ND		2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	**1.5**		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**40000**		120	20	mg/Kg	☼	10/28/21 08:00	11/24/21 11:50	10
Arsenic	**3.2**		0.62	0.16	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Beryllium	**0.68**		0.31	0.020	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Calcium	**11000**		3100	32	mg/Kg	☼	10/28/21 08:00	11/24/21 11:50	10
Chromium	**24**		0.62	0.086	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Cobalt	**4.7**		3.1	0.032	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Iron	**14000**		6.2	5.0	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Lead	**11**		0.62	0.14	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Lithium	**16**		3.1	0.18	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Manganese	**210**		0.92	0.14	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Molybdenum	**0.25**	**J**	2.5	0.10	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1
Selenium	**1.2**		0.62	0.21	mg/Kg	☼	10/28/21 08:00	11/24/21 13:07	1

Client Sample ID: K-SB-XPW03 (10-20)
Lab Sample ID: 140-24471-12

Date Collected: 08/26/21 11:10
Matrix: Solid

Date Received: 09/03/21 09:45
Percent Solids: 87.7

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**41**	**J B**	46	7.3	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Arsenic	ND		2.3	0.59	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Beryllium	ND		1.1	0.35	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Calcium	**520**	**J B**	1100	8.7	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Chromium	ND		2.3	0.32	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Cobalt	ND		11	0.21	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Iron	**46**	**B**	23	13	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Lead	ND		2.3	0.50	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Lithium	ND		11	0.68	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Manganese	**0.39**	**J B**	3.4	0.14	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Molybdenum	ND		9.1	0.37	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4
Selenium	ND		2.3	0.78	mg/Kg	☼	11/03/21 08:00	11/11/21 17:20	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**88**	**B**	34	5.5	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Arsenic	ND		1.7	0.44	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Beryllium	**0.11**	**J B**	0.85	0.055	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Calcium	**890**	**B**	850	7.5	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Chromium	ND		1.7	0.24	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Cobalt	ND		8.5	0.22	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Iron	**76**	**B**	17	9.9	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Lead	ND	*-	1.7	0.38	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Lithium	ND		8.5	0.51	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Manganese	**1.3**	**J**	2.6	0.96	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Molybdenum	ND	*-	6.8	0.28	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3
Selenium	ND		1.7	0.58	mg/Kg	☼	11/04/21 08:00	11/11/21 19:23	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1900**		11	2.4	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Arsenic	**0.84**		0.57	0.15	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Beryllium	**0.088**	**J**	0.28	0.017	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Calcium	**4.6**	**J**	280	1.7	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Chromium	**1.9**		0.57	0.080	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Cobalt	**0.59**	**J**	2.8	0.051	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Iron	**1700**		5.7	3.3	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Lead	ND		0.57	0.13	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Lithium	**0.79**	**J**	2.8	0.17	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Manganese	**8.1**	**B**	0.85	0.031	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Molybdenum	**0.33**	**J**	2.3	0.093	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1
Selenium	**0.35**	**J**	0.57	0.19	mg/Kg	☼	11/05/21 08:00	11/12/21 17:07	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3200**		11	1.8	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Arsenic	**1.2**	**B**	0.57	0.25	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Beryllium	**0.21**	**J**	0.28	0.018	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Calcium	**9100**		280	2.5	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Chromium	**3.9**		0.57	0.080	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1

Client Sample ID: K-SB-XPW03 (10-20)
Date Collected: 08/26/21 11:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-12
Matrix: Solid
Percent Solids: 87.7

Method: 6010B SEP - SEP Metals (ICP) - Step 4 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.1	J	2.8	0.060	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Iron	3600		5.7	3.3	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Lead	1.3		0.57	0.13	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Lithium	2.2	J	2.8	0.17	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Manganese	24		0.85	0.15	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Molybdenum	0.96	J	2.3	0.093	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1
Selenium	0.56	J	0.57	0.54	mg/Kg	☼	11/08/21 08:00	11/16/21 13:12	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	J	170	27	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Arsenic	ND		8.5	2.2	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Beryllium	ND		4.3	0.36	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Calcium	3500	J B	4300	13	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Chromium	2.0	J	8.5	1.2	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Cobalt	ND		43	0.68	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Iron	ND		85	50	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Lead	ND		8.5	1.9	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Lithium	7.5	J B	43	2.5	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Manganese	ND	*1	13	2.1	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Molybdenum	ND		34	1.4	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5
Selenium	ND		8.5	3.0	mg/Kg	☼	11/10/21 08:00	11/16/21 15:16	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	27000		23	3.6	mg/Kg	☼	11/10/21 08:00	11/16/21 18:40	2
Arsenic	2.2		0.57	0.17	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Beryllium	1.2		0.28	0.014	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Calcium	32000		570	4.8	mg/Kg	☼	11/10/21 08:00	11/16/21 18:40	2
Chromium	18		0.57	0.080	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Cobalt	4.0		2.8	0.052	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Iron	21000		11	6.6	mg/Kg	☼	11/10/21 08:00	11/16/21 18:40	2
Lead	1.5		0.57	0.13	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Lithium	14		5.7	0.34	mg/Kg	☼	11/10/21 08:00	11/16/21 18:40	2
Manganese	110		0.85	0.28	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Molybdenum	2.1	J	2.3	0.11	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1
Selenium	1.5		0.57	0.19	mg/Kg	☼	11/10/21 08:00	11/16/21 17:18	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	27000		110	18	mg/Kg	☼	11/11/21 08:00	11/20/21 12:28	10
Arsenic	ND		1.1	0.30	mg/Kg	☼	11/11/21 08:00	11/20/21 15:47	2
Beryllium	2.7		0.28	0.018	mg/Kg	☼	11/11/21 08:00	11/20/21 14:15	1
Calcium	25000		2800	30	mg/Kg	☼	11/11/21 08:00	11/20/21 12:28	10
Chromium	47		0.57	0.080	mg/Kg	☼	11/11/21 08:00	11/20/21 14:15	1
Cobalt	9.0	J	14	0.15	mg/Kg	☼	11/11/21 08:00	11/20/21 15:52	5
Iron	55000		11	9.3	mg/Kg	☼	11/11/21 08:00	11/20/21 15:47	2
Lead	3.4		2.8	0.63	mg/Kg	☼	11/11/21 08:00	11/20/21 15:52	5
Lithium	21		2.8	0.17	mg/Kg	☼	11/11/21 08:00	11/20/21 14:15	1
Manganese	250		0.85	0.13	mg/Kg	☼	11/11/21 08:00	11/20/21 14:15	1

Client Sample ID: K-SB-XPW03 (10-20)

Date Collected: 08/26/21 11:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-12

Matrix: Solid
Percent Solids: 87.7

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	3.5		2.3	0.093	mg/Kg	☼	11/11/21 08:00	11/20/21 14:15	1
Selenium	4.6		1.1	0.39	mg/Kg	☼	11/11/21 08:00	11/20/21 15:47	2

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	59000		10	1.6	mg/Kg			11/29/21 12:35	1
Arsenic	4.3		0.50	0.13	mg/Kg			11/29/21 12:35	1
Beryllium	4.4		0.25	0.0075	mg/Kg			11/29/21 12:35	1
Calcium	71000		250	0.74	mg/Kg			11/29/21 12:35	1
Chromium	73		0.50	0.070	mg/Kg			11/29/21 12:35	1
Cobalt	15		2.5	0.023	mg/Kg			11/29/21 12:35	1
Iron	81000		5.0	4.1	mg/Kg			11/29/21 12:35	1
Lead	6.2		0.50	0.11	mg/Kg			11/29/21 12:35	1
Lithium	45		2.5	0.15	mg/Kg			11/29/21 12:35	1
Manganese	390		0.75	0.052	mg/Kg			11/29/21 12:35	1
Molybdenum	6.9		2.0	0.082	mg/Kg			11/29/21 12:35	1
Selenium	7.0		0.50	0.17	mg/Kg			11/29/21 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	80000		110	18	mg/Kg	☼	10/28/21 08:00	11/24/21 11:55	10
Arsenic	1.7	J	2.8	0.74	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5
Beryllium	3.6		0.57	0.036	mg/Kg	☼	10/28/21 08:00	11/24/21 14:34	2
Calcium	74000		2800	30	mg/Kg	☼	10/28/21 08:00	11/24/21 11:55	10
Chromium	63		1.1	0.16	mg/Kg	☼	10/28/21 08:00	11/24/21 14:34	2
Cobalt	14		14	0.15	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5
Iron	82000		28	23	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5
Lead	6.8		2.8	0.63	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5
Lithium	37		14	0.85	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5
Manganese	330		1.7	0.25	mg/Kg	☼	10/28/21 08:00	11/24/21 14:34	2
Molybdenum	7.3	J	11	0.47	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5
Selenium	7.1		2.8	0.97	mg/Kg	☼	10/28/21 08:00	11/24/21 14:39	5

Default Detection Limits

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Prep: 3010A

SEP: Exchangeable

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg
Arsenic	0.50	0.13	mg/Kg
Beryllium	0.25	0.077	mg/Kg
Calcium	250	1.9	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.045	mg/Kg
Iron	5.0	2.9	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.031	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.17	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Prep: 3010A

SEP: Carbonate

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg
Arsenic	0.50	0.13	mg/Kg
Beryllium	0.25	0.016	mg/Kg
Calcium	250	2.2	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.063	mg/Kg
Iron	5.0	2.9	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.28	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.17	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Prep: 3010A

SEP: Non-Crystalline

Analyte	RL	MDL	Units
Aluminum	10	2.1	mg/Kg
Arsenic	0.50	0.13	mg/Kg
Beryllium	0.25	0.015	mg/Kg
Calcium	250	1.5	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.045	mg/Kg
Iron	5.0	2.9	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.027	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.17	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Prep: 3010A

SEP: Metal Hydroxide

Default Detection Limits

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Prep: 3010A

SEP: Metal Hydroxide

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg
Arsenic	0.50	0.22	mg/Kg
Beryllium	0.25	0.016	mg/Kg
Calcium	250	2.2	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.053	mg/Kg
Iron	5.0	2.9	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.13	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.47	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Prep: 3010A

SEP: Organic-Bound

Analyte	RL	MDL	Units
Aluminum	30	4.7	mg/Kg
Arsenic	1.5	0.38	mg/Kg
Beryllium	0.75	0.063	mg/Kg
Calcium	750	2.2	mg/Kg
Chromium	1.5	0.21	mg/Kg
Cobalt	7.5	0.12	mg/Kg
Iron	15	8.8	mg/Kg
Lead	1.5	0.33	mg/Kg
Lithium	7.5	0.44	mg/Kg
Manganese	2.3	0.37	mg/Kg
Molybdenum	6.0	0.25	mg/Kg
Selenium	1.5	0.52	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 6

SEP: Acid/Sulfide

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg
Arsenic	0.50	0.15	mg/Kg
Beryllium	0.25	0.012	mg/Kg
Calcium	250	2.1	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.046	mg/Kg
Iron	5.0	2.9	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.25	mg/Kg
Molybdenum	2.0	0.099	mg/Kg
Selenium	0.50	0.17	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Prep: Residual

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg

Default Detection Limits

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Method: 6010B SEP - SEP Metals (ICP) - Step 7 (Continued)

Prep: Residual

Analyte	RL	MDL	Units
Arsenic	0.50	0.13	mg/Kg
Beryllium	0.25	0.016	mg/Kg
Calcium	250	2.6	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.026	mg/Kg
Iron	5.0	4.1	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.11	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.17	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg
Arsenic	0.50	0.13	mg/Kg
Beryllium	0.25	0.0075	mg/Kg
Calcium	250	0.74	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.023	mg/Kg
Iron	5.0	4.1	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.052	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.17	mg/Kg

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

Prep: Total

Analyte	RL	MDL	Units
Aluminum	10	1.6	mg/Kg
Arsenic	0.50	0.13	mg/Kg
Beryllium	0.25	0.016	mg/Kg
Calcium	250	2.6	mg/Kg
Chromium	0.50	0.070	mg/Kg
Cobalt	2.5	0.026	mg/Kg
Iron	5.0	4.1	mg/Kg
Lead	0.50	0.11	mg/Kg
Lithium	2.5	0.15	mg/Kg
Manganese	0.75	0.11	mg/Kg
Molybdenum	2.0	0.082	mg/Kg
Selenium	0.50	0.17	mg/Kg

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

Lab Sample ID: MB 140-55231/13-A
Matrix: Solid
Analysis Batch: 56350

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55231

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10	1.6	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Arsenic	ND		0.50	0.13	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Beryllium	ND		0.25	0.016	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Calcium	ND		250	2.6	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Chromium	ND		0.50	0.070	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Cobalt	ND		2.5	0.026	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Iron	ND		5.0	4.1	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Lead	ND		0.50	0.11	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Lithium	ND		2.5	0.15	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Manganese	ND		0.75	0.11	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Molybdenum	ND		2.0	0.082	mg/Kg		10/28/21 08:00	11/24/21 10:28	1
Selenium	ND		0.50	0.17	mg/Kg		10/28/21 08:00	11/24/21 10:28	1

Lab Sample ID: LCS 140-55231/14-A
Matrix: Solid
Analysis Batch: 56350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	98.9		mg/Kg		99	80 - 120
Arsenic	5.00	5.03		mg/Kg		101	80 - 120
Beryllium	2.50	2.59		mg/Kg		104	80 - 120
Calcium	2500	2540		mg/Kg		102	80 - 120
Chromium	10.0	10.4		mg/Kg		104	80 - 120
Cobalt	5.00	5.12		mg/Kg		102	80 - 125
Iron	50.0	52.2		mg/Kg		104	80 - 120
Lead	5.00	5.12		mg/Kg		102	80 - 120
Lithium	5.00	4.94		mg/Kg		99	80 - 120
Manganese	5.00	5.29		mg/Kg		106	80 - 120
Molybdenum	25.0	25.8		mg/Kg		103	80 - 125
Selenium	7.50	7.13		mg/Kg		95	80 - 120

Lab Sample ID: LCSD 140-55231/15-A
Matrix: Solid
Analysis Batch: 56350

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55231

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	100	98.6		mg/Kg		99	80 - 120	0	30
Arsenic	5.00	5.09		mg/Kg		102	80 - 120	1	30
Beryllium	2.50	2.60		mg/Kg		104	80 - 120	0	30
Calcium	2500	2550		mg/Kg		102	80 - 120	0	30
Chromium	10.0	10.4		mg/Kg		104	80 - 120	1	30
Cobalt	5.00	5.11		mg/Kg		102	80 - 125	0	30
Iron	50.0	52.2		mg/Kg		104	80 - 120	0	30
Lead	5.00	5.10		mg/Kg		102	80 - 120	0	30
Lithium	5.00	4.96		mg/Kg		99	80 - 120	0	30
Manganese	5.00	5.33		mg/Kg		107	80 - 120	1	30
Molybdenum	25.0	25.9		mg/Kg		103	80 - 125	0	30
Selenium	7.50	7.28		mg/Kg		97	80 - 120	2	30

Method: 6010B SEP - SEP Metals (ICP)

Lab Sample ID: MB 140-55232/18-B ^4
Matrix: Solid
Analysis Batch: 55850

Client Sample ID: Method Blank
Prep Type: Step 1
Prep Batch: 55277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	38.6	J	40	6.4	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Arsenic	ND		2.0	0.52	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Beryllium	ND		1.0	0.31	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Calcium	81.5	J	1000	7.6	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Chromium	ND		2.0	0.28	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Cobalt	ND		10	0.18	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Iron	39.3		20	12	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Lead	ND		2.0	0.44	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Lithium	ND		10	0.60	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Manganese	0.340	J	3.0	0.12	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Molybdenum	ND		8.0	0.33	mg/Kg		11/03/21 08:00	11/11/21 16:02	4
Selenium	ND		2.0	0.68	mg/Kg		11/03/21 08:00	11/11/21 16:02	4

Lab Sample ID: MB 140-55232/18-B ^4
Matrix: Solid
Analysis Batch: 55885

Client Sample ID: Method Blank
Prep Type: Step 1
Prep Batch: 55277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		40	6.4	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Arsenic	ND		2.0	0.52	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Beryllium	ND		1.0	0.31	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Calcium	29.6	J	1000	7.6	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Chromium	ND		2.0	0.28	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Cobalt	ND		10	0.18	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Iron	ND		20	12	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Lead	ND		2.0	0.44	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Lithium	ND		10	0.60	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Manganese	ND		3.0	0.12	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Molybdenum	ND		8.0	0.33	mg/Kg		11/03/21 08:00	11/12/21 15:09	4
Selenium	ND		2.0	0.68	mg/Kg		11/03/21 08:00	11/12/21 15:09	4

Lab Sample ID: LCS 140-55232/19-B ^5
Matrix: Solid
Analysis Batch: 55850

Client Sample ID: Lab Control Sample
Prep Type: Step 1
Prep Batch: 55277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	85.7		mg/Kg		86	80 - 120
Arsenic	5.00	5.01		mg/Kg		100	80 - 120
Beryllium	2.50	2.60		mg/Kg		104	80 - 120
Calcium	2500	2470		mg/Kg		99	80 - 120
Chromium	10.0	9.90		mg/Kg		99	80 - 120
Cobalt	5.00	4.85	J	mg/Kg		97	80 - 120
Iron	50.0	51.7		mg/Kg		103	80 - 120
Lead	5.00	4.86		mg/Kg		97	80 - 120
Lithium	5.00	5.17	J	mg/Kg		103	80 - 120
Manganese	5.00	5.17		mg/Kg		103	80 - 120
Molybdenum	25.0	24.7		mg/Kg		99	80 - 120
Selenium	7.50	8.27		mg/Kg		110	80 - 120

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCSD 140-55232/20-B ^5
Matrix: Solid
Analysis Batch: 55850

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 1
Prep Batch: 55277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum			100	90.9		mg/Kg		91	80 - 120	6	30
Arsenic			5.00	5.05		mg/Kg		101	80 - 120	1	30
Beryllium			2.50	2.63		mg/Kg		105	80 - 120	1	30
Calcium			2500	2480		mg/Kg		99	80 - 120	1	30
Chromium			10.0	9.99		mg/Kg		100	80 - 120	1	30
Cobalt			5.00	4.96	J	mg/Kg		99	80 - 120	2	30
Iron			50.0	52.2		mg/Kg		104	80 - 120	1	30
Lead			5.00	5.02		mg/Kg		100	80 - 120	3	30
Lithium			5.00	5.11	J	mg/Kg		102	80 - 120	1	30
Manganese			5.00	5.32		mg/Kg		106	80 - 120	3	30
Molybdenum			25.0	24.8		mg/Kg		99	80 - 120	1	30
Selenium			7.50	8.15		mg/Kg		109	80 - 120	1	30

Lab Sample ID: MB 140-55278/18-B ^3
Matrix: Solid
Analysis Batch: 55850

Client Sample ID: Method Blank
Prep Type: Step 2
Prep Batch: 55481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	42.8		30	4.8	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Arsenic	ND		1.5	0.39	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Beryllium	0.0870	J	0.75	0.048	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Calcium	68.1	J	750	6.6	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Chromium	ND		1.5	0.21	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Cobalt	ND		7.5	0.19	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Iron	42.8		15	8.7	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Lead	ND		1.5	0.33	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Lithium	ND		7.5	0.45	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Manganese	ND		2.3	0.84	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Molybdenum	ND		6.0	0.25	mg/Kg		11/04/21 08:00	11/11/21 18:04	3
Selenium	ND		1.5	0.51	mg/Kg		11/04/21 08:00	11/11/21 18:04	3

Lab Sample ID: MB 140-55278/18-B ^3
Matrix: Solid
Analysis Batch: 55885

Client Sample ID: Method Blank
Prep Type: Step 2
Prep Batch: 55481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	4.8	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Arsenic	ND		1.5	0.39	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Beryllium	ND		0.75	0.048	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Calcium	11.1	J	750	6.6	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Chromium	ND		1.5	0.21	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Cobalt	ND		7.5	0.19	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Iron	ND		15	8.7	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Lead	ND		1.5	0.33	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Lithium	ND		7.5	0.45	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Manganese	ND		2.3	0.84	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Molybdenum	ND		6.0	0.25	mg/Kg		11/04/21 08:00	11/12/21 15:14	3
Selenium	ND		1.5	0.51	mg/Kg		11/04/21 08:00	11/12/21 15:14	3

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-55278/19-B ^5
Matrix: Solid
Analysis Batch: 55850

Client Sample ID: Lab Control Sample
Prep Type: Step 2
Prep Batch: 55481

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	87.3		mg/Kg		87	
Arsenic	5.00	3.66		mg/Kg		73	60 - 120
Beryllium	2.50	1.51		mg/Kg		60	40 - 70
Calcium	2500	817	J	mg/Kg		33	10 - 40
Chromium	10.0	8.28		mg/Kg		83	60 - 120
Cobalt	5.00	4.62	J	mg/Kg		92	80 - 120
Iron	50.0	86.8		mg/Kg		174	
Lead	5.00	4.19		mg/Kg		84	70 - 120
Lithium	5.00	4.93	J	mg/Kg		99	80 - 120
Manganese	5.00	5.57		mg/Kg		111	80 - 120
Molybdenum	25.0	19.9		mg/Kg		80	70 - 120
Selenium	7.50	6.63		mg/Kg		88	70 - 120

Lab Sample ID: LCSD 140-55278/20-B ^5
Matrix: Solid
Analysis Batch: 55850

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 2
Prep Batch: 55481

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	100	91.4		mg/Kg		91		5	
Arsenic	5.00	3.02		mg/Kg		60	60 - 120	19	30
Beryllium	2.50	1.32		mg/Kg		53	40 - 70	14	30
Calcium	2500	723	J	mg/Kg		29	10 - 40	12	30
Chromium	10.0	7.07		mg/Kg		71	60 - 120	16	30
Cobalt	5.00	3.98	J	mg/Kg		80	80 - 120	15	30
Iron	50.0	89.2		mg/Kg		178		3	
Lead	5.00	3.37	*-	mg/Kg		67	70 - 120	22	30
Lithium	5.00	4.41	J	mg/Kg		88	80 - 120	11	30
Manganese	5.00	4.85		mg/Kg		97	80 - 120	14	30
Molybdenum	25.0	17.0	*-	mg/Kg		68	70 - 120	16	30
Selenium	7.50	5.57		mg/Kg		74	70 - 120	17	30

Lab Sample ID: MB 140-55482/18-B
Matrix: Solid
Analysis Batch: 55885

Client Sample ID: Method Blank
Prep Type: Step 3
Prep Batch: 55544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10	2.1	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Arsenic	ND		0.50	0.13	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Beryllium	ND		0.25	0.015	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Calcium	ND		250	1.5	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Chromium	ND		0.50	0.070	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Cobalt	ND		2.5	0.045	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Iron	ND		5.0	2.9	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Lead	ND		0.50	0.11	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Lithium	ND		2.5	0.15	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Manganese	0.0780	J	0.75	0.027	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Molybdenum	ND		2.0	0.082	mg/Kg		11/05/21 08:00	11/12/21 15:39	1
Selenium	ND		0.50	0.17	mg/Kg		11/05/21 08:00	11/12/21 15:39	1

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-55482/19-B
Matrix: Solid
Analysis Batch: 55885

Client Sample ID: Lab Control Sample
Prep Type: Step 3
Prep Batch: 55544

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aluminum			100	99.1		mg/Kg		99	80 - 120		
Arsenic			5.00	5.02		mg/Kg		100	80 - 120		
Beryllium			2.50	2.66		mg/Kg		106	80 - 120		
Calcium			2500	34.1	J	mg/Kg		1			
Chromium			10.0	10.4		mg/Kg		104	80 - 120		
Cobalt			5.00	5.11		mg/Kg		102	80 - 120		
Iron			50.0	52.1		mg/Kg		104	80 - 120		
Lead			5.00	ND		mg/Kg		0.2			
Lithium			5.00	5.05		mg/Kg		101	80 - 120		
Manganese			5.00	5.26		mg/Kg		105	80 - 120		
Molybdenum			25.0	25.1		mg/Kg		100	80 - 120		
Selenium			7.50	7.34		mg/Kg		98	80 - 120		

Lab Sample ID: LCSD 140-55482/20-B
Matrix: Solid
Analysis Batch: 55885

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 3
Prep Batch: 55544

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum			100	98.3		mg/Kg		98	80 - 120	1	30
Arsenic			5.00	4.94		mg/Kg		99	80 - 120	2	30
Beryllium			2.50	2.68		mg/Kg		107	80 - 120	1	30
Calcium			2500	33.2	J	mg/Kg		1		3	
Chromium			10.0	10.5		mg/Kg		105	80 - 120	1	30
Cobalt			5.00	5.14		mg/Kg		103	80 - 120	1	30
Iron			50.0	51.3		mg/Kg		103	80 - 120	2	30
Lead			5.00	ND		mg/Kg		1		139	
Lithium			5.00	4.97		mg/Kg		99	80 - 120	2	30
Manganese			5.00	5.32		mg/Kg		106	80 - 120	1	30
Molybdenum			25.0	25.1		mg/Kg		100	80 - 120	0	30
Selenium			7.50	7.44		mg/Kg		99	80 - 120	1	30

Lab Sample ID: MB 140-55545/18-B
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Method Blank
Prep Type: Step 4
Prep Batch: 55596

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10	1.6	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Arsenic	0.224	J	0.50	0.22	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Beryllium	ND		0.25	0.016	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Calcium	ND		250	2.2	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Chromium	ND		0.50	0.070	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Cobalt	ND		2.5	0.053	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Iron	ND		5.0	2.9	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Lead	ND		0.50	0.11	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Lithium	ND		2.5	0.15	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Manganese	ND		0.75	0.13	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Molybdenum	ND		2.0	0.082	mg/Kg		11/08/21 08:00	11/16/21 11:55	1
Selenium	ND		0.50	0.47	mg/Kg		11/08/21 08:00	11/16/21 11:55	1

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-55545/19-B
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Lab Control Sample
Prep Type: Step 4
Prep Batch: 55596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	98.9		mg/Kg		99	80 - 120
Arsenic	5.00	5.39		mg/Kg		108	80 - 130
Beryllium	2.50	2.71		mg/Kg		108	80 - 120
Calcium	2500	2530		mg/Kg		101	80 - 120
Chromium	10.0	10.2		mg/Kg		102	80 - 120
Cobalt	5.00	5.16		mg/Kg		103	80 - 120
Iron	50.0	50.7		mg/Kg		101	80 - 120
Lead	5.00	5.26		mg/Kg		105	80 - 120
Lithium	5.00	4.97		mg/Kg		99	80 - 120
Manganese	5.00	5.19		mg/Kg		104	80 - 120
Molybdenum	25.0	26.2		mg/Kg		105	80 - 120
Selenium	7.50	ND		mg/Kg		6	

Lab Sample ID: LCSD 140-55545/20-B
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 4
Prep Batch: 55596

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	100	96.8		mg/Kg		97	80 - 120	2	30
Arsenic	5.00	5.25		mg/Kg		105	80 - 130	3	30
Beryllium	2.50	2.66		mg/Kg		107	80 - 120	2	30
Calcium	2500	2490		mg/Kg		99	80 - 120	2	30
Chromium	10.0	10.1		mg/Kg		101	80 - 120	2	30
Cobalt	5.00	5.04		mg/Kg		101	80 - 120	2	30
Iron	50.0	49.8		mg/Kg		100	80 - 120	2	30
Lead	5.00	5.08		mg/Kg		102	80 - 120	3	30
Lithium	5.00	4.94		mg/Kg		99	80 - 120	0	30
Manganese	5.00	5.10		mg/Kg		102	80 - 120	2	30
Molybdenum	25.0	25.9		mg/Kg		103	80 - 120	1	30
Selenium	7.50	ND		mg/Kg		5		9	

Lab Sample ID: MB 140-55597/18-B ^5
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Method Blank
Prep Type: Step 5
Prep Batch: 55721

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		150	24	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Arsenic	ND		7.5	1.9	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Beryllium	ND		3.8	0.32	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Calcium	39.3	J	3800	11	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Chromium	ND		7.5	1.1	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Cobalt	ND		38	0.60	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Iron	ND		75	44	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Lead	ND		7.5	1.7	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Lithium	2.65	J	38	2.2	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Manganese	ND		11	1.9	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Molybdenum	ND		30	1.3	mg/Kg		11/10/21 08:00	11/16/21 13:56	5
Selenium	ND		7.5	2.6	mg/Kg		11/10/21 08:00	11/16/21 13:56	5

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-55597/19-B ^5
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Lab Control Sample
Prep Type: Step 5
Prep Batch: 55721

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	300	ND		mg/Kg		5	
Arsenic	15.0	11.8		mg/Kg		79	60 - 100
Beryllium	7.50	3.82		mg/Kg		51	40 - 70
Calcium	7500	2110	J	mg/Kg		28	20 - 50
Chromium	30.0	30.5		mg/Kg		102	80 - 130
Cobalt	15.0	1.26	J	mg/Kg		8	1 - 60
Iron	150	ND		mg/Kg		2	
Lead	15.0	8.65		mg/Kg		58	40 - 80
Lithium	15.0	16.2	J	mg/Kg		108	80 - 150
Manganese	15.0	ND		mg/Kg		8	1 - 60
Molybdenum	75.0	56.4		mg/Kg		75	60 - 100
Selenium	22.5	23.4		mg/Kg		104	80 - 140

Lab Sample ID: LCSD 140-55597/20-B ^5
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 5
Prep Batch: 55721

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	300	ND		mg/Kg		1		133	
Arsenic	15.0	11.8		mg/Kg		79	60 - 100	0	30
Beryllium	7.50	3.86		mg/Kg		51	40 - 70	1	30
Calcium	7500	2090	J	mg/Kg		28	20 - 50	1	30
Chromium	30.0	30.1		mg/Kg		100	80 - 130	1	30
Cobalt	15.0	1.07	J	mg/Kg		7	1 - 60	17	30
Iron	150	ND		mg/Kg		1		42	
Lead	15.0	8.83		mg/Kg		59	40 - 80	2	30
Lithium	15.0	17.5	J	mg/Kg		117	80 - 150	8	30
Manganese	15.0	ND	*1	mg/Kg		11	1 - 60	40	30
Molybdenum	75.0	56.6		mg/Kg		75	60 - 100	0	30
Selenium	22.5	23.4		mg/Kg		104	80 - 140	0	30

Lab Sample ID: MB 140-55729/18-A
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Method Blank
Prep Type: Step 6
Prep Batch: 55729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10	1.6	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Arsenic	ND		0.50	0.15	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Beryllium	ND		0.25	0.012	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Calcium	ND		250	2.1	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Chromium	ND		0.50	0.070	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Cobalt	ND		2.5	0.046	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Iron	ND		5.0	2.9	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Lead	ND		0.50	0.11	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Lithium	ND		2.5	0.15	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Manganese	ND		0.75	0.25	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Molybdenum	ND		2.0	0.099	mg/Kg		11/10/21 08:00	11/16/21 16:01	1
Selenium	ND		0.50	0.17	mg/Kg		11/10/21 08:00	11/16/21 16:01	1

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-55729/19-A
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Lab Control Sample
Prep Type: Step 6
Prep Batch: 55729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	95.6		mg/Kg		96	80 - 120
Arsenic	5.00	5.04		mg/Kg		101	80 - 120
Beryllium	2.50	2.63		mg/Kg		105	80 - 120
Calcium	2500	2480		mg/Kg		99	80 - 120
Chromium	10.0	9.97		mg/Kg		100	80 - 120
Cobalt	5.00	4.99		mg/Kg		100	80 - 120
Iron	50.0	48.8		mg/Kg		98	80 - 120
Lead	5.00	5.15		mg/Kg		103	80 - 120
Lithium	5.00	4.71		mg/Kg		94	80 - 120
Manganese	5.00	5.06		mg/Kg		101	80 - 120
Molybdenum	25.0	25.2		mg/Kg		101	80 - 120
Selenium	7.50	7.45		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 140-55729/20-A
Matrix: Solid
Analysis Batch: 56028

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 6
Prep Batch: 55729

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	100	93.1		mg/Kg		93	80 - 120	3	30
Arsenic	5.00	5.03		mg/Kg		101	80 - 120	0	30
Beryllium	2.50	2.58		mg/Kg		103	80 - 120	2	30
Calcium	2500	2420		mg/Kg		97	80 - 120	2	30
Chromium	10.0	9.77		mg/Kg		98	80 - 120	2	30
Cobalt	5.00	4.92		mg/Kg		98	80 - 120	1	30
Iron	50.0	47.7		mg/Kg		95	80 - 120	2	30
Lead	5.00	5.05		mg/Kg		101	80 - 120	2	30
Lithium	5.00	4.62		mg/Kg		92	80 - 120	2	30
Manganese	5.00	4.94		mg/Kg		99	80 - 120	2	30
Molybdenum	25.0	24.9		mg/Kg		100	80 - 120	1	30
Selenium	7.50	7.51		mg/Kg		100	80 - 120	1	30

Lab Sample ID: MB 140-55778/18-A
Matrix: Solid
Analysis Batch: 56176

Client Sample ID: Method Blank
Prep Type: Step 7
Prep Batch: 55778

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10	1.6	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Arsenic	ND		0.50	0.13	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Beryllium	ND		0.25	0.016	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Calcium	ND		250	2.6	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Chromium	ND		0.50	0.070	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Cobalt	ND		2.5	0.026	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Iron	ND		5.0	4.1	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Lead	ND		0.50	0.11	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Lithium	ND		2.5	0.15	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Manganese	ND		0.75	0.11	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Molybdenum	ND		2.0	0.082	mg/Kg		11/11/21 08:00	11/20/21 11:06	1
Selenium	ND		0.50	0.17	mg/Kg		11/11/21 08:00	11/20/21 11:06	1

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-55778/19-A
Matrix: Solid
Analysis Batch: 56176

Client Sample ID: Lab Control Sample
Prep Type: Step 7
Prep Batch: 55778

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	102		mg/Kg		102	80 - 120
Arsenic	5.00	5.30		mg/Kg		106	80 - 120
Beryllium	2.50	2.67		mg/Kg		107	80 - 120
Calcium	2500	2610		mg/Kg		105	80 - 120
Chromium	10.0	10.7		mg/Kg		107	80 - 120
Cobalt	5.00	5.26		mg/Kg		105	80 - 125
Iron	50.0	54.3		mg/Kg		109	80 - 120
Lead	5.00	5.37		mg/Kg		107	80 - 120
Lithium	5.00	5.09		mg/Kg		102	80 - 120
Manganese	5.00	5.48		mg/Kg		110	80 - 120
Molybdenum	25.0	26.5		mg/Kg		106	80 - 125
Selenium	7.50	7.56		mg/Kg		101	80 - 120

Lab Sample ID: LCSD 140-55778/20-A
Matrix: Solid
Analysis Batch: 56176

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 7
Prep Batch: 55778

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	100	101		mg/Kg		101	80 - 120	1	30
Arsenic	5.00	5.21		mg/Kg		104	80 - 120	2	30
Beryllium	2.50	2.63		mg/Kg		105	80 - 120	2	30
Calcium	2500	2590		mg/Kg		104	80 - 120	1	30
Chromium	10.0	10.6		mg/Kg		106	80 - 120	1	30
Cobalt	5.00	5.23		mg/Kg		105	80 - 125	0	30
Iron	50.0	52.8		mg/Kg		106	80 - 120	3	30
Lead	5.00	5.28		mg/Kg		106	80 - 120	2	30
Lithium	5.00	4.95		mg/Kg		99	80 - 120	3	30
Manganese	5.00	5.43		mg/Kg		109	80 - 120	1	30
Molybdenum	25.0	26.4		mg/Kg		106	80 - 125	0	30
Selenium	7.50	7.60		mg/Kg		101	80 - 120	1	30

Metals

Prep Batch: 55231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Total/NA	Solid	Total	
140-24471-2	K-SB-02 (14.7-17.5)	Total/NA	Solid	Total	
140-24471-3	K-SB-12 (13-17.3)	Total/NA	Solid	Total	
140-24471-4	K-SB-12 (17.3-21.0)	Total/NA	Solid	Total	
140-24471-5	K-SB-28 (18-21.5)	Total/NA	Solid	Total	
140-24471-6	K-SB-07 (7-10)	Total/NA	Solid	Total	
140-24471-7	K-SB-07 (10-15)	Total/NA	Solid	Total	
140-24471-8	K-SB-32 (31-36)	Total/NA	Solid	Total	
140-24471-9	K-SB-03 (19-20)	Total/NA	Solid	Total	
140-24471-10	K-SB-08 (4-7)	Total/NA	Solid	Total	
140-24471-11	K-SB-08 (13-17)	Total/NA	Solid	Total	
140-24471-12	K-SB-XPW03 (10-20)	Total/NA	Solid	Total	
MB 140-55231/13-A	Method Blank	Total/NA	Solid	Total	
LCS 140-55231/14-A	Lab Control Sample	Total/NA	Solid	Total	
LCSD 140-55231/15-A	Lab Control Sample Dup	Total/NA	Solid	Total	

SEP Batch: 55232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 1	Solid	Exchangeable	
140-24471-2	K-SB-02 (14.7-17.5)	Step 1	Solid	Exchangeable	
140-24471-3	K-SB-12 (13-17.3)	Step 1	Solid	Exchangeable	
140-24471-4	K-SB-12 (17.3-21.0)	Step 1	Solid	Exchangeable	
140-24471-5	K-SB-28 (18-21.5)	Step 1	Solid	Exchangeable	
140-24471-6	K-SB-07 (7-10)	Step 1	Solid	Exchangeable	
140-24471-7	K-SB-07 (10-15)	Step 1	Solid	Exchangeable	
140-24471-8	K-SB-32 (31-36)	Step 1	Solid	Exchangeable	
140-24471-9	K-SB-03 (19-20)	Step 1	Solid	Exchangeable	
140-24471-10	K-SB-08 (4-7)	Step 1	Solid	Exchangeable	
140-24471-11	K-SB-08 (13-17)	Step 1	Solid	Exchangeable	
140-24471-12	K-SB-XPW03 (10-20)	Step 1	Solid	Exchangeable	
MB 140-55232/18-B ^4	Method Blank	Step 1	Solid	Exchangeable	
LCS 140-55232/19-B ^5	Lab Control Sample	Step 1	Solid	Exchangeable	
LCSD 140-55232/20-B ^5	Lab Control Sample Dup	Step 1	Solid	Exchangeable	

Prep Batch: 55277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 1	Solid	3010A	55232
140-24471-2	K-SB-02 (14.7-17.5)	Step 1	Solid	3010A	55232
140-24471-3	K-SB-12 (13-17.3)	Step 1	Solid	3010A	55232
140-24471-4	K-SB-12 (17.3-21.0)	Step 1	Solid	3010A	55232
140-24471-5	K-SB-28 (18-21.5)	Step 1	Solid	3010A	55232
140-24471-6	K-SB-07 (7-10)	Step 1	Solid	3010A	55232
140-24471-7	K-SB-07 (10-15)	Step 1	Solid	3010A	55232
140-24471-8	K-SB-32 (31-36)	Step 1	Solid	3010A	55232
140-24471-9	K-SB-03 (19-20)	Step 1	Solid	3010A	55232
140-24471-10	K-SB-08 (4-7)	Step 1	Solid	3010A	55232
140-24471-11	K-SB-08 (13-17)	Step 1	Solid	3010A	55232
140-24471-12	K-SB-XPW03 (10-20)	Step 1	Solid	3010A	55232
MB 140-55232/18-B ^4	Method Blank	Step 1	Solid	3010A	55232
LCS 140-55232/19-B ^5	Lab Control Sample	Step 1	Solid	3010A	55232
LCSD 140-55232/20-B ^5	Lab Control Sample Dup	Step 1	Solid	3010A	55232

Metals

SEP Batch: 55278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 2	Solid	Carbonate	
140-24471-2	K-SB-02 (14.7-17.5)	Step 2	Solid	Carbonate	
140-24471-3	K-SB-12 (13-17.3)	Step 2	Solid	Carbonate	
140-24471-4	K-SB-12 (17.3-21.0)	Step 2	Solid	Carbonate	
140-24471-5	K-SB-28 (18-21.5)	Step 2	Solid	Carbonate	
140-24471-6	K-SB-07 (7-10)	Step 2	Solid	Carbonate	
140-24471-7	K-SB-07 (10-15)	Step 2	Solid	Carbonate	
140-24471-8	K-SB-32 (31-36)	Step 2	Solid	Carbonate	
140-24471-9	K-SB-03 (19-20)	Step 2	Solid	Carbonate	
140-24471-10	K-SB-08 (4-7)	Step 2	Solid	Carbonate	
140-24471-11	K-SB-08 (13-17)	Step 2	Solid	Carbonate	
140-24471-12	K-SB-XPW03 (10-20)	Step 2	Solid	Carbonate	
MB 140-55278/18-B ^3	Method Blank	Step 2	Solid	Carbonate	
LCS 140-55278/19-B ^5	Lab Control Sample	Step 2	Solid	Carbonate	
LCSD 140-55278/20-B ^5	Lab Control Sample Dup	Step 2	Solid	Carbonate	

Prep Batch: 55481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 2	Solid	3010A	55278
140-24471-2	K-SB-02 (14.7-17.5)	Step 2	Solid	3010A	55278
140-24471-3	K-SB-12 (13-17.3)	Step 2	Solid	3010A	55278
140-24471-4	K-SB-12 (17.3-21.0)	Step 2	Solid	3010A	55278
140-24471-5	K-SB-28 (18-21.5)	Step 2	Solid	3010A	55278
140-24471-6	K-SB-07 (7-10)	Step 2	Solid	3010A	55278
140-24471-7	K-SB-07 (10-15)	Step 2	Solid	3010A	55278
140-24471-8	K-SB-32 (31-36)	Step 2	Solid	3010A	55278
140-24471-9	K-SB-03 (19-20)	Step 2	Solid	3010A	55278
140-24471-10	K-SB-08 (4-7)	Step 2	Solid	3010A	55278
140-24471-11	K-SB-08 (13-17)	Step 2	Solid	3010A	55278
140-24471-12	K-SB-XPW03 (10-20)	Step 2	Solid	3010A	55278
MB 140-55278/18-B ^3	Method Blank	Step 2	Solid	3010A	55278
LCS 140-55278/19-B ^5	Lab Control Sample	Step 2	Solid	3010A	55278
LCSD 140-55278/20-B ^5	Lab Control Sample Dup	Step 2	Solid	3010A	55278

SEP Batch: 55482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 3	Solid	Non-Crystalline	
140-24471-2	K-SB-02 (14.7-17.5)	Step 3	Solid	Non-Crystalline	
140-24471-3	K-SB-12 (13-17.3)	Step 3	Solid	Non-Crystalline	
140-24471-4	K-SB-12 (17.3-21.0)	Step 3	Solid	Non-Crystalline	
140-24471-5	K-SB-28 (18-21.5)	Step 3	Solid	Non-Crystalline	
140-24471-6	K-SB-07 (7-10)	Step 3	Solid	Non-Crystalline	
140-24471-7	K-SB-07 (10-15)	Step 3	Solid	Non-Crystalline	
140-24471-8	K-SB-32 (31-36)	Step 3	Solid	Non-Crystalline	
140-24471-9	K-SB-03 (19-20)	Step 3	Solid	Non-Crystalline	
140-24471-10	K-SB-08 (4-7)	Step 3	Solid	Non-Crystalline	
140-24471-11	K-SB-08 (13-17)	Step 3	Solid	Non-Crystalline	
140-24471-12	K-SB-XPW03 (10-20)	Step 3	Solid	Non-Crystalline	
MB 140-55482/18-B	Method Blank	Step 3	Solid	Non-Crystalline	
LCS 140-55482/19-B	Lab Control Sample	Step 3	Solid	Non-Crystalline	
LCSD 140-55482/20-B	Lab Control Sample Dup	Step 3	Solid	Non-Crystalline	

Metals

Prep Batch: 55544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 3	Solid	3010A	55482
140-24471-2	K-SB-02 (14.7-17.5)	Step 3	Solid	3010A	55482
140-24471-3	K-SB-12 (13-17.3)	Step 3	Solid	3010A	55482
140-24471-4	K-SB-12 (17.3-21.0)	Step 3	Solid	3010A	55482
140-24471-5	K-SB-28 (18-21.5)	Step 3	Solid	3010A	55482
140-24471-6	K-SB-07 (7-10)	Step 3	Solid	3010A	55482
140-24471-7	K-SB-07 (10-15)	Step 3	Solid	3010A	55482
140-24471-8	K-SB-32 (31-36)	Step 3	Solid	3010A	55482
140-24471-9	K-SB-03 (19-20)	Step 3	Solid	3010A	55482
140-24471-10	K-SB-08 (4-7)	Step 3	Solid	3010A	55482
140-24471-11	K-SB-08 (13-17)	Step 3	Solid	3010A	55482
140-24471-12	K-SB-XPW03 (10-20)	Step 3	Solid	3010A	55482
MB 140-55482/18-B	Method Blank	Step 3	Solid	3010A	55482
LCS 140-55482/19-B	Lab Control Sample	Step 3	Solid	3010A	55482
LCSD 140-55482/20-B	Lab Control Sample Dup	Step 3	Solid	3010A	55482

SEP Batch: 55545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 4	Solid	Metal Hydroxide	
140-24471-2	K-SB-02 (14.7-17.5)	Step 4	Solid	Metal Hydroxide	
140-24471-3	K-SB-12 (13-17.3)	Step 4	Solid	Metal Hydroxide	
140-24471-4	K-SB-12 (17.3-21.0)	Step 4	Solid	Metal Hydroxide	
140-24471-5	K-SB-28 (18-21.5)	Step 4	Solid	Metal Hydroxide	
140-24471-6	K-SB-07 (7-10)	Step 4	Solid	Metal Hydroxide	
140-24471-7	K-SB-07 (10-15)	Step 4	Solid	Metal Hydroxide	
140-24471-8	K-SB-32 (31-36)	Step 4	Solid	Metal Hydroxide	
140-24471-9	K-SB-03 (19-20)	Step 4	Solid	Metal Hydroxide	
140-24471-10	K-SB-08 (4-7)	Step 4	Solid	Metal Hydroxide	
140-24471-11	K-SB-08 (13-17)	Step 4	Solid	Metal Hydroxide	
140-24471-12	K-SB-XPW03 (10-20)	Step 4	Solid	Metal Hydroxide	
MB 140-55545/18-B	Method Blank	Step 4	Solid	Metal Hydroxide	
LCS 140-55545/19-B	Lab Control Sample	Step 4	Solid	Metal Hydroxide	
LCSD 140-55545/20-B	Lab Control Sample Dup	Step 4	Solid	Metal Hydroxide	

Prep Batch: 55596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 4	Solid	3010A	55545
140-24471-2	K-SB-02 (14.7-17.5)	Step 4	Solid	3010A	55545
140-24471-3	K-SB-12 (13-17.3)	Step 4	Solid	3010A	55545
140-24471-4	K-SB-12 (17.3-21.0)	Step 4	Solid	3010A	55545
140-24471-5	K-SB-28 (18-21.5)	Step 4	Solid	3010A	55545
140-24471-6	K-SB-07 (7-10)	Step 4	Solid	3010A	55545
140-24471-7	K-SB-07 (10-15)	Step 4	Solid	3010A	55545
140-24471-8	K-SB-32 (31-36)	Step 4	Solid	3010A	55545
140-24471-9	K-SB-03 (19-20)	Step 4	Solid	3010A	55545
140-24471-10	K-SB-08 (4-7)	Step 4	Solid	3010A	55545
140-24471-11	K-SB-08 (13-17)	Step 4	Solid	3010A	55545
140-24471-12	K-SB-XPW03 (10-20)	Step 4	Solid	3010A	55545
MB 140-55545/18-B	Method Blank	Step 4	Solid	3010A	55545
LCS 140-55545/19-B	Lab Control Sample	Step 4	Solid	3010A	55545
LCSD 140-55545/20-B	Lab Control Sample Dup	Step 4	Solid	3010A	55545

Metals

SEP Batch: 55597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 5	Solid	Organic-Bound	
140-24471-2	K-SB-02 (14.7-17.5)	Step 5	Solid	Organic-Bound	
140-24471-3	K-SB-12 (13-17.3)	Step 5	Solid	Organic-Bound	
140-24471-4	K-SB-12 (17.3-21.0)	Step 5	Solid	Organic-Bound	
140-24471-5	K-SB-28 (18-21.5)	Step 5	Solid	Organic-Bound	
140-24471-6	K-SB-07 (7-10)	Step 5	Solid	Organic-Bound	
140-24471-7	K-SB-07 (10-15)	Step 5	Solid	Organic-Bound	
140-24471-8	K-SB-32 (31-36)	Step 5	Solid	Organic-Bound	
140-24471-9	K-SB-03 (19-20)	Step 5	Solid	Organic-Bound	
140-24471-10	K-SB-08 (4-7)	Step 5	Solid	Organic-Bound	
140-24471-11	K-SB-08 (13-17)	Step 5	Solid	Organic-Bound	
140-24471-12	K-SB-XPW03 (10-20)	Step 5	Solid	Organic-Bound	
MB 140-55597/18-B ^5	Method Blank	Step 5	Solid	Organic-Bound	
LCS 140-55597/19-B ^5	Lab Control Sample	Step 5	Solid	Organic-Bound	
LCSD 140-55597/20-B ^5	Lab Control Sample Dup	Step 5	Solid	Organic-Bound	

Prep Batch: 55721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 5	Solid	3010A	55597
140-24471-2	K-SB-02 (14.7-17.5)	Step 5	Solid	3010A	55597
140-24471-3	K-SB-12 (13-17.3)	Step 5	Solid	3010A	55597
140-24471-4	K-SB-12 (17.3-21.0)	Step 5	Solid	3010A	55597
140-24471-5	K-SB-28 (18-21.5)	Step 5	Solid	3010A	55597
140-24471-6	K-SB-07 (7-10)	Step 5	Solid	3010A	55597
140-24471-7	K-SB-07 (10-15)	Step 5	Solid	3010A	55597
140-24471-8	K-SB-32 (31-36)	Step 5	Solid	3010A	55597
140-24471-9	K-SB-03 (19-20)	Step 5	Solid	3010A	55597
140-24471-10	K-SB-08 (4-7)	Step 5	Solid	3010A	55597
140-24471-11	K-SB-08 (13-17)	Step 5	Solid	3010A	55597
140-24471-12	K-SB-XPW03 (10-20)	Step 5	Solid	3010A	55597
MB 140-55597/18-B ^5	Method Blank	Step 5	Solid	3010A	55597
LCS 140-55597/19-B ^5	Lab Control Sample	Step 5	Solid	3010A	55597
LCSD 140-55597/20-B ^5	Lab Control Sample Dup	Step 5	Solid	3010A	55597

SEP Batch: 55729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 6	Solid	Acid/Sulfide	
140-24471-2	K-SB-02 (14.7-17.5)	Step 6	Solid	Acid/Sulfide	
140-24471-3	K-SB-12 (13-17.3)	Step 6	Solid	Acid/Sulfide	
140-24471-4	K-SB-12 (17.3-21.0)	Step 6	Solid	Acid/Sulfide	
140-24471-5	K-SB-28 (18-21.5)	Step 6	Solid	Acid/Sulfide	
140-24471-6	K-SB-07 (7-10)	Step 6	Solid	Acid/Sulfide	
140-24471-7	K-SB-07 (10-15)	Step 6	Solid	Acid/Sulfide	
140-24471-8	K-SB-32 (31-36)	Step 6	Solid	Acid/Sulfide	
140-24471-9	K-SB-03 (19-20)	Step 6	Solid	Acid/Sulfide	
140-24471-10	K-SB-08 (4-7)	Step 6	Solid	Acid/Sulfide	
140-24471-11	K-SB-08 (13-17)	Step 6	Solid	Acid/Sulfide	
140-24471-12	K-SB-XPW03 (10-20)	Step 6	Solid	Acid/Sulfide	
MB 140-55729/18-A	Method Blank	Step 6	Solid	Acid/Sulfide	
LCS 140-55729/19-A	Lab Control Sample	Step 6	Solid	Acid/Sulfide	
LCSD 140-55729/20-A	Lab Control Sample Dup	Step 6	Solid	Acid/Sulfide	

QC Association Summary

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Metals

Prep Batch: 55778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 7	Solid	Residual	
140-24471-2	K-SB-02 (14.7-17.5)	Step 7	Solid	Residual	
140-24471-3	K-SB-12 (13-17.3)	Step 7	Solid	Residual	
140-24471-4	K-SB-12 (17.3-21.0)	Step 7	Solid	Residual	
140-24471-5	K-SB-28 (18-21.5)	Step 7	Solid	Residual	
140-24471-6	K-SB-07 (7-10)	Step 7	Solid	Residual	
140-24471-7	K-SB-07 (10-15)	Step 7	Solid	Residual	
140-24471-8	K-SB-32 (31-36)	Step 7	Solid	Residual	
140-24471-9	K-SB-03 (19-20)	Step 7	Solid	Residual	
140-24471-10	K-SB-08 (4-7)	Step 7	Solid	Residual	
140-24471-11	K-SB-08 (13-17)	Step 7	Solid	Residual	
140-24471-12	K-SB-XPW03 (10-20)	Step 7	Solid	Residual	
MB 140-55778/18-A	Method Blank	Step 7	Solid	Residual	
LCS 140-55778/19-A	Lab Control Sample	Step 7	Solid	Residual	
LCSD 140-55778/20-A	Lab Control Sample Dup	Step 7	Solid	Residual	

Analysis Batch: 55850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 1	Solid	6010B SEP	55277
140-24471-1	K-SB-02 (10-14.7)	Step 2	Solid	6010B SEP	55481
140-24471-2	K-SB-02 (14.7-17.5)	Step 1	Solid	6010B SEP	55277
140-24471-2	K-SB-02 (14.7-17.5)	Step 2	Solid	6010B SEP	55481
140-24471-3	K-SB-12 (13-17.3)	Step 1	Solid	6010B SEP	55277
140-24471-3	K-SB-12 (13-17.3)	Step 2	Solid	6010B SEP	55481
140-24471-4	K-SB-12 (17.3-21.0)	Step 1	Solid	6010B SEP	55277
140-24471-4	K-SB-12 (17.3-21.0)	Step 2	Solid	6010B SEP	55481
140-24471-5	K-SB-28 (18-21.5)	Step 1	Solid	6010B SEP	55277
140-24471-5	K-SB-28 (18-21.5)	Step 2	Solid	6010B SEP	55481
140-24471-6	K-SB-07 (7-10)	Step 1	Solid	6010B SEP	55277
140-24471-6	K-SB-07 (7-10)	Step 2	Solid	6010B SEP	55481
140-24471-7	K-SB-07 (10-15)	Step 1	Solid	6010B SEP	55277
140-24471-7	K-SB-07 (10-15)	Step 2	Solid	6010B SEP	55481
140-24471-8	K-SB-32 (31-36)	Step 1	Solid	6010B SEP	55277
140-24471-8	K-SB-32 (31-36)	Step 2	Solid	6010B SEP	55481
140-24471-9	K-SB-03 (19-20)	Step 1	Solid	6010B SEP	55277
140-24471-9	K-SB-03 (19-20)	Step 2	Solid	6010B SEP	55481
140-24471-10	K-SB-08 (4-7)	Step 1	Solid	6010B SEP	55277
140-24471-10	K-SB-08 (4-7)	Step 2	Solid	6010B SEP	55481
140-24471-11	K-SB-08 (13-17)	Step 1	Solid	6010B SEP	55277
140-24471-11	K-SB-08 (13-17)	Step 2	Solid	6010B SEP	55481
140-24471-12	K-SB-XPW03 (10-20)	Step 1	Solid	6010B SEP	55277
140-24471-12	K-SB-XPW03 (10-20)	Step 2	Solid	6010B SEP	55481
MB 140-55232/18-B ^4	Method Blank	Step 1	Solid	6010B SEP	55277
MB 140-55278/18-B ^3	Method Blank	Step 2	Solid	6010B SEP	55481
LCS 140-55232/19-B ^5	Lab Control Sample	Step 1	Solid	6010B SEP	55277
LCS 140-55278/19-B ^5	Lab Control Sample	Step 2	Solid	6010B SEP	55481
LCSD 140-55232/20-B ^5	Lab Control Sample Dup	Step 1	Solid	6010B SEP	55277
LCSD 140-55278/20-B ^5	Lab Control Sample Dup	Step 2	Solid	6010B SEP	55481

Metals

Analysis Batch: 55885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 3	Solid	6010B SEP	55544
140-24471-2	K-SB-02 (14.7-17.5)	Step 3	Solid	6010B SEP	55544
140-24471-3	K-SB-12 (13-17.3)	Step 3	Solid	6010B SEP	55544
140-24471-4	K-SB-12 (17.3-21.0)	Step 3	Solid	6010B SEP	55544
140-24471-5	K-SB-28 (18-21.5)	Step 3	Solid	6010B SEP	55544
140-24471-6	K-SB-07 (7-10)	Step 3	Solid	6010B SEP	55544
140-24471-7	K-SB-07 (10-15)	Step 3	Solid	6010B SEP	55544
140-24471-8	K-SB-32 (31-36)	Step 3	Solid	6010B SEP	55544
140-24471-9	K-SB-03 (19-20)	Step 3	Solid	6010B SEP	55544
140-24471-10	K-SB-08 (4-7)	Step 3	Solid	6010B SEP	55544
140-24471-11	K-SB-08 (13-17)	Step 3	Solid	6010B SEP	55544
140-24471-12	K-SB-XPW03 (10-20)	Step 3	Solid	6010B SEP	55544
MB 140-55232/18-B ^4	Method Blank	Step 1	Solid	6010B SEP	55277
MB 140-55278/18-B ^3	Method Blank	Step 2	Solid	6010B SEP	55481
MB 140-55482/18-B	Method Blank	Step 3	Solid	6010B SEP	55544
LCS 140-55482/19-B	Lab Control Sample	Step 3	Solid	6010B SEP	55544
LCSD 140-55482/20-B	Lab Control Sample Dup	Step 3	Solid	6010B SEP	55544

Analysis Batch: 56028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 4	Solid	6010B SEP	55596
140-24471-1	K-SB-02 (10-14.7)	Step 5	Solid	6010B SEP	55721
140-24471-1	K-SB-02 (10-14.7)	Step 6	Solid	6010B SEP	55729
140-24471-2	K-SB-02 (14.7-17.5)	Step 4	Solid	6010B SEP	55596
140-24471-2	K-SB-02 (14.7-17.5)	Step 5	Solid	6010B SEP	55721
140-24471-2	K-SB-02 (14.7-17.5)	Step 6	Solid	6010B SEP	55729
140-24471-3	K-SB-12 (13-17.3)	Step 4	Solid	6010B SEP	55596
140-24471-3	K-SB-12 (13-17.3)	Step 5	Solid	6010B SEP	55721
140-24471-3	K-SB-12 (13-17.3)	Step 6	Solid	6010B SEP	55729
140-24471-4	K-SB-12 (17.3-21.0)	Step 4	Solid	6010B SEP	55596
140-24471-4	K-SB-12 (17.3-21.0)	Step 5	Solid	6010B SEP	55721
140-24471-4	K-SB-12 (17.3-21.0)	Step 6	Solid	6010B SEP	55729
140-24471-5	K-SB-28 (18-21.5)	Step 4	Solid	6010B SEP	55596
140-24471-5	K-SB-28 (18-21.5)	Step 5	Solid	6010B SEP	55721
140-24471-5	K-SB-28 (18-21.5)	Step 6	Solid	6010B SEP	55729
140-24471-6	K-SB-07 (7-10)	Step 4	Solid	6010B SEP	55596
140-24471-6	K-SB-07 (7-10)	Step 5	Solid	6010B SEP	55721
140-24471-6	K-SB-07 (7-10)	Step 6	Solid	6010B SEP	55729
140-24471-7	K-SB-07 (10-15)	Step 4	Solid	6010B SEP	55596
140-24471-7	K-SB-07 (10-15)	Step 5	Solid	6010B SEP	55721
140-24471-7	K-SB-07 (10-15)	Step 6	Solid	6010B SEP	55729
140-24471-8	K-SB-32 (31-36)	Step 4	Solid	6010B SEP	55596
140-24471-8	K-SB-32 (31-36)	Step 5	Solid	6010B SEP	55721
140-24471-8	K-SB-32 (31-36)	Step 6	Solid	6010B SEP	55729
140-24471-9	K-SB-03 (19-20)	Step 4	Solid	6010B SEP	55596
140-24471-9	K-SB-03 (19-20)	Step 5	Solid	6010B SEP	55721
140-24471-9	K-SB-03 (19-20)	Step 6	Solid	6010B SEP	55729
140-24471-10	K-SB-08 (4-7)	Step 4	Solid	6010B SEP	55596
140-24471-10	K-SB-08 (4-7)	Step 5	Solid	6010B SEP	55721
140-24471-10	K-SB-08 (4-7)	Step 6	Solid	6010B SEP	55729
140-24471-11	K-SB-08 (13-17)	Step 4	Solid	6010B SEP	55596

Metals (Continued)

Analysis Batch: 56028 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-11	K-SB-08 (13-17)	Step 5	Solid	6010B SEP	55721
140-24471-11	K-SB-08 (13-17)	Step 6	Solid	6010B SEP	55729
140-24471-12	K-SB-XPW03 (10-20)	Step 4	Solid	6010B SEP	55596
140-24471-12	K-SB-XPW03 (10-20)	Step 5	Solid	6010B SEP	55721
140-24471-12	K-SB-XPW03 (10-20)	Step 6	Solid	6010B SEP	55729
140-24471-12	K-SB-XPW03 (10-20)	Step 6	Solid	6010B SEP	55729
MB 140-55545/18-B	Method Blank	Step 4	Solid	6010B SEP	55596
MB 140-55597/18-B ^5	Method Blank	Step 5	Solid	6010B SEP	55721
MB 140-55729/18-A	Method Blank	Step 6	Solid	6010B SEP	55729
LCS 140-55545/19-B	Lab Control Sample	Step 4	Solid	6010B SEP	55596
LCS 140-55597/19-B ^5	Lab Control Sample	Step 5	Solid	6010B SEP	55721
LCS 140-55729/19-A	Lab Control Sample	Step 6	Solid	6010B SEP	55729
LCSD 140-55545/20-B	Lab Control Sample Dup	Step 4	Solid	6010B SEP	55596
LCSD 140-55597/20-B ^5	Lab Control Sample Dup	Step 5	Solid	6010B SEP	55721
LCSD 140-55729/20-A	Lab Control Sample Dup	Step 6	Solid	6010B SEP	55729

Analysis Batch: 56176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Step 7	Solid	6010B SEP	55778
140-24471-1	K-SB-02 (10-14.7)	Step 7	Solid	6010B SEP	55778
140-24471-1	K-SB-02 (10-14.7)	Step 7	Solid	6010B SEP	55778
140-24471-2	K-SB-02 (14.7-17.5)	Step 7	Solid	6010B SEP	55778
140-24471-2	K-SB-02 (14.7-17.5)	Step 7	Solid	6010B SEP	55778
140-24471-3	K-SB-12 (13-17.3)	Step 7	Solid	6010B SEP	55778
140-24471-4	K-SB-12 (17.3-21.0)	Step 7	Solid	6010B SEP	55778
140-24471-5	K-SB-28 (18-21.5)	Step 7	Solid	6010B SEP	55778
140-24471-6	K-SB-07 (7-10)	Step 7	Solid	6010B SEP	55778
140-24471-6	K-SB-07 (7-10)	Step 7	Solid	6010B SEP	55778
140-24471-6	K-SB-07 (7-10)	Step 7	Solid	6010B SEP	55778
140-24471-7	K-SB-07 (10-15)	Step 7	Solid	6010B SEP	55778
140-24471-7	K-SB-07 (10-15)	Step 7	Solid	6010B SEP	55778
140-24471-8	K-SB-32 (31-36)	Step 7	Solid	6010B SEP	55778
140-24471-8	K-SB-32 (31-36)	Step 7	Solid	6010B SEP	55778
140-24471-9	K-SB-03 (19-20)	Step 7	Solid	6010B SEP	55778
140-24471-10	K-SB-08 (4-7)	Step 7	Solid	6010B SEP	55778
140-24471-10	K-SB-08 (4-7)	Step 7	Solid	6010B SEP	55778
140-24471-10	K-SB-08 (4-7)	Step 7	Solid	6010B SEP	55778
140-24471-11	K-SB-08 (13-17)	Step 7	Solid	6010B SEP	55778
140-24471-11	K-SB-08 (13-17)	Step 7	Solid	6010B SEP	55778
140-24471-11	K-SB-08 (13-17)	Step 7	Solid	6010B SEP	55778
140-24471-12	K-SB-XPW03 (10-20)	Step 7	Solid	6010B SEP	55778
140-24471-12	K-SB-XPW03 (10-20)	Step 7	Solid	6010B SEP	55778
140-24471-12	K-SB-XPW03 (10-20)	Step 7	Solid	6010B SEP	55778
140-24471-12	K-SB-XPW03 (10-20)	Step 7	Solid	6010B SEP	55778
MB 140-55778/18-A	Method Blank	Step 7	Solid	6010B SEP	55778
LCS 140-55778/19-A	Lab Control Sample	Step 7	Solid	6010B SEP	55778
LCSD 140-55778/20-A	Lab Control Sample Dup	Step 7	Solid	6010B SEP	55778

Analysis Batch: 56350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Total/NA	Solid	6010B	55231

Metals (Continued)

Analysis Batch: 56350 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Total/NA	Solid	6010B	55231
140-24471-1	K-SB-02 (10-14.7)	Total/NA	Solid	6010B	55231
140-24471-2	K-SB-02 (14.7-17.5)	Total/NA	Solid	6010B	55231
140-24471-2	K-SB-02 (14.7-17.5)	Total/NA	Solid	6010B	55231
140-24471-3	K-SB-12 (13-17.3)	Total/NA	Solid	6010B	55231
140-24471-3	K-SB-12 (13-17.3)	Total/NA	Solid	6010B	55231
140-24471-4	K-SB-12 (17.3-21.0)	Total/NA	Solid	6010B	55231
140-24471-4	K-SB-12 (17.3-21.0)	Total/NA	Solid	6010B	55231
140-24471-4	K-SB-12 (17.3-21.0)	Total/NA	Solid	6010B	55231
140-24471-5	K-SB-28 (18-21.5)	Total/NA	Solid	6010B	55231
140-24471-5	K-SB-28 (18-21.5)	Total/NA	Solid	6010B	55231
140-24471-5	K-SB-28 (18-21.5)	Total/NA	Solid	6010B	55231
140-24471-6	K-SB-07 (7-10)	Total/NA	Solid	6010B	55231
140-24471-6	K-SB-07 (7-10)	Total/NA	Solid	6010B	55231
140-24471-6	K-SB-07 (7-10)	Total/NA	Solid	6010B	55231
140-24471-7	K-SB-07 (10-15)	Total/NA	Solid	6010B	55231
140-24471-7	K-SB-07 (10-15)	Total/NA	Solid	6010B	55231
140-24471-8	K-SB-32 (31-36)	Total/NA	Solid	6010B	55231
140-24471-8	K-SB-32 (31-36)	Total/NA	Solid	6010B	55231
140-24471-9	K-SB-03 (19-20)	Total/NA	Solid	6010B	55231
140-24471-9	K-SB-03 (19-20)	Total/NA	Solid	6010B	55231
140-24471-9	K-SB-03 (19-20)	Total/NA	Solid	6010B	55231
140-24471-10	K-SB-08 (4-7)	Total/NA	Solid	6010B	55231
140-24471-10	K-SB-08 (4-7)	Total/NA	Solid	6010B	55231
140-24471-10	K-SB-08 (4-7)	Total/NA	Solid	6010B	55231
140-24471-11	K-SB-08 (13-17)	Total/NA	Solid	6010B	55231
140-24471-11	K-SB-08 (13-17)	Total/NA	Solid	6010B	55231
140-24471-12	K-SB-XPW03 (10-20)	Total/NA	Solid	6010B	55231
140-24471-12	K-SB-XPW03 (10-20)	Total/NA	Solid	6010B	55231
140-24471-12	K-SB-XPW03 (10-20)	Total/NA	Solid	6010B	55231
MB 140-55231/13-A	Method Blank	Total/NA	Solid	6010B	55231
LCS 140-55231/14-A	Lab Control Sample	Total/NA	Solid	6010B	55231
LCSD 140-55231/15-A	Lab Control Sample Dup	Total/NA	Solid	6010B	55231

Analysis Batch: 56433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-2	K-SB-02 (14.7-17.5)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-3	K-SB-12 (13-17.3)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-4	K-SB-12 (17.3-21.0)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-5	K-SB-28 (18-21.5)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-6	K-SB-07 (7-10)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-7	K-SB-07 (10-15)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-8	K-SB-32 (31-36)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-9	K-SB-03 (19-20)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-10	K-SB-08 (4-7)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-11	K-SB-08 (13-17)	Sum of Steps 1-7	Solid	6010B SEP	
140-24471-12	K-SB-XPW03 (10-20)	Sum of Steps 1-7	Solid	6010B SEP	

QC Association Summary

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

General Chemistry

Analysis Batch: 53527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-24471-1	K-SB-02 (10-14.7)	Total/NA	Solid	Moisture	
140-24471-2	K-SB-02 (14.7-17.5)	Total/NA	Solid	Moisture	
140-24471-3	K-SB-12 (13-17.3)	Total/NA	Solid	Moisture	
140-24471-4	K-SB-12 (17.3-21.0)	Total/NA	Solid	Moisture	
140-24471-5	K-SB-28 (18-21.5)	Total/NA	Solid	Moisture	
140-24471-6	K-SB-07 (7-10)	Total/NA	Solid	Moisture	
140-24471-7	K-SB-07 (10-15)	Total/NA	Solid	Moisture	
140-24471-8	K-SB-32 (31-36)	Total/NA	Solid	Moisture	
140-24471-9	K-SB-03 (19-20)	Total/NA	Solid	Moisture	
140-24471-10	K-SB-08 (4-7)	Total/NA	Solid	Moisture	
140-24471-11	K-SB-08 (13-17)	Total/NA	Solid	Moisture	
140-24471-12	K-SB-XPW03 (10-20)	Total/NA	Solid	Moisture	
140-24471-4 DU	K-SB-12 (17.3-21.0)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: K-SB-02 (10-14.7)
Lab Sample ID: 140-24471-1
Date Collected: 08/25/21 07:30
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-02 (10-14.7)
Lab Sample ID: 140-24471-1
Date Collected: 08/25/21 07:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 10:53	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:05	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:03	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:17	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:19	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:03	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:09	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:11	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:15	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		10			56176	11/20/21 11:26	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: K-SB-02 (10-14.7)
Lab Sample ID: 140-24471-1
Date Collected: 08/25/21 07:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:11	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:13	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-02 (14.7-17.5)
Lab Sample ID: 140-24471-2
Date Collected: 08/25/21 07:30
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-02 (14.7-17.5)
Lab Sample ID: 140-24471-2
Date Collected: 08/25/21 07:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 10:58	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:10	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:22	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:24	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:08	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:14	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-02 (14.7-17.5)

Lab Sample ID: 140-24471-2

Date Collected: 08/25/21 07:30

Matrix: Solid

Date Received: 09/03/21 09:45

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:16	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:20	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:16	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:18	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-12 (13-17.3)

Lab Sample ID: 140-24471-3

Date Collected: 08/25/21 09:30

Matrix: Solid

Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-12 (13-17.3)

Lab Sample ID: 140-24471-3

Date Collected: 08/25/21 09:30

Matrix: Solid

Date Received: 09/03/21 09:45

Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:02	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:25	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:27	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:29	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-12 (13-17.3)

Lab Sample ID: 140-24471-3
Date Collected: 08/25/21 09:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:13	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:19	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:21	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:25	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:21	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-12 (17.3-21.0)

Lab Sample ID: 140-24471-4
Date Collected: 08/25/21 09:30
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-12 (17.3-21.0)

Lab Sample ID: 140-24471-4
Date Collected: 08/25/21 09:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:07	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:30	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:08	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-12 (17.3-21.0)

Lab Sample ID: 140-24471-4
Date Collected: 08/25/21 09:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:32	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:34	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:18	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:24	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:26	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:29	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:26	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-28 (18-21.5)

Lab Sample ID: 140-24471-5
Date Collected: 08/25/21 11:10
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-28 (18-21.5)

Lab Sample ID: 140-24471-5
Date Collected: 08/25/21 11:10
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:12	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-28 (18-21.5)

Lab Sample ID: 140-24471-5

Date Collected: 08/25/21 11:10
Date Received: 09/03/21 09:45

Matrix: Solid
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:35	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:14	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:36	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:39	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:23	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:29	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:31	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:34	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:31	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-07 (7-10)

Lab Sample ID: 140-24471-6

Date Collected: 08/25/21 13:10
Date Received: 09/03/21 09:45

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Client Sample ID: K-SB-07 (7-10)

Date Collected: 08/25/21 13:10
Date Received: 09/03/21 09:45

Lab Sample ID: 140-24471-6

Matrix: Solid
Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:26	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:41	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:19	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:41	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:44	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:28	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:34	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:36	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:49	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		10			56176	11/20/21 11:50	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:36	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:23	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: K-SB-07 (10-15)
Lab Sample ID: 140-24471-7
Date Collected: 08/25/21 13:30
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-07 (10-15)
Lab Sample ID: 140-24471-7
Date Collected: 08/25/21 13:30
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:31	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:46	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:46	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:58	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:33	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:38	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:51	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:54	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:41	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:27	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-32 (31-36)

Lab Sample ID: 140-24471-8

Date Collected: 08/25/21 15:25

Matrix: Solid

Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-32 (31-36)

Lab Sample ID: 140-24471-8

Date Collected: 08/25/21 15:25

Matrix: Solid

Date Received: 09/03/21 09:45

Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:36	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:51	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 17:01	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 19:03	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:37	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:53	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:56	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:59	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 13:45	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:32	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: K-SB-03 (19-20)
Lab Sample ID: 140-24471-9
Date Collected: 08/26/21 08:15
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-03 (19-20)
Lab Sample ID: 140-24471-9
Date Collected: 08/26/21 08:15
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:41	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 12:56	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:24	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 17:05	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 19:08	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:43	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:58	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 15:01	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 17:04	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 14:00	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: K-SB-08 (4-7)
Lab Sample ID: 140-24471-10
Date Collected: 08/26/21 09:25
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-08 (4-7)
Lab Sample ID: 140-24471-10
Date Collected: 08/26/21 09:25
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:46	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 13:02	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:29	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 17:10	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 19:13	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 16:48	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 13:03	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 15:06	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 17:09	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		10			56176	11/20/21 12:18	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-08 (4-7)
Lab Sample ID: 140-24471-10
Date Collected: 08/26/21 09:25
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 14:05	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:37	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-08 (13-17)
Lab Sample ID: 140-24471-11
Date Collected: 08/26/21 09:55
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-08 (13-17)
Lab Sample ID: 140-24471-11
Date Collected: 08/26/21 09:55
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:50	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 13:07	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 17:15	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 19:18	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 17:02	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 13:08	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-08 (13-17)

Lab Sample ID: 140-24471-11
Date Collected: 08/26/21 09:55
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 15:11	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 17:13	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		10			56176	11/20/21 12:23	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 14:10	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:42	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-XPW03 (10-20)

Lab Sample ID: 140-24471-12
Date Collected: 08/26/21 11:10
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			56433	11/29/21 12:35	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: K-SB-XPW03 (10-20)

Lab Sample ID: 140-24471-12
Date Collected: 08/26/21 11:10
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		10			56350	11/24/21 11:55	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			56350	11/24/21 14:34	KNC	TAL KNX
	Instrument ID: DUO									
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		5			56350	11/24/21 14:39	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 17:20	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: K-SB-XPW03 (10-20)
Lab Sample ID: 140-24471-12
Date Collected: 08/26/21 11:10
Matrix: Solid
Date Received: 09/03/21 09:45
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 19:23	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 17:07	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 13:12	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 15:16	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 17:18	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		2			56028	11/16/21 18:40	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		10			56176	11/20/21 12:28	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 14:15	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			56176	11/20/21 15:47	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		5			56176	11/20/21 15:52	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55231/13-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 10:28	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55232/18-B ^4

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55850	11/11/21 16:02	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			55885	11/12/21 15:09	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55278/18-B ^3

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55850	11/11/21 18:04	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			55885	11/12/21 15:14	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55482/18-B

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 15:39	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55545/18-B

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 11:55	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55597/18-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 13:56	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55729/18-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:01	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-55778/18-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 11:06	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55231/14-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 10:33	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55232/19-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		5			55850	11/11/21 16:07	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55278/19-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		5			55850	11/11/21 18:09	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55482/19-B
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 15:44	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55545/19-B
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:00	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55597/19-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:01	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55729/19-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:05	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-55778/19-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 11:11	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55231/15-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	55231	10/28/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			56350	11/24/21 10:38	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55232/20-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	55232	10/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	55277	11/03/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		5			55850	11/11/21 16:12	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55278/20-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	55278	11/03/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5 mL	50 mL	55481	11/04/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		5			55850	11/11/21 18:14	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55482/20-B
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.000 g	25 mL	55482	11/04/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5 mL	50 mL	55544	11/05/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			55885	11/12/21 15:48	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55545/20-B
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 4	SEP	Metal Hydroxide			5.000 g	25 mL	55545	11/05/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5 mL	50 mL	55596	11/08/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			56028	11/16/21 12:05	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55597/20-B ^5
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.000 g	75 mL	55597	11/08/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5 mL	50 mL	55721	11/10/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			56028	11/16/21 14:06	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55729/20-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 6	SEP	Acid/Sulfide			5.000 g	250 mL	55729	11/10/21 08:00	JMD	TAL KNX
Step 6	Analysis	6010B SEP		1			56028	11/16/21 16:10	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-55778/20-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	55778	11/11/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			56176	11/20/21 11:16	KNC	TAL KNX
	Instrument ID: DUO									

Client Sample ID: K-SB-12 (17.3-21.0)
Lab Sample ID: 140-24471-4 DU
Date Collected: 08/25/21 09:30
Matrix: Solid
Date Received: 09/03/21 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			53527	09/08/21 10:48	LDP	TAL KNX
	Instrument ID: NOEQUIP									

Laboratory References:
TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Golder Associates Inc.
Job ID: 140-24471-1
Project/Site: Kincaid Power Station - Illinois

Laboratory: Eurofins TestAmerica, Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-22
ANAB	Dept. of Energy	L2311.01	02-13-22
ANAB	ISO/IEC 17025	L2311	02-13-22
Arkansas DEQ	State	88-0688	06-17-22
California	State	2423	06-30-22
Colorado	State	TN00009	02-28-22
Connecticut	State	PH-0223	02-28-22
Florida	NELAP	E87177	06-30-22
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-21
Kansas	NELAP	E-10349	10-31-21 *
Kentucky (DW)	State	90101	12-31-21
Louisiana	NELAP	83979	06-30-22
Louisiana (DW)	State	LA019	12-31-21
Maryland	State	277	03-31-22
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-22
New Hampshire	NELAP	299919	01-17-22
New Jersey	NELAP	TN001	06-30-22
New York	NELAP	10781	03-31-22
North Carolina (DW)	State	21705	07-31-22
North Carolina (WW/SW)	State	64	12-31-21
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22
Oregon	NELAP	TNI0189	01-01-22
Pennsylvania	NELAP	68-00576	12-31-21
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-22
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-22
West Virginia (DW)	State	9955C	01-02-22
West Virginia DEP	State	345	04-30-22
Wisconsin	State	998044300	08-31-22

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

Method Summary

Client: Golder Associates Inc.
Project/Site: Kincaid Power Station - Illinois

Job ID: 140-24471-1

Method	Method Description	Protocol	Laboratory
6010B	SEP Metals (ICP) - Total	SW846	TAL KNX
6010B SEP	SEP Metals (ICP)	SW846	TAL KNX
Moisture	Percent Moisture	EPA	TAL KNX
3010A	Preparation, Total Metals	SW846	TAL KNX
Acid/Sulfide	Sequential Extraction Procedure, Acid/Sulfide Fraction	TAL-KNOX	TAL KNX
Carbonate	Sequential Extraction Procedure, Carbonate Fraction	TAL-KNOX	TAL KNX
Exchangeable	Sequential Extraction Procedure, Exchangeable Fraction	TAL-KNOX	TAL KNX
Metal Hydroxide	Sequential Extraction Procedure, Metal Hydroxide Fraction	TAL-KNOX	TAL KNX
Non-Crystalline	Sequential Extraction Procedure, Non-crystalline Materials	TAL-KNOX	TAL KNX
Organic-Bound	Sequential Extraction Procedure, Organic Bound Fraction	TAL-KNOX	TAL KNX
Residual	Sequential Extraction Procedure, Residual Fraction	TAL-KNOX	TAL KNX
Total	Preparation, Total Material	TAL-KNOX	TAL KNX

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-KNOX = TestAmerica Laboratories, Knoxville, Facility Standard Operating Procedure.

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Phone: 865-291-3000 Fax: 865-584-4315

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Brendan Talbert	Lab PM: Henry, Ryan	Carrier Tracking No(s):	COC No: 140-9426-2833.2
Client Contact: Jeffrey Ingram	Phone: 636-485-8185	E-Mail: williamr.henry@eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: Golder Associates Inc.	PWSID:	Analysis Requested		Job #:
Address: 13515 Barrett Parkway Drive Suite 260	Due Date Requested:			Preservation Codes: A - HCL, M - Hexane, None, NaNaO2, Na2O4S, Na2SO3, Na2S2O3, H2SO4, SP Dodecahydrate, Acetone, HCAA, pH 4-5, L - EDA, Z - other (specify), Other:
City: Ballwin	TAT Requested (days):			
State, Zip: MO, 63021	Compliance Project: Δ Yes Δ No			
Phone: 314-984-8800(Tel) 636-724-9323(Fax)	PO #: Purchase Order not required			
Email: Jeffrey_Ingram@golder.com	WO #:			
Project Name: ~~Labadie Energy Center - Missouri~~ Kincaid Power Station - Illinois	Project #: ~~14000342~~ 14006484			
Site:	SSOW#:			

140-24471 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_SEP - SEP	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
K-SB-02 (10-14.7)	8-25-21	0730	G	S			/		1 jar
K-SB-02 (14.7-17.5)		0730					/		1 jar
K-SB-12 (13-17.3)		0930					/		1 jar
K-SB-12 (17.3-21.0)		0930					/		1 jar
K-SB-28 (18-21.5)		1110					/		1 jar
K-SB-07 (7-10)		1310					/		1 jar
K-SB-07 (10-15)		1330					/		1 jar
K-SB-32 (31-36)		1525					/		1 jar
K-SB-03 (19-20)	8-26-21	0815					/		1 jar
K-SB-08 (4-7)		0925					/		1 jar
K-SB-08 (13-17)		0955					/		1 jar

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
Brendan Talbert	9-2-21 / 1815	Golder		9-3-21 09:45	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 11/01/2020

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Phone: 865-291-3000 Fax: 865-584-4315

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Brendan Talbert	Lab PM: Henry, Ryan	Carrier Tracking No(s):	COC No: 140-9426-2833.1
Client Contact: Jeffrey Ingram	Phone: 636-485-8185	E-Mail: williamr.henry@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: Golder Associates Inc.	PWSID:			Job #:
Address: 13515 Barrett Parkway Drive Suite 260	Due Date Requested:			
City: Ballwin	TAT Requested (days):			
State, Zip: MO, 63021	Compliance Project: Δ Yes Δ No			
Phone: 314-984-8800(Tel) 636-724-9323(Fax)	PO #: Purchase Order not required			
Email: Jeffrey_Ingram@golder.com	WO #:			
Project Name: ~~Labadie Energy Center Missouri~~ Kincaid Power Station -Illinois	Project #: ~~14006342~~ 14006434			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, 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_SEP - SEP	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
K-SB-XPW03(10-20)	8-26-21	1110	G	S			1		1 jar
CUSTODY SEALS INTACT									
RECEIVED AT AT 2.4/CT2.5'C									
BTD 9-3-21									
1 COOLER FEDEX#283274675004 PD									

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	Brendan Talbert	9-2-21 / 1815	Golder		9-3-21 09:45	ETA KNX
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST **Log In Number:**

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : S071 Correction factor: +0.1°C	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?	✓			☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:_____			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: Rempa Dama Date: 9.3.21

QA026R32.doc, 062719

ATTACHMENT **2**
SGS Analysis Report (SEP Data)

SGS proposal: IBD
SGS project #: 2267

Sample receipt date: 13-Dec-23
Report date: 18-Apr-23

Version: Final

Customer details

Name:	Lain Glossop
Address:	SGS Mineralogy

Project reference:

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 4

Report Distribution

Name	Email
Lain Glossop	
Kim Gibbs	

Special notes:

Tessier sequential extraction

Mineralogy LIMS: MI7010-NOV22
Project: CA20I-00000-211-19465-02

3260 Production Way
Burnaby - British Columbia - V5A 4W4
Phone: 604-638-2349 FAX: 604-444-5486

SGS proposal: IBD
SGS project #: 2267

Sample receipt date: 13-Dec-23
Report date: 18-Apr-23

Version: Final

ANALYSIS REPORT

Method Summaries *Test method information available upon request.*

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V
S(SO4): Sulfate by HCl digestion with ICP finish, Method CSA07V
S(S2-): Sulfide by calculation of S(T) - S(SO4)

TIC: Total inorganic carbon by coulometry, Method CSB02V
AP: Acid generating potential based on sulfide sulfur
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3
Net NP: Net neutralisation potential = NP - AP
NPR: Neutralisation potential ratio = NP/AP

Metals by Aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12
Tessier Sequential Extraction - method available on request

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Preliminary Data

Noelene Ahern - Manager: ARD

Final Data Approval

Noelene Ahern - Manager: ARD

Tessier Extraction

Water Soluble Metals
Reagent: 15 mL of Nanopure Distilled Water

Sample			K-SB-02 (10-15) Water Soluble	K-SB-02 (15-20) Water Soluble	K-SB-07S (7-11) Water Soluble
Sample weight (g)			1.0344	1.0203	1.0194
Reagent volume (mL)			15	15	15.0
Volume analysed (after wash dilution and preservation) (mL)			22.5	22.5	22.5
Final diluted solution weight (g)			22.33	22.05	21.89
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	37.8	42.3	18.2
Aluminum Al	mg/L	0.001	2.59	0.653	3.51
Antimony Sb	mg/L	0.0009	< 0.0009	< 0.0009	< 0.0009
Arsenic As	mg/L	0.0002	0.0018	0.0016	0.0015
Barium Ba	mg/L	0.00002	0.0211	0.0125	0.0288
Beryllium Be	mg/L	0.000007	0.000099	0.00002	0.000153
Bismuth Bi	mg/L	0.00001	0.00002	< 0.00001	0.00004
Boron B	mg/L	0.002	0.024	0.027	0.156
Cadmium Cd	mg/L	0.000003	0.000033	0.000016	0.000024
Calcium Ca	mg/L	0.01	9.15	10.3	3.3
Chromium Cr	mg/L	0.00008	0.00457	0.002	0.0064
Cobalt Co	mg/L	0.000004	0.000653	0.000151	0.000812
Copper Cu	mg/L	0.0002	0.0055	0.0035	0.0262
Iron Fe	mg/L	0.007	2.38	0.472	2.97
Lead Pb	mg/L	0.00009	0.00174	0.00074	0.00201
Lithium Li	mg/L	0.0001	0.0082	0.0055	0.0054
Magnesium Mg	mg/L	0.001	3.63	4.02	2.43
Manganese Mn	mg/L	0.00001	0.0204	0.00601	0.0435
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.00414	0.00689	0.00145
Nickel Ni	mg/L	0.0001	0.0022	0.0008	0.003
Phosphorus P	mg/L	0.003	< 0.003	< 0.003	< 0.003
Potassium K	mg/L	0.003	3.35	3.44	1.31
Selenium Se	mg/L	0.00004	0.00143	0.00109	0.00079
Silicon Si	mg/L	0.02	8.99	4.57	10.8
Silver Ag	mg/L	0.00005	< 0.00005	< 0.00005	< 0.00005
Sodium Na	mg/L	0.01	2.25	2.48	3.39
Strontium Sr	mg/L	0.00002	0.0267	0.0318	0.0123
Sulphur (S)	mg/L	1	7	8	12
Thallium Tl	mg/L	0.000005	0.000039	0.00004	0.000024
Tin Sn	mg/L	0.00006	0.00093	0.00393	0.00231
Titanium Ti	mg/L	0.00005	0.0457	0.0109	0.093
Uranium U	mg/L	0.000002	0.000169	0.000464	0.000148
Vanadium V	mg/L	0.00001	0.00634	0.00413	0.00803
Zinc Zn	mg/L	0.002	0.028	0.026	0.026
Zirconium Zr	mg/L	0.002	0.004	< 0.002	0.005

Tessier Extraction

Water Soluble Metals Reagent: 15 mL of Nanopure Distilled Water					
Sample			**K-SB-28 (19-25) Water Soluble**	**K-SB-32 (31-36) Water Soluble**	**Blank**
Sample weight (g)			1.0344	1.0134	0
Reagent volume (mL)			15.0	15.0	15
Volume analysed (after wash dilution and preservation) (mL)			22.5	22.5	22.5
Final diluted solution weight (g)			22.94	22.21	23.18
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	69.5	37.2	2.4
Aluminum Al	mg/L	0.001	0.151	0.194	< 0.01
Antimony Sb	mg/L	0.0009	< 0.0009	< 0.0009	< 0.009
Arsenic As	mg/L	0.0002	0.0014	0.0017	< 0.002
Barium Ba	mg/L	0.00002	0.0116	0.00612	0.0036
Beryllium Be	mg/L	0.000007	< 0.000007	< 0.000007	< 0.00007
Bismuth Bi	mg/L	0.00001	< 0.00001	< 0.00001	< 0.0001
Boron B	mg/L	0.002	0.035	0.047	< 0.02
Cadmium Cd	mg/L	0.000003	0.000016	0.000009	< 0.00003
Calcium Ca	mg/L	0.01	15.3	7.73	< 0.1
Chromium Cr	mg/L	0.00008	0.0016	0.00183	0.0449
Cobalt Co	mg/L	0.000004	0.000035	0.000038	0.00139
Copper Cu	mg/L	0.0002	0.0016	0.0019	0.011
Iron Fe	mg/L	0.007	0.027	0.074	25.4
Lead Pb	mg/L	0.00009	0.00014	0.00019	< 0.0009
Lithium Li	mg/L	0.0001	0.0127	0.0079	< 0.001
Magnesium Mg	mg/L	0.001	7.59	4.35	0.57
Manganese Mn	mg/L	0.00001	0.00269	0.00158	0.174
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.0163	0.00529	0.0047
Nickel Ni	mg/L	0.0001	0.0005	0.0004	0.059
Phosphorus P	mg/L	0.003	< 0.003	< 0.003	< 0.03
Potassium K	mg/L	0.003	13	6.15	0.09
Selenium Se	mg/L	0.00004	0.00292	0.00039	< 0.0004
Silicon Si	mg/L	0.02	2.47	3.9	< 0.2
Silver Ag	mg/L	0.00005	< 0.00005	< 0.00005	< 0.0005
Sodium Na	mg/L	0.01	1.97	2.02	< 0.1
Strontium Sr	mg/L	0.00002	0.051	0.0199	< 0.0008
Sulphur (S)	mg/L	1	23	9	< 1
Thallium Tl	mg/L	0.000005	0.000041	< 0.000005	< 0.00005
Tin Sn	mg/L	0.00006	0.00077	0.00102	0.0018
Titanium Ti	mg/L	0.00005	0.00019	0.00114	0.001
Uranium U	mg/L	0.000002	0.00048	0.000064	0.00002
Vanadium V	mg/L	0.00001	0.00278	0.00321	0.0009
Zinc Zn	mg/L	0.002	0.022	0.023	0.02
Zirconium Zr	mg/L	0.002	< 0.002	< 0.002	< 0.02

Tessier Extraction

Exchangeable Metals
Reagent: 15 mL of 1 M MgCl2 (pH 7)

Sample			K-SB-02 (10-15)	K-SB-02 (15-20)	K-SB-07S (7-11)
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL)			27.5	27.5	27.5
Final diluted solution weight (g)			28.695	28.575	28.5
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	52500	53800	51200
Aluminum Al	mg/L	0.001	0.94	0.234	0.468
Antimony Sb	mg/L	0.0009	< 0.0009	< 0.0009	0.0011
Arsenic As	mg/L	0.0002	0.0018	0.0027	0.0021
Barium Ba	mg/L	0.00002	1.11	0.71	1.64
Beryllium Be	mg/L	0.000007	0.00002	0.00001	0.0001
Bismuth Bi	mg/L	0.00001	0.00008	0.00014	0.0001
Boron B	mg/L	0.002	0.013	0.017	0.102
Cadmium Cd	mg/L	0.000003	0.00073	0.0005	0.0008
Calcium Ca	mg/L	0.01	113	118	89.2
Chromium Cr	mg/L	0.00008	0.00835	0.0079	0.00738
Cobalt Co	mg/L	0.000004	0.00253	0.00093	0.00128
Copper Cu	mg/L	0.0002	0.0144	0.0223	0.006
Iron Fe	mg/L	0.007	0.56	0.23	0.364
Lead Pb	mg/L	0.00009	0.00206	0.0008	0.0009
Lithium Li	mg/L	0.0001	0.0113	0.007	0.0106
Magnesium Mg	mg/L	0.001	12700	13000	12400
Manganese Mn	mg/L	0.00001	0.562	0.372	1.13
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.0024	0.00903	0.0106
Nickel Ni	mg/L	0.0001	0.0053	0.0029	0.0128
Phosphorus P	mg/L	0.003	< 0.003	0.09	0.034
Potassium K	mg/L	0.003	13.4	10.1	9.48
Selenium Se	mg/L	0.00004	0.0016	0.00406	0.0001
Silicon Si	mg/L	0.02	4.82	4.11	3.5
Silver Ag	mg/L	0.00005	0.00797	0.006	0.01076
Sodium Na	mg/L	0.01	1.37	1.52	5.55
Strontium Sr	mg/L	0.00002	0.326	0.251	0.281
Sulphur (S)	mg/L	1	19	21	161
Thallium Tl	mg/L	0.000005	0.00008	0.00009	< 0.000005
Tin Sn	mg/L	0.00006	0.00029	< 0.00006	< 0.00006
Titanium Ti	mg/L	0.00005	0.0338	0.00912	0.0104
Uranium U	mg/L	0.000002	0.00051	0.00194	0.000222
Vanadium V	mg/L	0.00001	0.00541	0.00659	0.0025
Zinc Zn	mg/L	0.002	0.034	0.028	0.241
Zirconium Zr	mg/L	0.002	< 0.002	< 0.002	< 0.002

Tessier Extraction

Exchangeable Metals Reagent: 15 mL of 1 M MgCl2 (pH 7)					
Sample			**K-SB-28 (19-25)**	**K-SB-32 (31-36)**	**Blank**
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL)			27.5	27.5	27.5
Final diluted solution weight (g)			28.51	29.28	28.52
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	53100	53800	30600
Aluminum Al	mg/L	0.001	0.514	0.416	0.02
Antimony Sb	mg/L	0.0009	< 0.0009	< 0.0009	< 0.009
Arsenic As	mg/L	0.0002	0.004	0.0024	0.003
Barium Ba	mg/L	0.00002	0.228	0.217	0.0046
Beryllium Be	mg/L	0.000007	0.00002	< 0.000007	< 0.00007
Bismuth Bi	mg/L	0.00001	0.00005	0.00004	< 0.0001
Boron B	mg/L	0.002	0.02	0.046	< 0.02
Cadmium Cd	mg/L	0.000003	0.000473	0.000124	< 0.00003
Calcium Ca	mg/L	0.01	107	88.1	1.7
Chromium Cr	mg/L	0.00008	0.0163	0.00841	0.0599
Cobalt Co	mg/L	0.000004	0.00151	0.000885	0.00094
Copper Cu	mg/L	0.0002	0.0151	0.0122	0.011
Iron Fe	mg/L	0.007	0.791	0.593	20.8
Lead Pb	mg/L	0.00009	0.00065	< 0.00009	0.001
Lithium Li	mg/L	0.0001	0.0128	0.0087	0.001
Magnesium Mg	mg/L	0.001	12800	13000	7420
Manganese Mn	mg/L	0.00001	0.379	0.237	0.149
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.00625	0.00032	0.0071
Nickel Ni	mg/L	0.0001	0.0047	0.0067	0.059
Phosphorus P	mg/L	0.003	< 0.003	0.106	< 0.03
Potassium K	mg/L	0.003	13.2	10.6	1.91
Selenium Se	mg/L	0.00004	0.00193	0.00177	< 0.0004
Silicon Si	mg/L	0.02	3.97	3.81	< 0.2
Silver Ag	mg/L	0.00005	0.00311	0.00806	0.0076
Sodium Na	mg/L	0.01	1.16	0.58	1.3
Strontium Sr	mg/L	0.00002	0.197	0.125	0.003
Sulphur (S)	mg/L	1	20	54	22
Thallium Tl	mg/L	0.000005	0.000213	< 0.000005	< 0.00005
Tin Sn	mg/L	0.00006	< 0.00006	< 0.00006	0.0035
Titanium Ti	mg/L	0.00005	0.0201	0.00944	0.0006
Uranium U	mg/L	0.000002	0.00385	0.00137	0.00003
Vanadium V	mg/L	0.00001	0.00772	0.00664	0.0082
Zinc Zn	mg/L	0.002	0.025	0.15	0.03
Zirconium Zr	mg/L	0.002	< 0.002	< 0.002	< 0.02

Tessier Extraction

Metals Bound to Carbonates

Reagent: 15 mL of 1 M NaOAc (adjusted to pH 5.0 with Acetic Acid)

Sample			K-SB-02 (10-15) Bound to Carbonate	K-SB-02 (15-20) Bound to Carbonate	K-SB-07S (7-11) Bound to Carbonate
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL)			32.5	32.5	32.5
Final diluted solution weight (g)			32.93	32.44	32.6
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	1680	4170	953
Aluminum Al	mg/L	0.001	20	16.8	16.7
Antimony Sb	mg/L	0.0009	< 0.0009	0.0023	< 0.0009
Arsenic As	mg/L	0.0002	0.0054	0.0064	0.0065
Barium Ba	mg/L	0.00002	1.18	0.959	1.31
Beryllium Be	mg/L	0.000007	0.0037	0.00296	0.005
Bismuth Bi	mg/L	0.00001	0.00047	0.00031	0.00035
Boron B	mg/L	0.002	0.028	0.043	0.054
Cadmium Cd	mg/L	0.000003	0.00105	0.00122	0.000565
Calcium Ca	mg/L	0.01	247	1050	11.9
Chromium Cr	mg/L	0.00008	1.01	1.72	0.439
Cobalt Co	mg/L	0.000004	0.0257	0.0426	0.0578
Copper Cu	mg/L	0.0002	0.434	0.414	0.225
Iron Fe	mg/L	0.007	26.3	40.5	12.9
Lead Pb	mg/L	0.00009	0.0611	0.16	0.0519
Lithium Li	mg/L	0.0001	0.0176	0.0144	0.0104
Magnesium Mg	mg/L	0.001	257	378	224
Manganese Mn	mg/L	0.00001	2.68	6.94	8.47
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.0125	0.0253	0.0067
Nickel Ni	mg/L	0.0001	0.0657	0.0933	0.0498
Phosphorus P	mg/L	0.003	0.145	0.13	0.025
Potassium K	mg/L	0.003	7.84	7.69	5.68
Selenium Se	mg/L	0.00004	0.00122	0.00091	0.0011
Silicon Si	mg/L	0.02	25.1	20	19.2
Silver Ag	mg/L	0.00005	0.00014	< 0.00005	0.00073
Sodium Na	mg/L	0.01	8610	8600	8410
Strontium Sr	mg/L	0.00002	0.123	0.42	0.0519
Sulphur (S)	mg/L	1	< 1	11	10
Thallium Tl	mg/L	0.000005	0.000046	0.000029	0.00001
Tin Sn	mg/L	0.00006	0.00106	0.00086	0.00089
Titanium Ti	mg/L	0.00005	0.00819	0.0167	0.0111
Uranium U	mg/L	0.000002	0.00243	0.00314	0.00619
Vanadium V	mg/L	0.00001	0.0647	0.0848	0.0274
Zinc Zn	mg/L	0.002	0.16	0.169	0.077
Zirconium Zr	mg/L	0.002	0.003	0.004	0.004

Tessier Extraction

Metals Bound to Carbonates Reagent: 15 mL of 1 M NaOAc (adjusted to pH 5.0 with Acetic Acid)					
Sample			**K-SB-28 (19-25) Bound to Carbonate**	**K-SB-32 (31-36) Bound to Carbonate**	**Blank**
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL)			32.5	32.5	32.5
Final diluted solution weight (g)			32.46	33.30	33.42
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	5780	5160	1
Aluminum Al	mg/L	0.001	17	16.4	0.02
Antimony Sb	mg/L	0.0009	0.0016	0.001	< 0.009
Arsenic As	mg/L	0.0002	0.01	0.0076	< 0.002
Barium Ba	mg/L	0.00002	0.454	1.06	0.002
Beryllium Be	mg/L	0.000007	0.0026	0.002	< 0.00007
Bismuth Bi	mg/L	0.00001	0.0007	0.00037	< 0.0001
Boron B	mg/L	0.002	0.064	0.054	< 0.02
Cadmium Cd	mg/L	0.000003	0.00171	0.00138	< 0.00003
Calcium Ca	mg/L	0.01	1560	1410	0
Chromium Cr	mg/L	0.00008	1.25	1.6	0.004
Cobalt Co	mg/L	0.000004	0.0377	0.0703	< 0.00004
Copper Cu	mg/L	0.0002	0.341	0.914	< 0.002
Iron Fe	mg/L	0.007	59.1	38.9	0.16
Lead Pb	mg/L	0.00009	0.0519	0.0887	< 0.0009
Lithium Li	mg/L	0.0001	0.0258	0.0162	0.002
Magnesium Mg	mg/L	0.001	459	397	0.18
Manganese Mn	mg/L	0.00001	5.46	10.4	0.0075
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.0498	0.0292	0.002
Nickel Ni	mg/L	0.0001	0.0969	0.135	0.001
Phosphorus P	mg/L	0.003	0.211	0.115	< 0.03
Potassium K	mg/L	0.003	10.9	9.88	2.78
Selenium Se	mg/L	0.00004	0.00222	0.0016	0.0007
Silicon Si	mg/L	0.02	19.6	18.8	0
Silver Ag	mg/L	0.00005	< 0.00005	< 0.00005	0.0065
Sodium Na	mg/L	0.01	8080	8470	9600
Strontium Sr	mg/L	0.00002	0.891	0.625	< 0.0008
Sulphur (S)	mg/L	1	13	11	< 10
Thallium Tl	mg/L	0.000005	0.000142	0.000067	< 0.00005
Tin Sn	mg/L	0.00006	0.00091	0.00086	0.0015
Titanium Ti	mg/L	0.00005	0.021	0.0163	0.0005
Uranium U	mg/L	0.000002	0.00613	0.00294	0.00005
Vanadium V	mg/L	0.00001	0.0698	0.0653	0.0002
Zinc Zn	mg/L	0.002	0.229	0.265	0.02
Zirconium Zr	mg/L	0.002	0.009	0.004	< 0.02

Tessier Extraction

Metals Bound to Fe and Mn Oxides
Reagent: 15 mL of 0.04M NH2OH. HCl in 25% HOAc

Sample			K-SB-02 (10-15) Bound to Fe&Mn Oxides	K-SB-02 (15-20) Bound to Fe&Mn Oxides	K-SB-07S (7-11) Bound to Fe&Mn Oxides
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL)			32.5	32.5	32.5
Final diluted solution weight (g)			31.46	31.825	31.3
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	230	835	116
Aluminum Al	mg/L	0.001	25.4	22	27.8
Antimony Sb	mg/L	0.0009	< 0.0009	0.0009	< 0.0009
Arsenic As	mg/L	0.0002	0.0097	0.0092	0.0123
Barium Ba	mg/L	0.00002	0.26	0.203	0.366
Beryllium Be	mg/L	0.000007	0.00552	0.00438	0.0102
Bismuth Bi	mg/L	0.00001	0.00067	0.00061	0.00099
Boron B	mg/L	0.002	0.048	0.051	0.146
Cadmium Cd	mg/L	0.000003	0.00087	0.00034	0.00052
Calcium Ca	mg/L	0.01	41.2	178	5.32
Chromium Cr	mg/L	0.00008	1.08	1.07	0.81
Cobalt Co	mg/L	0.000004	0.0353	0.0307	0.0533
Copper Cu	mg/L	0.0002	0.216	0.146	0.239
Iron Fe	mg/L	0.007	75.8	67	82.2
Lead Pb	mg/L	0.00009	0.0624	0.0978	0.0866
Lithium Li	mg/L	0.0001	0.0601	0.04	0.0569
Magnesium Mg	mg/L	0.001	30.9	95	24.9
Manganese Mn	mg/L	0.00001	1.07	1.45	2.65
Mercury Hg	ug/L	0.01	0.02	0.03	0.06
Molybdenum Mo	mg/L	0.00004	0.0503	0.0807	0.0293
Nickel Ni	mg/L	0.0001	0.116	0.0923	0.113
Phosphorus P	mg/L	0.003	1.02	0.78	0.57
Potassium K	mg/L	0.003	4.74	4.05	3.37
Selenium Se	mg/L	0.00004	0.00204	0.00224	0.00193
Silicon Si	mg/L	0.02	30.6	26.6	35.3
Silver Ag	mg/L	0.00005	0.00659	0.00593	0.00751
Sodium Na	mg/L	0.01	167	51.7	252
Strontium Sr	mg/L	0.00002	0.0472	0.0961	0.0271
Sulphur (S)	mg/L	1	7	7	7
Thallium Tl	mg/L	0.000005	0.00011	0.00015	0.00008
Tin Sn	mg/L	0.00006	0.00086	0.0008	0.00079
Titanium Ti	mg/L	0.00005	0.0103	0.0141	0.0125
Uranium U	mg/L	0.000002	0.00193	0.00238	0.00595
Vanadium V	mg/L	0.00001	0.14	0.134	0.235
Zinc Zn	mg/L	0.002	0.19	0.135	0.148
Zirconium Zr	mg/L	0.002	0.012	0.018	0.024

Tessier Extraction

Metals Bound to Fe and Mn Oxides Reagent: 15 mL of 0.04M NH2OH. HCl in 25% HOAc					
Sample			**K-SB-28 (19-25) Bound to Fe&Mn Oxides**	**K-SB-32 (31-36) Bound to Fe&Mn Oxides**	**Blank**
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL)			32.5	32.5	32.5
Final diluted solution weight (g)			33.13	32.30	33.01
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	2530	1260	< 0.5
Aluminum Al	mg/L	0.001	19.3	21.5	0.02
Antimony Sb	mg/L	0.0009	< 0.0009	< 0.0009	< 0.009
Arsenic As	mg/L	0.0002	0.0326	0.0134	< 0.002
Barium Ba	mg/L	0.00002	0.115	0.166	< 0.0008
Beryllium Be	mg/L	0.000007	0.00381	0.00333	< 0.00007
Bismuth Bi	mg/L	0.00001	0.00119	0.00058	< 0.0001
Boron B	mg/L	0.002	0.101	0.087	< 0.02
Cadmium Cd	mg/L	0.000003	0.00032	0.00017	< 0.00003
Calcium Ca	mg/L	0.01	563	275	< 0.1
Chromium Cr	mg/L	0.00008	0.692	1.07	0.0055
Cobalt Co	mg/L	0.000004	0.045	0.018	0.00004
Copper Cu	mg/L	0.0002	0.0661	0.203	0.0013
Iron Fe	mg/L	0.007	119	64.4	0.073
Lead Pb	mg/L	0.00009	0.0851	0.0502	0.00043
Lithium Li	mg/L	0.0001	0.0534	0.0406	0.0058
Magnesium Mg	mg/L	0.001	272	139	0.019
Manganese Mn	mg/L	0.00001	3.98	1.28	0.0005
Mercury Hg	ug/L	0.01	0.03	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.149	0.122	0.00391
Nickel Ni	mg/L	0.0001	0.105	0.0916	0.0023
Phosphorus P	mg/L	0.003	2.63	0.97	0.027
Potassium K	mg/L	0.003	5.41	5.28	< 0.009
Selenium Se	mg/L	0.00004	0.00242	0.00136	0.00082
Silicon Si	mg/L	0.02	23.8	27.6	0.03
Silver Ag	mg/L	0.00005	0.00101	0.0038	0.00014
Sodium Na	mg/L	0.01	24	16.4	0.1
Strontium Sr	mg/L	0.00002	0.249	0.124	0.00026
Sulphur (S)	mg/L	1	9	7	5
Thallium Tl	mg/L	0.000005	0.00031	0.00015	0.00002
Tin Sn	mg/L	0.00006	0.00076	0.00089	0.00175
Titanium Ti	mg/L	0.00005	0.0254	0.018	0.00067
Uranium U	mg/L	0.000002	0.00474	0.00205	0.00014
Vanadium V	mg/L	0.00001	0.119	0.115	0.00021
Zinc Zn	mg/L	0.002	0.17	0.183	0.033
Zirconium Zr	mg/L	0.002	0.03	0.029	0.002

Tessier Extraction

Metals Bound to Organics
Reagent: 3 mL of 0.02 M HNO3 + 5 mL 30% H2O2
+ 5 mL 1.2 M NH4OAc in 20% HNO3

Sample			K-SB-02 (10-15)	K-SB-02 (15-20)	K-SB-07S (7-11)
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL) (Vol. is approximate)			37.5	37.5	37.5
Final diluted solution weight (g)			36.45	37.575	36.3
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	74.7	79.7	59.7
Aluminum Al	mg/L	0.001	46.5	26.6	55.2
Antimony Sb	mg/L	0.0009	0.0011	0.0012	< 0.0009
Arsenic As	mg/L	0.0002	0.0143	0.0132	0.021
Barium Ba	mg/L	0.00002	0.207	0.103	0.453
Beryllium Be	mg/L	0.000007	0.0016	0.000865	0.00369
Bismuth Bi	mg/L	0.00001	0.00017	0.0001	0.00022
Boron B	mg/L	0.002	0.011	0.011	0.02
Cadmium Cd	mg/L	0.000003	0.000298	0.000192	0.00021
Calcium Ca	mg/L	0.01	14.9	18.2	6.75
Chromium Cr	mg/L	0.00008	0.237	0.193	0.218
Cobalt Co	mg/L	0.000004	0.0137	0.00888	0.0225
Copper Cu	mg/L	0.0002	0.0574	0.0548	0.0766
Iron Fe	mg/L	0.007	15	8.97	21.1
Lead Pb	mg/L	0.00009	0.0595	0.0441	0.0718
Lithium Li	mg/L	0.0001	0.0223	0.0164	0.0251
Magnesium Mg	mg/L	0.001	9.12	8.33	10.4
Manganese Mn	mg/L	0.00001	0.306	0.185	0.864
Mercury Hg	ug/L	0.01	0.02	< 0.01	0.25
Molybdenum Mo	mg/L	0.00004	0.105	0.126	0.0587
Nickel Ni	mg/L	0.0001	0.0479	0.0301	0.0539
Phosphorus P	mg/L	0.003	11	11.7	9.87
Potassium K	mg/L	0.003	1.78	1.4	1.41
Selenium Se	mg/L	0.00004	0.00263	0.00265	0.00246
Silicon Si	mg/L	0.02	23	16.9	24.7
Silver Ag	mg/L	0.00005	0.00446	0.00422	0.0021
Sodium Na	mg/L	0.01	16	13.5	22.6
Strontium Sr	mg/L	0.00002	0.0298	0.0283	0.0266
Sulphur (S)	mg/L	1	< 1	< 1	< 1
Thallium Tl	mg/L	0.000005	0.00012	0.000131	0.000101
Tin Sn	mg/L	0.00006	0.0736	0.117	0.0767
Titanium Ti	mg/L	0.00005	1.56	1.78	0.864
Uranium U	mg/L	0.000002	0.00114	0.00121	0.00168
Vanadium V	mg/L	0.00001	0.0957	0.0709	0.137
Zinc Zn	mg/L	0.002	0.084	0.057	0.08
Zirconium Zr	mg/L	0.002	0.025	0.024	0.074

Tessier Extraction

Metals Bound to Organics Reagent: 3 mL of 0.02 M HNO3 + 5 mL 30% H2O2 + 5 mL 1.2 M NH4OAc in 20% HNO3					
Sample			**K-SB-28 (19-25)**	**K-SB-32 (31-36)**	**Blank**
Reagent volume (mL)			15	15	15
Volume analysed (after wash dilution and preservation) (mL) (Vol. is approximate)			37.5	37.5	37.5
Final diluted solution weight (g)			37.235	36.98	39.06
Parameter	**Units**	**RDL**			
Hardness CaCO3	mg/L	0.05	88.6	66.4	5.4
Aluminum Al	mg/L	0.001	19.2	19.4	0.073
Antimony Sb	mg/L	0.0009	0.001	< 0.0009	< 0.0009
Arsenic As	mg/L	0.0002	0.103	0.0163	0.0003
Barium Ba	mg/L	0.00002	0.0609	0.0726	0.00219
Beryllium Be	mg/L	0.000007	0.000799	0.000658	0.00001
Bismuth Bi	mg/L	0.00001	0.00027	0.00007	0.00001
Boron B	mg/L	0.002	0.019	0.016	0.008
Cadmium Cd	mg/L	0.000003	0.00123	0.000155	0.00001
Calcium Ca	mg/L	0.01	19.8	14.1	1.54
Chromium Cr	mg/L	0.00008	0.0779	0.126	0.0126
Cobalt Co	mg/L	0.000004	0.0283	0.00642	0.00035
Copper Cu	mg/L	0.0002	0.558	0.0705	0.002
Iron Fe	mg/L	0.007	51.6	8.13	0.07
Lead Pb	mg/L	0.00009	0.0477	0.0169	0.00072
Lithium Li	mg/L	0.0001	0.0305	0.019	0.0002
Magnesium Mg	mg/L	0.001	9.52	7.59	0.37
Manganese Mn	mg/L	0.00001	0.28	0.141	0.0016
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.0344	0.101	0.00711
Nickel Ni	mg/L	0.0001	0.0675	0.0258	0.0087
Phosphorus P	mg/L	0.003	17.5	12.4	13.3
Potassium K	mg/L	0.003	1.94	1.9	0.19
Selenium Se	mg/L	0.00004	0.00572	0.00111	0.00106
Silicon Si	mg/L	0.02	13.2	13.9	0.11
Silver Ag	mg/L	0.00005	0.00981	0.00465	0.00018
Sodium Na	mg/L	0.01	13.8	14.8	16.7
Strontium Sr	mg/L	0.00002	0.0367	0.0247	0.00848
Sulphur (S)	mg/L	1	51	< 1	< 1
Thallium Tl	mg/L	0.000005	0.00187	0.000147	< 0.000005
Tin Sn	mg/L	0.00006	0.434	0.142	7.69
Titanium Ti	mg/L	0.00005	0.226	1.47	0.00257
Uranium U	mg/L	0.000002	0.00215	0.000704	0.00009
Vanadium V	mg/L	0.00001	0.0293	0.0485	0.00016
Zinc Zn	mg/L	0.002	0.248	0.058	0.025
Zirconium Zr	mg/L	0.002	0.082	0.022	< 0.002

SGS proposal: IBD
SGS project #: 2267

Sample receipt date: 13-Dec-23
Report date: 18-Apr-23

Version: Final

Metals - Multi-Acid Digestion with ICP-OES/MS Finish

Test Units Method Code	Residual wt g	Aluminum µg/g	Antimony µg/g	Arsenic µg/g	Boron µg/g	Barium µg/g	Beryllium µg/g	Bismuth µg/g	Cadmium µg/g	Calcium µg/g	Chromium µg/g	Cobalt µg/g	Copper µg/g	Iron µg/g	Lead µg/g	Lithium µg/g	Magnesium µg/g
Lower detection		3	0.8	0.5	1	0.01	0.02	0.09	0.02	3	0.5	0.01	0.1	3	0.05	2	3
Sample ID																	
K-SB-02 (10-15)	0.9268	32000	< 0.8	6.1	13	330	0.7	0.22	< 0.02	1700	135	6.6	25	32000	7	22	4100
K-SB-02 (15-20)	0.8159	26000	< 0.8	4.3	6	300	0.6	0.11	< 0.02	2400	52	4.1	21	21000	4	14	2700
K-SB-07S (7-11)	0.9433	43000	< 0.8	5.3	4.8	350	0.8	0.18	0.04	3000	32	5.6	24	27000	6	24	4100
K-SB-28 (19-25)	0.6953	39000	< 0.8	3.9	2	370	1.0	0.12	0.06	3300	56	5.1	13	19000	3	23	5000
K-SB-32 (31-36)	0.7633	29000	< 0.8	6.1	5.6	320	0.7	0.1	0.04	3200	46	3.9	19	19000	2	16	3500

Test Units Method Code	Manganese µg/g	Molybdenum µg/g	Nickel µg/g	Phosphorus µg/g	Potassium µg/g	Selenium µg/g	Tin µg/g	Silver µg/g	Sodium µg/g	Strontium µg/g	Sulphur µg/g	Thallium µg/g	Titanium µg/g	Uranium µg/g	Vanadium µg/g	Zinc µg/g	Zirconium µg/g
Lower detection	0.1	0.1	0.1	3	3	0.1	6	0.5	3	0.02	0.03	0.02	0.1	0.002	1	0.7	0.03
Sample ID																	
K-SB-02 (10-15)	130	18	23	340	17000	0.2	200	< 0.5	5600	64	27.0	0.4	2900	1.5	58	39	390
K-SB-02 (15-20)	100	10	16	250	14000	0.3	170	< 0.5	5600	64	32.0	0.2	2100	1.1	34	25	190
K-SB-07S (7-11)	110	6	27	140	15000	0.3	150	< 0.5	6100	74	25.0	0.2	3500	1.7	48	38	330
K-SB-28 (19-25)	140	9.1	20	160	22000	0.3	190	< 0.5	6800	88	100.0	0.3	2900	2.0	46	24	180
K-SB-32 (31-36)	110	7.3	15	240	19000	0.2	180	< 0.5	5800	73	32.0	0.1	2100	1.1	36	31	180

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ATTACHMENT **3**
Partitioning Coefficient Memo

TECHNICAL MEMORANDUM

DATE March 30, 2022 **Project No.** 21454831

TO David Mitchell, Stu Cravens, Vic Modeer
Kincaid Generation, LLC

CC Brian Henning - Ramboll

FROM Golder Associates USA Inc. **EMAIL** Jeffrey_Ingram@golder.com

EVALUATION OF PARTITION COEFFICIENT RESULTS, KINCAID POWER PLANT ASH POND (CCR UNIT 141), KINCAID POWER PLANT, CHRISTIAN COUNTY, ILLINOIS

1.0 INTRODUCTION

Kincaid Generation, LLC (KG) operates the Kincaid Power Plant (KPP) located in Christian County, Illinois. The Ash Pond (AP or Site), Illinois Environmental Protection Agency [IEPA] ID No. W0218140002 - 01 is a 178-acre unlined surface impoundment used to manage coal combustion residuals (CCRs) at the KPP. The AP is regulated under Part 845 *"Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments"* (State CCR Rule or Part 845) which was promulgated by the Illinois Pollution Control Board (IPCB) on April 21, 2021. WSP Golder (Golder) is assisting KG with Part 845 compliance at the Site.

KG is currently preparing a Construction Permit application for the AP as required under Section 845.220. As a part of the Construction Permit application, groundwater modeling is being conducted for known potential exceedances of groundwater protection standards (GWPS) as outlined in the Operating Permit application for the AP (Burns and McDonnell 2021). In the Operating Permit (October 2021), Ramboll Americas Engineering Solutions, Inc. (Ramboll) identified potential GWPS exceedances for several compounds potentially associated with the AP, including boron and sulfate. Batch adsorption testing was performed to generate site-specific partition coefficient results for these parameters for use in the groundwater models. This Technical Memorandum summarizes the results of the batch adsorption testing.

2.0 OVERVIEW

In August 2021, Golder conducted a field investigation at the KPP which included the completion of eight (8) soil/rock borings ranging in depth from 20 to 40 feet below ground surface (ft bgs). As a part of that investigation, soil and groundwater samples were submitted to SiREM laboratories (Guelph, ON) for batch solid/liquid partitioning testing. A summary of the soil samples used for the batch testing is provided in Table 1.

Table 1: Batch Attenuation Testing Data Summary

Groundwater Sample ID	Soil Sample ID	Soil: Water Ratio
MW-12S	K-SB-02 (10.0-14.7 ft bgs)	2:1
		1:1

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Groundwater Sample ID	Soil Sample ID	Soil: Water Ratio
		1:5
		1:10
		1:20
MW-28	K-SB-02 (14.7-17.5 ft bgs)	2:1
		1:1
		1:5
		1:10
		1:20

Notes:

1) ft bgs – Feet below ground surface

Site-specific partitioning coefficients were determined for constituents of interest (COIs) boron and sulfate, which were identified based on statistical evaluation of potential groundwater exceedances calculated at the Site (Burns and McDonnell 2021). Two groundwater samples (MW-12S and MW-28) and two soil samples (K-SB-02 (10.0-14.7) and K-SB-02 (14.7-17.5)) were used for batch attenuation testing at various ratios (Table 1). For each treatment, 0.1 L of groundwater was brought in contact with an amount of soil (0.003 to 0.17 kg, depending on the ratio) over a seven-day period. Each contact water/soil microcosm was amended (spiked) with meta-arsenite, boric acid, lithium chloride, and sodium sulfate to a target concentration of arsenic, boron, lithium, and sulfate, respectively (Table 2). Arsenic and lithium are not currently COIs at the Site and, therefore, were not evaluated as part of this report. However, arsenic and lithium may be revisited in the future, thus meta-arsenite and lithium chloride were included as additional amendments. After the seven-day contact period, COI concentrations were analyzed in the contact water. The control samples (i.e., groundwater samples MW-12S and MW-28) were only analyzed at the initiation of testing. The oxidation/reduction potential (redox) and pH were measured for each batch test at the beginning and end of the contact period and in the control samples.

Table 2: Microcosm amendment and target concentration for COIs

COI	Groundwater Sample	Amendment	Target Concentration (mg/L)
Arsenic	MW-12S	67.45 µL of a 2 g/L As(III) solution	0.04
	MW-28	68.67 of a 2 g/L As(III) solution	
Boron	MW-12S	17.78 mL of a 10 g/L H_3BO_3 solution	16.8
	MW-28	9.61 mL of a 10 g/L H_3BO_3 solution	
Lithium	MW-12S	2.42 mL of a 1 g/L LiCl solution	0.2

	MW-28	2.39 mL of a 1 g/L LiCl solution	
Sulfate	MW-12S	51.56 mL of a 100 g/L Na_2SO_4 solution	1,748
	MW-28	27.56 mL of a 100 g/L Na_2SO_4 solution	

Notes:

1) g/L – grams per liter
2) mL – milliliter
3) µg/L – micrograms per liter
4) mg/L – miligrams per liter
5) As(III) – arsenite
6) H_3BO_3 – boric acid
7) LiCl – lithium chloride
8) Na_2SO_4 – sodium sulfate

The results of batch attenuation testing (Tables 3 and 4) were used to calculate the following adsorption isotherms for each COI:

- Linear: $q_e = K_D * C_e$
- Langmuir: $C_e/q_e = 1/(K_L * q_m) + C_e/q_m$
- Freundlich: $\log(q_e) = \log(K_F) + (1/n)\log(C_e)$

Where

K_D, K_L, and K_F = the linear, Langmuir, and Freundlich partition coefficients, respectively (in liters per kilogram; L/kg).

q_e = concentration of the adsorbate in soil

C_e = aqueous concentration of the adsorbate

q_m = 1/slope in the linear expression of the isotherm

n = non-linearity constant

3.0 SUMMARY OF RESULTS

Figures that show the linear, Langmuir, and Freundlich isotherms for the two COIs are provided in Appendix A. The partition coefficient values for MW-12S and MW-28 are presented in Tables 5 and 6, respectively. The results of the batch adsorption testing can be summarized as follows:

- **Boron**: Calculated K_D values for MW-12S and MW-28 were 0.05 and 1.81 L/kg, respectively, K_L values -1.4E+6 and -1.5E+4 L/kg, respectively, and K_F values 112 and 27.5 L/kg, respectively. For comparison, in Strenge and Peterson (1989), partition coefficients for boron range from 0.19 to 1.3 L/kg, depending on pH conditions and the amount of sorbent (i.e. clay, organic matter, and iron and aluminum oxyhydroxide) present.
- **Sulfate**: Calculated K_D values for MW-12S and MW-28 were 0.23 and 15.5 L/kg, respectively, K_L values -454 and -750 L/kg, respectively, and K_F values 1.87 and 0.13 L/kg, respectively. In Strenge and Peterson (1989), partition coefficients for sulfate are 0.0 L/kg, regardless of pH conditions and the amount of sorbent present.

- **pH and Redox**: Generally, after the seven-day contact time, the pH of each contact water was consistent with the pH of the control samples (6.94 for MW-12S and 6.90 for MW-28, respectively), ranging from 6.93 to 6.97 across the batch tests. The redox values of the control samples after the seven-day contact time were -54 mV and 116 mV for MW-12S and MW-28, respectively. The redox value of contact water ranged from -131 to +236 mV across treatments.

4.0 REFERENCES

Burns and McDonnell, 2021. Initial Operating Permit Kincaid Power Plant Ash Pond.

Strenge, D. and Peterson, S. 1989. Chemical Data Bases for the Multimedia Environmental Pollutant Assessment System (MEPAS) (No. PNL-7145). Pacific Northwest Lab., Richland, WA (USA).

5.0 CLOSING

Golder appreciates the opportunity to serve as your consultant on this project. If you have any questions concerning this technical memorandum or need additional information, please contact the undersigned.

Golder Associates USA Inc.





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Practice Leader

CK/JSI/PJB

Attachments Appendix A – Partition Coefficient Graphs

Table 3: Batch Attenuation Testing Results, MW-12S

Geologic Material Sample ID	Treatment	Date	Day	Replicate	Dissolved Boron	Dissolved Sulfate	pH	ORP
					mg/L	mg/L	SU	mV
MW-12S K-SB-02 (10.0-14.7)	Groundwater Only Control	2/10/2022	0	MW-12S-1a	17	1,700	6.96	13
				MW-12S-2a	18	1,513	6.95	8
				Average Concentration (mg/L)	17	1,606	6.96	11
		2/17/2022	7	MW-12S-1	16	964	6.94	-59
				MW-12S-2	17	1,059	6.94	-48
				Average Concentration (mg/L)	16	1,012	6.94	-54
	2:1 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(10.0-14.7) :MW-12S 2:1-1	8.9	878	6.94	-110
				K-SB-02-(10.0-14.7) :MW-12S 2:1-2	8.0	921	6.92	-127
				Average Concentration (mg/L)	8.4	899	6.93	-119
	1:1 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(10.0-14.7) :MW-12S 1:1-1	12	1,137	6.92	-131
				K-SB-02-(10.0-14.7) :MW-12S 1:1-2	12	1,284	7.01	--
				Average Concentration (mg/L)	12	1,211	6.97	-131
	1:5 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(10.0-14.7) :MW-12S 1:5-1	16	1,268	6.95	-4
				K-SB-02-(10.0-14.7) :MW-12S 1:5-2	15	1,568	6.94	16
				Average Concentration (mg/L)	16	1,418	6.95	6
	1:10 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(10.0-14.7) :MW-12S 1:10-1	16	1,216	6.93	53
				K-SB-02-(10.0-14.7) :MW-12S 1:10-2	17	1,527	6.95	22
				Average Concentration (mg/L)	17	1,372	6.94	38
	1:20 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(10.0-14.7) :MW-12S 1:20-1	19	981	6.96	42
				K-SB-02-(10.0-14.7) :MW-12S 1:20-2	18	1,381	6.95	53
				Average Concentration (mg/L)	19	1,181	6.96	48

Notes:
1) mg/L- Miligrams per liter
2) SU - Standard Units
3) mV - milivolts
4) ORP - Oxidation Reduction Potential
5) ND - non-detect

Table 4: Batch Attenuation Testing Results, MW-28

Geologic Material Sample ID	Treatment	Date	Day	Replicate	Dissolved Boron	Dissolved Sulfate	pH	ORP
					mg/L	mg/L	SU	mV
MW-12S K-SB-02 (14.7-17.5)	Groundwater Only Control	2/10/2022	0	MW-28-1a	18	1,515	6.92	-3
				MW-28-2a	17	1,582	6.93	3
				Average Concentration (mg/L)	18	1,549	6.93	0
		2/17/2022	7	MW-28-1	16	1,397	6.88	183
				MW-28-2	17	624	6.91	48
				Average Concentration (mg/L)	17	1,010	6.90	116
	2:1 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(14.7-17.5):MW-28 2:1-1	8.5	546	6.94	239
				K-SB-02-(14.7-17.5):MW-28 2:1-2	9.2	<1.4	6.92	232
				Average Concentration (mg/L)	8.8	546	6.93	236
	1:1 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(14.7-17.5):MW-28 1:1-1	12	761	6.96	139
				K-SB-02-(14.7-17.5):MW-28 1:1-2	12	1,026	6.95	89
				Average Concentration (mg/L)	12	893	6.96	114
	1:5 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(14.7-17.5):MW-28 1:5-1	17	1,023	6.99	106
				K-SB-02-(14.7-17.5):MW-28 1:5-2	16	999	6.95	107
				Average Concentration (mg/L)	16	1,011	6.97	107
	1:10 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(14.7-17.5):MW-28 1:10-1	16	1,182	6.94	70
				K-SB-02-(14.7-17.5):MW-28 1:10-2	16	949	6.95	79
				Average Concentration (mg/L)	16	1,066	6.95	75
	1:20 Soil:Water Ratio	2/10/2022	0					
		2/17/2022	7	K-SB-02-(14.7-17.5):MW-28 1:20-1	17	1,112	6.94	73
				K-SB-02-(14.7-17.5):MW-28 1:20-2	17	915	6.93	41
				Average Concentration (mg/L)	17	1,013	6.94	57

Notes:
1) mg/L- Miligrams per liter
2) SU - Standard Units
3) mV - milivolts
4) ORP - Oxidation Reduction Potential
5) ND - non-detect

Table 5: Partition Coefficient Results, MW-12S

Analyte	Isotherm	Variable	With Soil Mass
Boron	Raw Data R^2		0.01
	Linear K_D (L/kg)		0.05
	Langmuir	R^2	0.63
		q_m (mg/g)	0.007
		K_L (L/kg)	-1.43E+06
	Freundlich	R^2	0.01
		1/n	0.049
		K_F (L/kg)	111.65
Sulfate	Raw Data R^2		0.00
	Linear K_D (L/kg)		0.23
	Langmuir	R^2	0.08
		q_m (mg/g)	-0.883
		K_L (L/kg)	-4.54E+02
	Freundlich	R^2	0.08
		1/n	2.111
		K_F (L/kg)	1.87

Note(s):

K_D: linear partition coefficient

K_L: Langmuir partition coefficient

K_F: Freundlich partition coefficient

q_m: 1/slope in the linear expression of the isotherm

n: non-linearity constant

Table 6: Partition Coefficient Results, MW-28

Analyte	Isotherm	Variable	With Soil Mass
Boron	Raw Data R^2		0.41
	Linear K_D (L/kg)		1.81
	Langmuir	R^2	0.02
		q_m (mg/g)	-0.043
		K_L (L/kg)	-1.54E+04
	Freundlich	R^2	0.43
		1/n	1.495
		K_F (L/kg)	27.53
Sulfate	Raw Data R^2		0.26
	Linear K_D (L/kg)		15.50
	Langmuir	R^2	0.34
		q_m (mg/g)	-1.013
		K_L (L/kg)	-7.50E+02
	Freundlich	R^2	0.50
		1/n	3.198
		K_F (L/kg)	0.13

Note(s):

K_D: linear partition coefficient

K_L: Langmuir partition coefficient

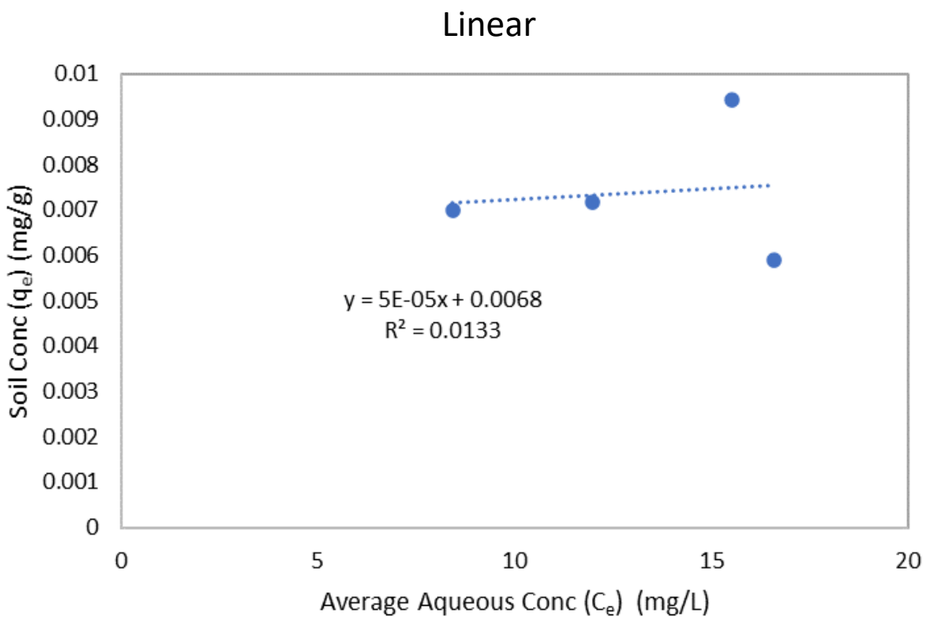
K_F: Freundlich partition coefficient

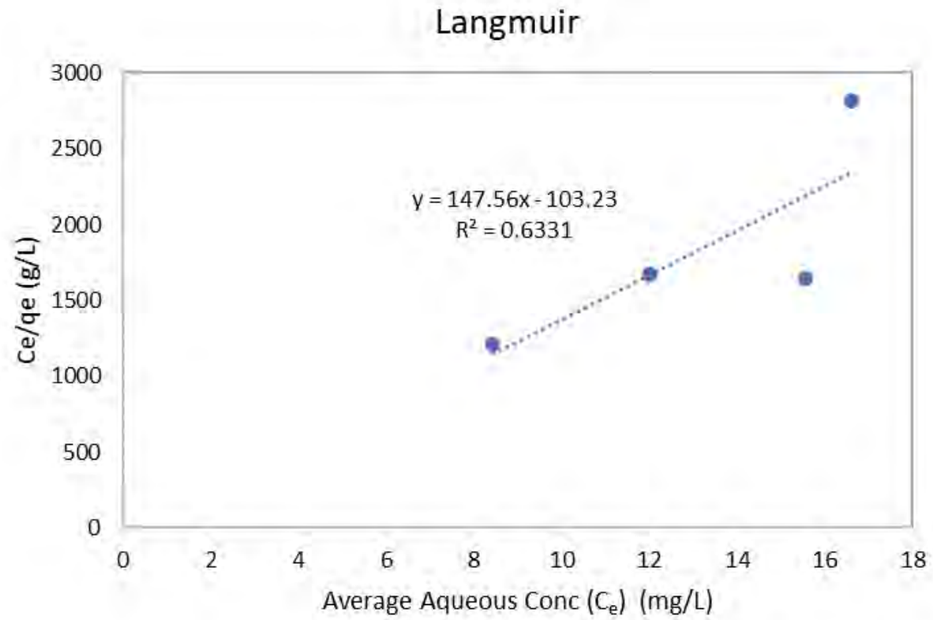
q_m: 1/slope in the linear expression of the isotherm

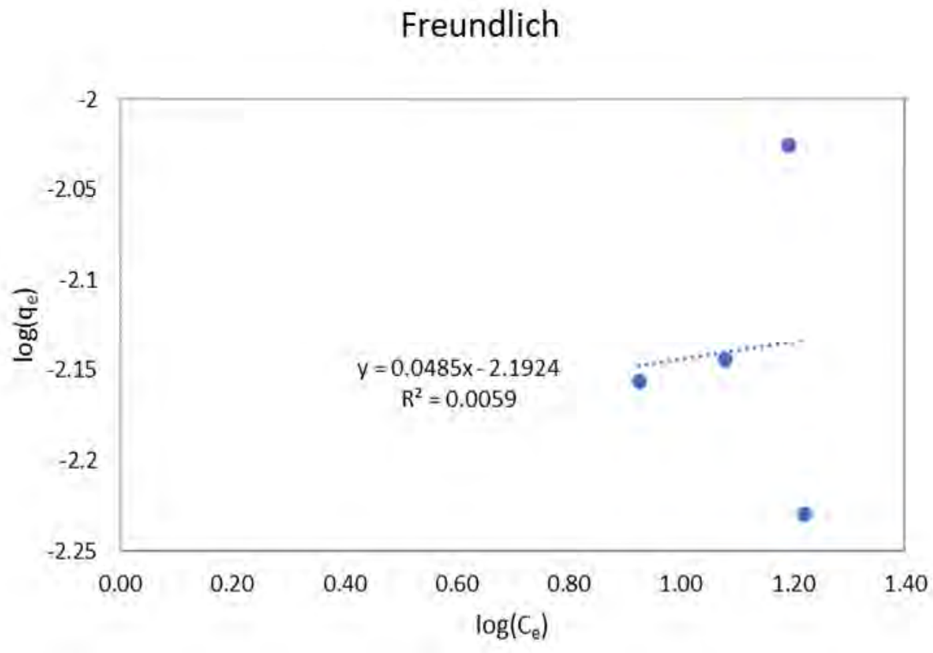
n: non-linearity constant

APPENDIX A

Partition Coefficient Graphs







Note(s):
mg/L: milligrams per liter
mg/g: milligrams per gram
g/L: grams per liter
Ce: aqueous concentration of the adsorbate
qe: concentration of the adsorbate in soil

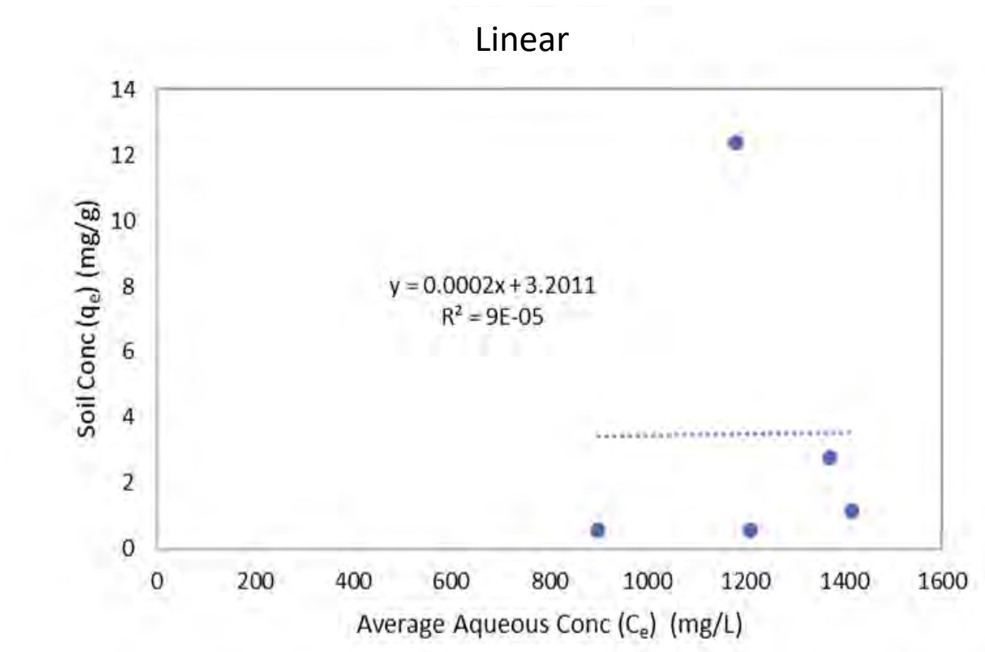
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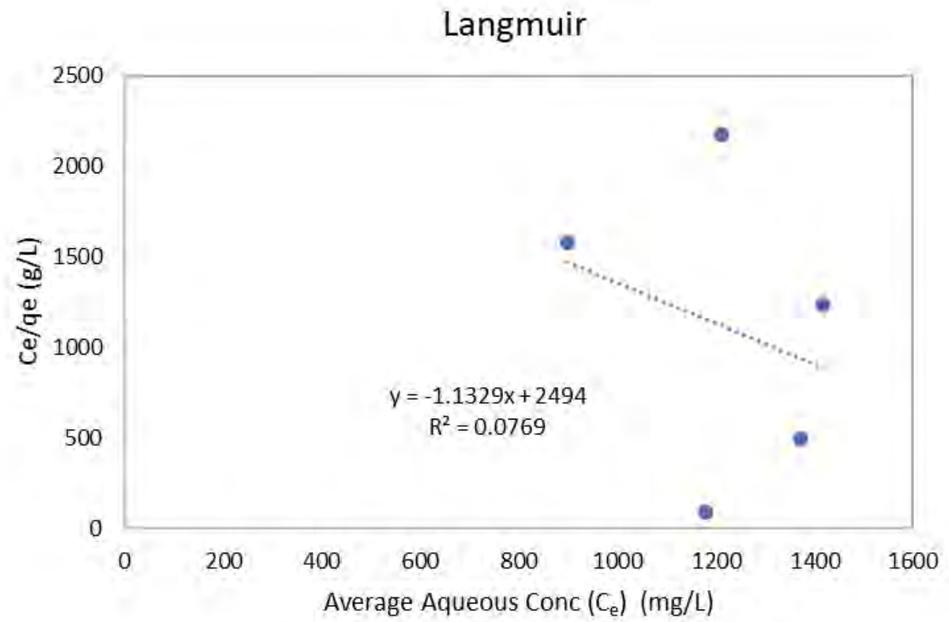
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GOLDER

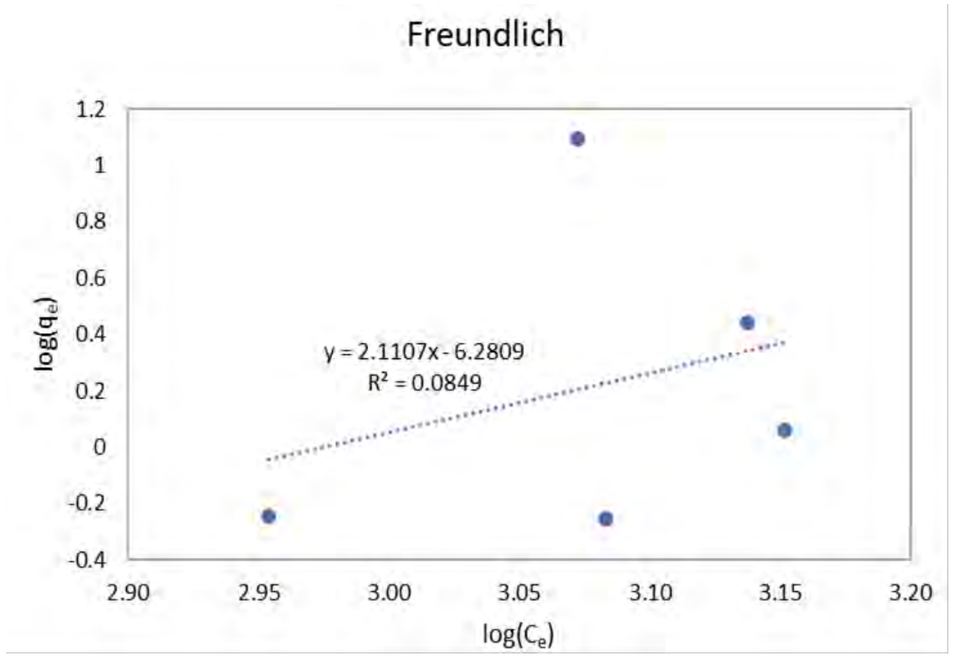
PROJECT
EVALUATION OF PARTITION COEFFICIENT RESULTS AP

TITLE
MW-12S BORON PARTITION COEFFICIENTS

PROJECT NO.	PHASE	REV.	FIGURE
21454831	0003	0	A-1







Note(s):
mg/L: milligrams per liter
mg/g: milligrams per gram
g/L: grams per liter
Ce: aqueous concentration of the adsorbate
qe: concentration of the adsorbate in soil

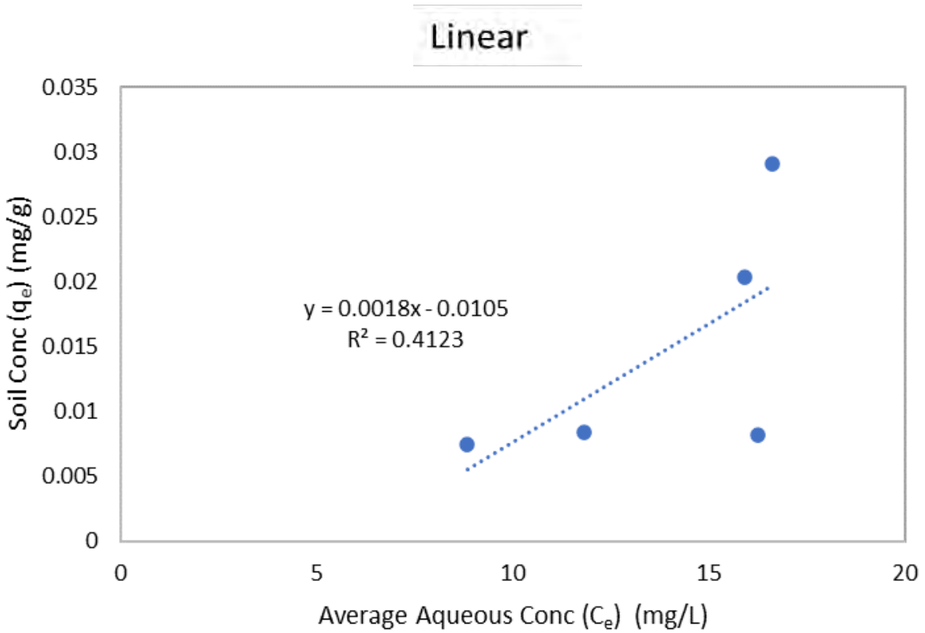
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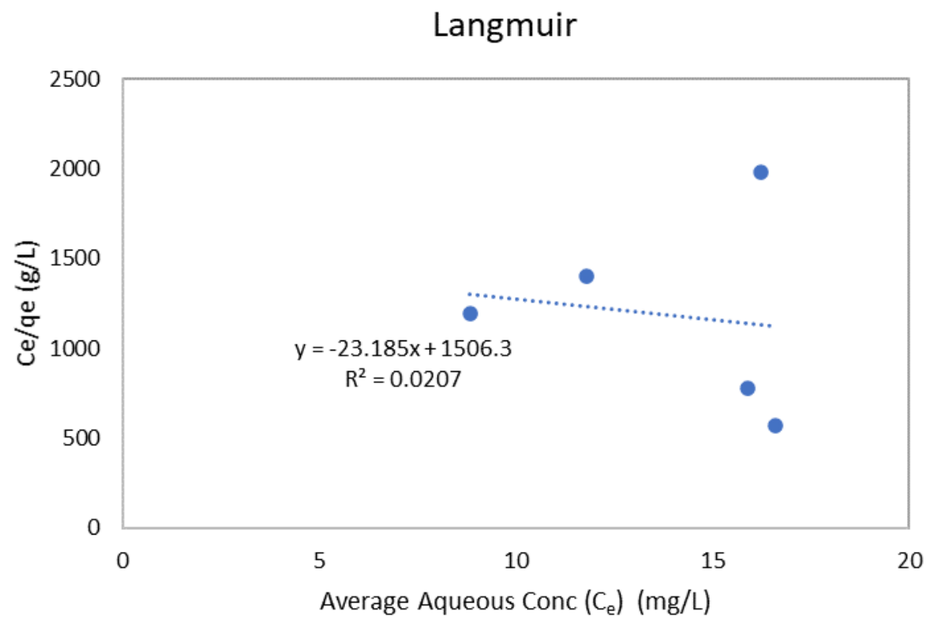
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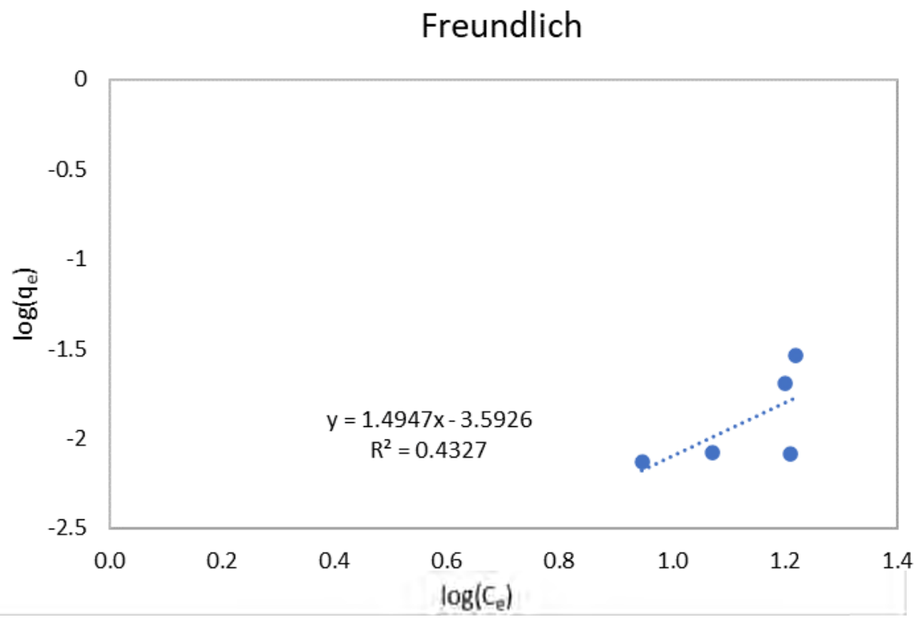
CONSULTANT
wsp GOLDER

TITLE
MW-12S SULFATE PARTITION COEFFICIENTS

PROJECT NO.	PHASE	REV.	FIGURE
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Note(s):
mg/L: milligrams per liter
mg/g: milligrams per gram
g/L: grams per liter
Ce: aqueous concentration of the adsorbate
qe: concentration of the adsorbate in soil

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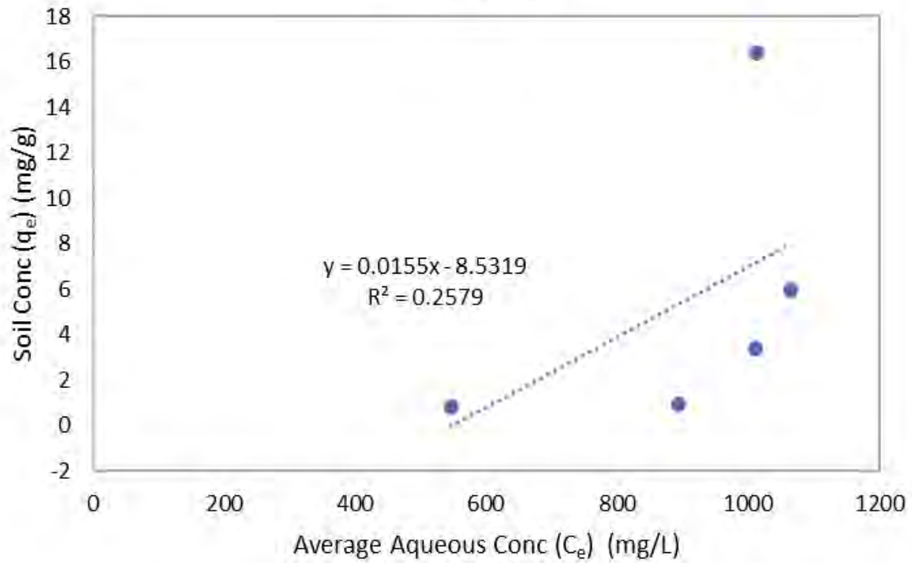
CONSULTANT
WSP GOLDER

PROJECT
EVALUATION OF PARTITION COEFFICIENT RESULTS AP

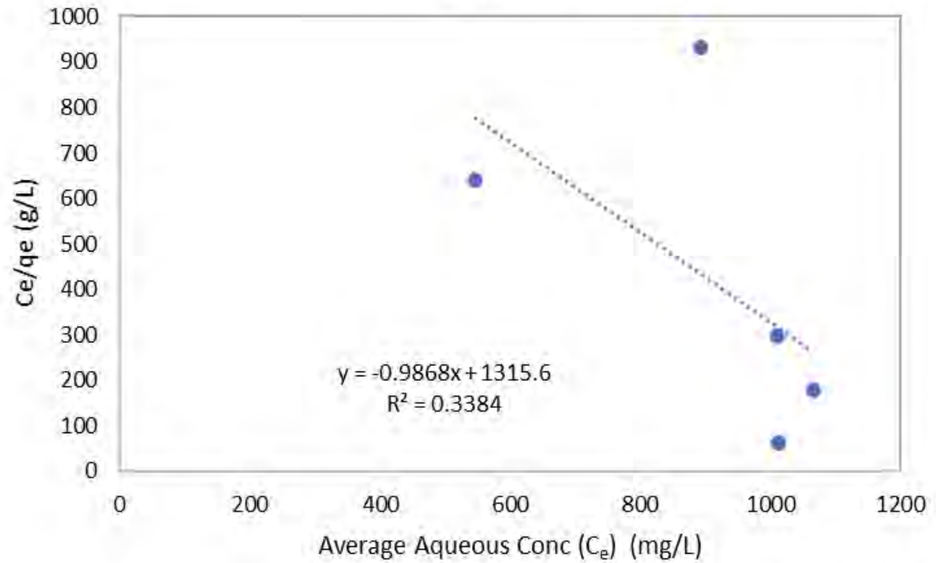
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MW-28 BORON PARTITION COEFFICIENTS

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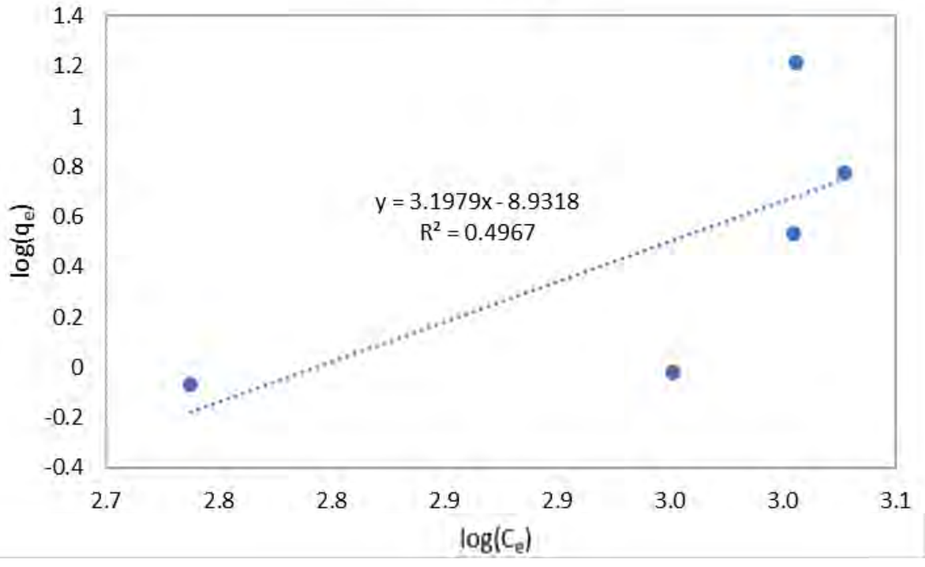
Linear



Langmuir



Freundlich



Note(s):
mg/L: milligrams per liter
mg/g: milligrams per gram
g/L: grams per liter
Ce: aqueous concentration of the adsorbate
qe: concentration of the adsorbate in soil

CLIENT
KINCAID GENERATION, LLC
KINCAID POWER PLANT ASH POND (CCR UNIT 141)

PROJECT
EVALUATION OF PARTITION COEFFICIENT RESULTS AP

CONSULTANT
wsp GOLDER

TITLE
MW-28 SULFATE PARTITION COEFFICIENTS

PROJECT NO.	PHASE	REV.	FIGURE
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